UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District Office
Andrews Resource Area
Finding of No Significant Impact

Stonehouse Seeding #2 PIPELINE EXTENSION

Environmental Assessment
DOI-BLM-OR-B060-2009-0067-EA

INTRODUCTION

Andrews Resource Area, Burns District, has prepared an Environmental Assessment (EA) to analyze the effects of modification of an existing developed spring to increase the availability of water for livestock into lightly utilized areas of Stonehouse Seeding #2 Pasture and reduce utilization near existing, naturally occurring surface water resources. Based on utilization records, a need exists to improve livestock distribution and utilization patterns and to protect the lower reach of Stonehouse Creek. Currently, the western half of Stonehouse Seeding #2 Pasture gets more use than the eastern side and livestock presence near Stonehouse Creek is limiting recruitment of native riparian vegetation. These issues exist due to limited water presence in the interior and eastern portions of the seeding during scheduled periods of livestock use.

Water development was recommended in the 2005 Steens Mountain Cooperative Management and Protection Area (CMPA) Resource Management Plan/Record of Decision (RMP/ROD) to address concerns based on the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Oregon and Washington (S&G, August 12, 1997). This enhancement is needed to implement timing of use and manage livestock distribution and utilization patterns. Though S&Gs are currently being achieved, a concern exists that they might not be achieved in the future due to uneven distribution of livestock. Protection for Stonehouse Creek has been recommended over time through regular monitoring and assessments in which the limiting factor in achieving the highest PFC rating has been the lack of woody vegetation in the lower reach of the stream.

The proposed pipeline, troughs, and fence would increase control over the timing of spring and summer livestock use, allowing management to decrease use on the west side and increase use on the east side of the seeding, which would improve livestock distribution and utilization patterns.

SUMMARY OF THE PROPOSED ACTION

The proposed action is to install a new pipeline spur and two troughs. The spur would be installed on the existing Barrel Spring Pipeline which supplies water to the Alberson Seeding on the east side of East Steens Road. Barrel Springs is located on privately-owned property near the center of the seeding in the Summit Creek subwatershed (T. 31 S., R. 35 E., Section 16).

The spring was developed in 1986 to transport water to two troughs for livestock use in the Alberson Seeding #3 on the east side of East Steens Road. The existing 1.8 mile pipeline begins at an elevation of approximately 4,400 feet. The lowest point on the pipeline is at 4,320 feet.

The spur would be located approximately one-eighth mile from the roadway and would provide a water source to supply two new troughs in a north-south orientation within the seeding. The existing pipeline would not be altered, other than installation of the spur. Two troughs would be placed approximately one-eighth mile west of East Steens Road, one approximately one-half mile north of the spur and the second approximately one-half mile south. The troughs would be equipped with float valves to prevent overflow, and would include ramps to facilitate safe use by small mammals and birds.

A temporary, four strand barbed-wire fence would be constructed to BLM specifications in the area between Stonehouse Creek and Stonehouse Road.

Salt blocks, nutritional supplements, and other attractants would be appropriately located to augment livestock distribution further ensuring equal distribution throughout the seeding.

Timing and number of AUMs would not change.

The pipeline, trough and fence would be installed in accordance with BLM standards. The permittee would construct and maintain the development and the Bureau of Land Management would provide materials. This would be documented in a Cooperative Agreement developed for the proposed rangeland improvement and an easement would be prepared to ensure the resource remains available should ownership of the inholding change. Construction would not occur from March to May in order to reduce possible stress to sage-grouse during the strutting season.

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 Stonehouse Seeding #2, Pollock 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 Andrews Management Unit (AMU)/Steens Mountain Cooperative Management and Protection Area (CMPA) Proposed RMP/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 CMPA (RMP/ROD) and implementing grazing management programs within the scope and context of this document. Project design elements, specifically the placement of the Summit Creek pipeline above ground and the construction of a temporary fence allow this project to remain in compliance with the Federal Land Policy and Management Act (FLPMA) and the Interim Management Policy for Lands Under Wilderness Review (IMP).

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 to reduce impacts. None of the effects are beyond the range of effects analyzed in the AMU/CMPA Proposed RMP/FEIS 2004, to which the EA is tiered.

   Summarize:

   Noxious weeds
   Noxious weed affects resulting from the Proposed Action include impacts caused by initial construction and maintenance. These impacts would be mitigated by monitoring of the excavation sites for emergence of noxious weeds and taking the necessary steps to manage any outbreaks. The pasture overall would benefit from the proposed action as increased plant diversity would inhibit opportunities for noxious weed invasion.

   Vegetation
   Under the Proposed Action, vegetative health is expected to improve throughout the pasture. Decedent plants in the eastern portion and interior of the pasture would benefit from increased utilization and the western portion would see reduced utilization increasing expansion of native species downslope eastward into the seeded portion of the pasture.

   Vegetation along Stonehouse Creek would be expected to improve with the installation of a protective fence as browsing of young willows would be limited.

   Grazing
   Grazing Management is expected to improve under the Proposed Action. By creating a management option in which the pasture could be better utilized both spatially and temporally, utilization forage material can be targeted to best meet the needs of the permittee as well as allow for adequate time for plants to regain vigor and overall health.

   Riparian/Water Quality
   Riparian Health would improve under the Proposed Action. Currently, livestock utilize areas where water is nearby. These watering areas are naturally occurring and not well protected against trampling. By providing watering areas well removed from springs and

streams, the associated riparian areas would benefit from reduced trampling and as a consequence, overall riparian health would improve.

Construction of the fence along Stonehouse Creek would allow for new growth of woody vegetation along the lower reach of Stonehouse Creek. This would benefit the stream and allow for enhanced opportunities for the stream to maintain a rating of PFC. The increased shade and riparian vegetation would also enhance water quality.

WSA
As a result of the Proposed Action, wilderness characteristics could be expected to improve. Native vegetation (both upland and riparian) is expected to increase and livestock density is expected to decrease within the Lower Stonehouse WSA. Consequently, a more natural setting would be available to visitors and passersby.

Fence construction along Stonehouse Creek would occur within the Stonehouse WSA, but the fence would be temporary (5-10 years). This fence would protect Stonehouse Creek and allow woody vegetation to increase leading to a more natural appearance.

VRM
Visibility of the pipeline and/or excavation would be both short term (1-2 years) and localized. When compared to the overall visual enhancement that an increase in the vegetative community would bring, the Proposed Action would have an overall positive benefit to the Lower Stonehouse WSA.

The proposed temporary fence would be located on the north side of Stonehouse Road and would be visible from the road along its entire length. The area of fence construction lies in the northern portion of the pasture where boundary fences, a corral, and Stonehouse and East Steens Roads are a part of the viewshed.

Special Status Species - Fauna, Wildlife
Wildlife in general would be disturbed for only a short period of time (2-3 weeks) during installation of the pipeline and troughs. Disturbance from these actions would displace wildlife for a short period of time, approximately two to three weeks, than wildlife would return to the area.

Sage-grouse would be affected by installation of the fence along Stonehouse Creek. The closeness of the fence to Stonehouse Creek presents a collision hazard for sage-grouse that use the creek for watering purposes. The fence would be marked with reflectors/diverters which have been shown to reduce collisions

The fence along Stonehouse Creek could provide a barrier at first to larger wildlife such as deer and pronghorn if they are trying to access water on Stonehouse Creek.
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2. *Degree to which the Proposed Action affects public health and safety.* No aspect of the Proposed Action or Alternatives 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.* Unique characteristics within the geographic area include two WSAs. Effects to WSAs are thoroughly disclosed in the attached EA and summarized under #1 above.

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 alternatives.

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 AMU/CMPA 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. The Steens Act provided a unique opportunity to conserve, protect, and manage the long-term ecological integrity of the CMPA. In addition, range improvements, implementation of AMPs and issuance of 10-year grazing permits are ongoing and expected actions as outlined in the CMPA RMP/ROD and as analyzed in other EAs. No long-term commitment of resources causing significant impacts was noted in the EA or RMP.

7. W*hether the action is related to other actions with individually insignificant but cumulatively significant impacts.* The environmental analysis did not reveal any individually insignificant but cumulatively significant effects beyond those already analyzed in the Andrews/Steens PRMP/FEIS which encompasses the Stonehouse Seeding #2 pasture. The analysis did, however, consider a transmission line right-of-way (ROW) application in association with wind energy development on private lands (Echanis Project) on the northern end of Steens Mountain. The applicant is proposing the transmission line cross private lands within the boundaries of the CMPA. The project area lies west of Stonehouse Seeding. The applicant is requesting a ROW to the west of the wind turbine locations. The ROW, although a RFFA, is still in process and subject to change based on public comments in future NEPA analysis and subsequent administrative remedies

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. Sites eligible for listing to the National Register of Historic Places within the area of effect of range improvements would be avoided to mitigate potential effects. If avoidance is not a viable mitigation option, other measures such as surface

collecting and mapping, testing and full-scale excavation could be used.

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 alternatives.

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 alternatives do not threaten to violate any law. The Proposed Action is in compliance with the CMPA RMP, which provides direction for the protection of the environment on public lands. Additionally, the temporary nature of the fence and pipelines within the WSAs allow this project to remain in compliance with FLPMA and the IMP for WSAs.

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 AMU/CMPA PRMP/FEIS (August, 2004); 2) The Proposed Action and alternatives are in conformance with the CMPA RMP/ROD; 3) There would be no adverse societal or regional impacts and no adverse impacts to affected interests; and 4) The environmental effects, together with the proposed Project Design Features, 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.

_____ _____

Joan Suther
Andrews Resource Area Field Manager, Burns Date

Stonehouse Seeding #2
PIPELINE EXTENSION

ENVIRONMENTAL ASSESSMENT
DOI-BLM-OR-B060-2009-0067-EA

Bureau of Land Management
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STONEHOUSE SEEDING #2
PIPELINE EXTENSION

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CHAPTER I: INTRODUCION, 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 (Standards and Guidelines or S&Gs, 1997).

Multiple use is defined as management of all the renewable surface resources of the national forests to meet the needs of the American people including outdoor recreation, range, timber, watershed, and fish and wildlife. Sustained yield is the achievement and maintenance of a high-level regular output of the renewable resources of the national forest without impairment of the land's productivity (16 USC. 1960).

2. Stonehouse Seeding #2 in the Pollock Allotment

Pollock Allotment is located in Andrews Resource Area of Burns District BLM in the southern portion of Harney County, Oregon, approximately 60 air miles southeast of Burns. The allotment borders on Alvord Desert to the south, Sheepshead Mountains to the north and east, and Steens Mountain to the west. Stonehouse Seeding #2 Pasture lies entirely within Steens Mountain Cooperative Management and Protection Area (CMPA) in the southwestern corner of Pollock Allotment between the Steens fault scarp and East Steens Road (Map - Alternative A, No Action).

Stonehouse Seeding #2 consists of approximately 5,853 acres of which 5,182 acres (89 percent) are BLM-managed lands and 671 acres (11 percent) are privately owned. The western upland and interior portions (approximately 3,200 acres) of the pasture (including Little Stonehouse and Summit Creeks) lie within Lower Stonehouse Wilderness Study Area (WSA). Nineteen acres of the north edge of the pasture, including the lower reach of Stonehouse Creek lie within Stonehouse WSA.

Stonehouse Seeding #2 is comprised of two distinctly different vegetative regions bounded by an area with native and nonnative species. The western uplands (44 percent of the pasture) are where the majority of perennial surface water is located and is dominated by native vegetation. The area between the two regions is a mixture of native vegetation and the seeded component. Approximately 3,500 acres (56 percent) within the eastern lowlands and interior of the pasture was part of Stonehouse Canyon Seeding Project (1973). The seeding is dominated by nonnative species (mostly crested wheatgrass) planted to restore soil stability and provide forage material for animals following wildfires. For the purposes of this Environmental Assessment (EA), the term "pasture" will be used to address Stonehouse Seeding #2 Pasture in its entirety, and "seeding" will be used to describe the area planted in 1973 and currently dominated by nonnative species.

Drainages associated with Stonehouse Seeding #2 Pasture are characterized by high elevations and steep slopes along the western one-third of the pasture, foothills near the center third, and a rolling to flat surface on the eastern third near East Steens Road. Water is provided to the pasture primarily through perennial springs and accumulations of snow on the east side of Steens Mountain collecting on the north and east facing slopes. Originating from this area are three perennial streams - Stonehouse, Little Stonehouse, and Summit Creeks.

Stonehouse Creek is the only stream of the three that is perennial across the pasture to East Steens Road. Input into Stonehouse Creek is predominantly snowmelt with subsurface flow contributing little to the stream. The current channel is perched atop an alluvial fan north of several historic channels that appear to have been dry for many years. It is unknown if the channel migration is natural, human-made or a combination of both; however, during a high-water event, the channel could easily migrate back to an earlier channel.

Little Stonehouse Creek flows across the seeding and into a parcel of privately-owned land in the northeast corner of the seeding. Near the end of the perennial reach of stream within the privately-owned land, water is being captured and stored by the landowner in an effort to encourage better utilization of forage in the area of seeding near Little Stonehouse Creek.

Summit Creek receives water from both snowmelt and subsurface flow. The creek originates on the East Steens fault block and descends eastward through a series of springs and on to a coarse alluvial fan that allows the water to flow subsurface alternately over the last few hundred feet of the perennial reach. The stream length changes little throughout the year as there tends to be adequate water for the stream to remain perennial until the water abruptly moves subsurface due to the permeability of the substrate. The locale in which the stream disappears is indicated by a progressive albeit brief reduction in riparian characteristics and reduced channelization along the lower reaches of the drainage.

Other consistent year-round sources of water in the pasture are Barrel Spring and two unnamed springs.

Barrel Spring is located on privately-owned property near the center of the pasture (T. 31 S., R. 35 E., Section 16). The spring was developed in 1986 to transport water for livestock use in the Alberson Seeding #3. The existing 1.8-mile pipeline begins at an elevation of approximately 4,400 feet. The lowest point on the pipeline is 4,320 feet.

The northern of the two unnamed springs is located in the northwest corner of T. 31 S., R. 35 E., Section 20 between Barrel Spring and Summit Creek and flows perennially for an estimated 300 yards before abruptly falling into the coarse alluvial substrate. Along this reach, a series of terraces possess riparian vegetation providing a gathering and resting spot for livestock.

A second spring (proposed for development) is located on privately-owned land at a 5,000-foot elevation within Summit Creek subwatershed (T. 31 S., R. 34 E., Sections 19 and 30). This private parcel is an inholding within Lower Stonehouse WSA. The source is located within a complex of springs covering an area both publicly and privately owned.

Several intermittent and ephemeral stream channels present in the uplands persist only during the early spring in the western portion of the seeding. Because of limited flow, distance across Lower Stonehouse WSA, and topographic constraints, these water sources will not be discussed further.

3. Allotment Management Objectives and Rangeland Health Assessment

The CMPA Resource Management Plan/Record of Decision (RMP/ROD) (Appendix J-16) includes two general resource management objectives for the Pollock Allotment - maintain the ecological condition of upland vegetation communities and maintain/improve the condition of riparian vegetation communities.

Appendix J-16 also identifies riparian, noxious weeds, SSS (bighorn sheep and greater sage-grouse), and deer winter range as resource concerns in Stonehouse Seeding #2. Additional pipeline for water distribution was identified as a potential range improvement project that would address these concerns for the Pollock Allotment.

In 2005 a BLM Interdisciplinary Team (IDT) completed an assessment of Rangeland Health Standards on Stonehouse Seeding #2. The IDT consisted of a wildlife biologist, a riparian/fisheries specialist, a natural resource specialist (botany), and a rangeland management specialist. This team concluded all applicable upland standards were being achieved (see Table 1 below).

Table 1: Rangeland Health Standards for Stonehouse Seeding #2

Standard	Achieved	Comments
1. Watershed Function - Uplands	Yes	
2. Watershed Function – Riparian/Wetland	Yes	Streams are making significant progress toward properly functioning physical condition under current livestock grazing management. Proper Functioning Condition (PFC) is limited in two reaches of Stonehouse and Little Stonehouse Creeks only by the amount of riparian vegetation present to protect streambanks.
3. Ecological Processes	Yes	Photosynthesis, as evidenced by plant composition and community structure, has more than adequately occurred throughout the growing season within the native pastures. The seeding pastures have been grazed during the growing season each year which has only allowed for the minimum photosynthesis to occur throughout the growing season.
4. Water Quality	Yes	Photo trend plots indicate that upland vegetation is in a stable or upward trend, providing ground cover (live plant and litter) to protect the soil surface and prevent excessive erosion from degrading surface waters.
5. Native, Threatened and Endangered (T&E), and Locally Important Species	Yes	

The pasture has been grazed only 2 years out of the last 8 in June and July, when the crested wheatgrass is most palatable and before cured culms limit use of leafy material. It was rested in 2001 and 2002, following the Stonehouse Fire, and also in 2005 when a change of ownership took place and 2008 when a onetime rest rotation system was used in combination with the State owned Lambing Canyon Pasture. The utilization data has not exceeded 60 percent in the 5 years in which utilization studies occurred.

Other than along Stonehouse Creek, utilization data have not been gathered for native vegetation in Stonehouse Seeding, which comprises approximately 44 percent of the pasture. However, observations in winter, 2008, indicate a vigorous, diverse native plant community that appears to be advancing downslope into the seeding, gradually replacing crested wheatgrass. Decadent, "wolfy" plants were not noted in the native community, perhaps due to the most recent wildfire in 2001.

Key forage species for the Stonehouse Seeding are crested wheatgrass (60 percent pasture-average utilization), the dominant species, in the lightly utilized lowlands and interior, and bluebunch wheatgrass (50 percent pasture-average utilization), bottlebrush squirreltail (50 percent pasture-average utilization) and other native species increase in abundance moving west from the interior and into the uplands.

B. Purpose and Need for Action

The purpose of the action is to: 1) modify current livestock distribution in Stonehouse Pasture to address uneven livestock utilization of forage; 2) continue to achieve Standards for Rangeland Health; 3) accelerate the rate of recovery and recruitment of riparian vegetation and productivity along the lower reach of Stonehouse Creek; and 4) obtain an easement from the private landowner for maintenance and installation of pipeline.

Based on utilization records and observations, the need exists to modify livestock distribution and utilization patterns to reduce uneven use across the pasture. While currently meeting Rangeland Health Standards, ongoing utilization of native vegetation in the western portion of the pasture, combined with minimal utilization in the central and eastern portions of the pasture has left an uneven mosaic of used and relatively unused plants that may compromise rangeland health in the future.

Currently, livestock tend to concentrate in the northern and western portions of the pasture near Stonehouse Creek and the existing springs, troughs and wetted areas associated with Barrel Spring and the unnamed springs across the remainder of the pasture within Lower Stonehouse WSA and along Stonehouse Creek along the southern boundary of Stonehouse WSA. The interior and eastern portion lowlands to the east (outside) of the WSAs contain abundant forage material, but utilization in these areas is limited by availability of water provided by increased spring flow into intermittent and ephemeral streams which dry earlier in the year as the annual snowpack is depleted.

Consequently, forage plants in the seeding have become coarse with many old oxidized stems, leaving more desirable plants in the uplands near existing water sources where grazing is more common.

Monitoring along Stonehouse Creek indicates a need for an increase in woody vegetation. While meeting PFC based on a 2007 site visit, the limiting factor was the lack of woody riparian vegetation in the lower reaches of Stonehouse Creek.

In addition, a need exists to ensure the Federal government has a legal right to operate and maintain, including ingress and egress, both the pipeline already installed and any proposed pipeline on private lands.

It is neither the purpose nor the intent of this document to increase the number of livestock or the amount of use within the project area.

1. Project Goals and Objectives

The objective of this project is to facilitate utilization of forage by livestock more evenly throughout the pasture by changing access to and availability (distribution) of water. Action alternatives must meet the project objectives listed below, which translates pertinent RMP direction.

- Provide for sustained level of livestock grazing in the CMPA while meeting resource objectives and requirements for the S&Gs (Grazing Management, CMPA RMP p. 53).
- Implement administrative solutions and rangeland projects to provide improved management of livestock grazing while meeting resource objectives and requirements for S&Gs (Grazing Management, CMPA RMP p. 53).
- Maintain or restore native vegetative communities through sound landscape management (Rangelands, CMPA RMP p. 30).
- Manage desirable nonnative seedings to meet resource objectives (Rangelands, CMPA RMP p. 30).
- Achieve or maintain a rating of PFC for perennial and intermittent flowing and standing waterbodies relative to site capability, site potential, and BLM management jurisdictions (Riparian and Wetlands, CMPA RMP p. 24).
- Maintain, restore, or improve riparian/wetland vegetation communities relative to ecological status, site potential and capability, or site-specific management objectives and TPs (Riparian and Wetlands, CMPA RMP p. 24).
- Utilize adaptive management practices to allow for adjustment of plan maintenance to better meet long-term project goals and objectives (Adaptive Management, CMPA RMP p. 16).
- Acquire legal administrative access when a need exists, such as providing water to public land (Lands and Realty, CMPA RMP p. 58).

2. Decision Framework

The Andrews/Steens 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 this 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, including requirements under the National Environmental Policy Act (NEPA), 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:

Would the alternative:

- provide rangeland resources to grazing permittees and other users of the public lands?
- employ adaptive management strategies in order to assure success in achieving project objectives?
- promote cost effectiveness?

4. Decision to be Made

The BLM will determine which, if any, range improvements will be constructed within Stonehouse Seeding #2 Pasture or which other strategies will achieve a utilization pattern that better promotes rangeland health within Stonehouse Seeding #2 Pasture.

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

The Proposed Action and alternatives are in conformance with the CMPA RMP/ROD, dated August 2005, even though they are not specifically provided for, because they are clearly consistent with the RMP decisions outlined above under Project Goals and Objectives.

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 (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)
- Local Integrated Noxious Weed Control Plan (2004)
- Interim Management Policy for Lands under Wilderness Review (H-8550-1) 1995
- Code of Federal Regulations, Acquisitions (43 CFR 2100)

6. Scoping and Issues

Internal scoping including a meeting followed by a site visit was conducted in March 2010.

In Stonehouse Seeding Pasture, uses and concerns include, outdoor recreation (chukar hunting, hiking and camping), rangeland (grazing), watershed (water quality) and wildlife (sage-grouse). These affected resources are discussed further in Chapter III.

No other multiple-use conflicts were identified.

CHAPTER II: ALTERNATIVES, INCLUDING THE PROPOSED ACTION

A. Alternative A (No Action Alternative)

The proposed pipelines, troughs, and fence would not be installed under this alternative. Utilization patterns and current livestock distribution would remain unchanged. This alternative provides a baseline from which to compare the effects of the action alternatives. An easement would be obtained ensuring a legal right to maintain and operate the pipeline that currently exists in Barrel Spring.

B. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive management approach (including determination criteria for burying pipeline and fence construction)

The Proposed Action is to utilize Barrel Spring and an unnamed spring near Summit Creek to supply water to three, recycled vehicle tire troughs spaced equally throughout the seeded portion of Stonehouse Seeding #2 Pasture. One spur and two troughs would be installed centrally in the pasture using Barrel Spring as a source, and a third trough and pipeline would be installed to provide water to the southern end of the seeding using an unnamed spring near Summit Creek. To protect riparian vegetation alongside Stonehouse Creek, a 4-strand barbed-wire fence would be constructed between Stonehouse Road and Stonehouse Creek (Map - Alternative B).

To ensure a legal right to construct, maintain and operate (including ingress and egress), pipelines installed on private lands, easements would be obtained prior to construction of the Summit Springs Pipeline and for the already existing Barrel Spring Pipeline.

A spur would be installed on the existing Barrel Spring Pipeline which supplies water to the Alberson Seeding on the east side of East Steens Road. The spur would be located approximately one-eighth mile west from the roadway and would provide a water source to supply two new troughs in a north-south orientation within the seeded area of the pasture. Two troughs would be placed approximately one-eighth mile west of East Steens Road, one approximately three-fourth mile north of the spur and the second approximately one-half mile south. The troughs would be placed on level ground and the surrounding area would be armored with rock to prevent erosion. The spur and troughs installed from the Barrel Spring source would not occur within Stonehouse or Lower Stonehouse WSAs.

From the Summit Creek source, a 2-inch (approximate) pipeline would be installed from the privately-owned developed spring, cross approximately 0.35-mile of Lower Stonehouse WSA and continue east approximately 1-mile to the proposed trough location approximately one-half mile west of East Steens Road and one-half mile north of the seeding boundary. The proposed pipeline route crossing the WSA would follow an existing road Right-of-Way (ROW) and where practical, meet and follow Mann Lake/Stonehouse Seeding #2 boundary fence across Lower Stonehouse WSA and into the seeded area of the pasture.

Installation of the pipeline within the WSA would occur within the existing ROW using an adaptive management approach which would allow changes to the configuration of the pipeline that would best meet the needs of the Proposed Action while causing the least disturbance to soil, vegetative, and aesthetic (visual) characteristics within the pasture.

Adaptive Management Approaches:

Options considered would be pipe material (galvanized steel or plastic), and whether nonserviceable (used) cotton-jacketed fire hose would be used to shroud the pipe to protect the pipe and to provide a mechanism for camouflaging the pipeline. The pipeline would be considered for burial if other less-disturbing methods prove unsuccessful.

1. A plastic (PVC) pipe would be placed inside the fire hose sections and placed on the soil surface. The pipe would then be routed so trampling impacts would be minimized and visibility would be reduced. As near as practical, the pipeline would be routed toward and follow the existing fenceline. This option would allow for minimal disturbance to the soil surface and retain the possibility of removing the pipeline after livestock are removed from the pasture. Further, the placement of pipeline along the fence would reduce trampling as well as reduce visual impacts by adding to an existing feature rather than creating a second feature. While in place, the pipeline would be monitored for surface impacts (soils and vegetation) and structural damage. Placement of the pipeline on the surface and leaving it year-round would likely result in the pipeline becoming overgrown with vegetation and consequently becoming naturally camouflaged within one to two growing seasons. If the pipeline remains visible to the point of dominating the visual component of the landscape, the pipeline could be considered for annual installation/removal from the WSA to facilitate livestock watering only during the authorized grazing period.

2. If plastic pipe proves to lack the durability to contain the pressure created by the slope of the pipeline, galvanized steel pipe could be used as a replacement.

3. Should the determination be made surface installation is causing greater surface disturbance than would burying the pipeline or trampling is damaging the pipeline causing excessive maintenance needs or water loss, the pipeline would then be buried within the confines of the existing ROW. The determination for burying the pipeline would be made based on the following criteria:

    - Livestock Disturbance: The exposed pipeline would be exposed to livestock movement throughout the grazing period. This may lead to crushing or dragging of the pipeline and result in increased surface disturbance including surface scrubbing or erosion should the pipe develop a leak. Should regular disturbance result in ongoing maintenance of the pipeline and/or continual movement of the pipeline result in the vegetative disturbance and increased visibility of the pipe, the pipe would be buried in areas where disturbance occurs or in its entirety.

- The pipeline or maintenance thereof would not be a feature that visibly dominates the landscape. If the pipeline presence does not blend well with the natural surface, or if regular disturbance (incidental or a result of maintenance) leaves a visible indicator of its presence, the pipeline would be buried.

- Environmental Deterioration: The project area is subject to harsh and unpredictable environmental conditions. Freezing temperatures or very hot days can quickly degrade plastics commonly used to manufacture pipe. Further, environmental conditions can contribute to deterioration when combined with other disturbance such as a heat-softened pipe may collapse more easily, or a cold pipe more easily break when trampled. Deterioration of the pipeline could cause water loss and/or erosion within the project area and may increase the maintenance needs of the pipeline. If conditions similar to those listed above require regular maintenance that degrade surface components (soils, vegetation, etc.), the pipeline may be buried.

- Impacts due to removal/installation of the pipeline: Surface placement of the pipeline would occur within an existing road ROW in which improvements (blading, etc.) are not authorized. Installation and removal of the pipeline could damage vegetative cover leaving visible signs of its presence beyond the period of actual use. Moreover, repeated (annual) placement of the pipeline may result in multiple linear vegetative deviations (over or under vegetated) within the existing ROW. If features resulting from repeated installation become consistently visible, the pipeline may be buried.

The decrease in elevation along the Summit Pipeline is approximately 500 feet. This amount of declination leads to increased pressure along the lower sections of the pipeline. To reduce this pressure, devices designed to reduce pressure (pressure breaks) would need to be installed. The number calculated as being necessary for this project is two, one within the inholding and a second east and outside the WSA. Excavation for the devices would be concurrent with the excavation necessary for the pipeline and would not be distinguishable from the disturbance necessary for pipeline installation.

Minimal equipment would be utilized. The permittee would construct and maintain the pipelines and troughs, and the BLM would provide materials. This would be documented in a Cooperative Agreement for the proposed rangeland improvement.

A rider would be employed temporarily to achieve desired distribution and limit livestock presence near naturally occurring surface water sources. In addition, salt blocks, nutritional supplements, and other attractants would be appropriately located (distance greater than 0.25-mile from water) to augment livestock distribution further ensuring equal distribution throughout the seeding.

Pipeline installation on BLM-administered land east and outside Lower Stonehouse WSA boundary would be burial of the pipeline from a location outside the WSA boundary to the troughs proposed for installation in the south end of the pasture supplied by Summit Creek.

Livestock grazing would occur annually in Stonehouse Seeding #2 with the same number of AUMs (1,407), kind, and authorized season of use after the project has been completed. The project would be implemented when funding becomes available.

A temporary fence would be constructed in the area between Stonehouse Creek and Stonehouse Road. Stonehouse Creek would be monitored for the natural migration of woody vegetation into the lower reach of the stream. It is anticipated that in 5 to 10 years, woody vegetation may be of adequate density and height to be self-sustaining under current management. If this is the case, then the fence would be removed. If woody vegetation has not migrated downstream and expanded its range from historic monitoring points within the allotted timeframe, a determination would be made as to the suitability of the lower reach of Stonehouse Creek as habitat for woody species. Specific placement of the fence would be determined at the time in which the fence is deemed necessary. Further, the fence type could be amended from the 4-wire to a buck and pole type while remaining within BLM standards listed in the Project Design Elements (below) to best meet the goals and objectives of this EA.

4. Project Design Elements

- Construction would occur in early spring or in late summer or early fall to avoid adverse effects to nesting birds.
- The troughs would be equipped with float valves to prevent overflow, and would include wildlife escape ramps to facilitate safe use by small mammals and birds.
- Soil disturbed during pipe placement and trough installation in the non WSA portion of the pasture would be hand-seeded with a mixture of native and nonnative perennial grass species.
- Soil disturbed within the WSA would be hand-seeded with native perennial grass species.
- If possible, the troughs and any pipeline remaining on the surface would be partially buried and coarse rock would be placed around the trough to reduce disturbance by livestock and assist in blending the site with the surrounding area.

- Solid features such as rocks and limbs would be placed moss side up and situated to represent a natural state near areas of excavation.
- Vehicles and equipment would be cleaned prior to entering the site for project work to alleviate spread of noxious weeds.
- Shut off valves and drain cocks would be installed at appropriate locations to facilitate maintenance/ removal and to limit the possibility of damage during freezing weather.
- Pipeline and trough location would be adjusted to avoid any discovered archaeological sites and sensitive plant populations.
- 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.
- The fence would be built 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. Anti-collision flashers would be installed in appropriate locations.
- 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.
- Livestock passage would be monitored to ensure animals are not afforded the opportunity to browse outside the authorized grazing period.
- Salt blocks and or nutrient tubs would be placed no closer than one-quarter mile from perennial water sources.

C. <u>Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of the unnamed Summit Creek Spring</u>

Under Alternative C, all aspects of Alternative B including appropriate Project Design Elements would take place except:

- Water used in the southern end of the pasture would be drawn from Barrel Spring. The third trough location and surface armoring around the trough would be the same as the southern trough proposed in Alternative B. A new pipeline would be plumbed into the existing Barrel Spring headbox. The entire pipeline would be buried down to the third trough location.

- The Summit Creek water source would not be developed.

See Map - Alternative C.

D. Alternative D – Alternate Fence Location for the Protection of Stonehouse Creek

Alternative D provides an alternative fence location to act in lieu of the location described in Alternative B. The Barrel Spring Pipeline Extension, Summit Creek development, troughs and the fence protecting Stonehouse Creek would be installed following the applicable Project Design Elements as described under the Proposed Action. Easements would be acquired for the existing Barrel Spring Pipeline and prior to construction of any pipeline at Summit Creek.

A fence would be constructed near the midway point between Stonehouse Creek and Little Stonehouse Creek. The proposed fence would begin near an existing fence corner located in Stonehouse Canyon, move eastward across the privately-owned parcel located in the northeast corner of Stonehouse Seeding Pasture and ending on the fenceline alongside East Steens Road. Specifications for this fence would be the same as those outlined in the Project Design Elements for Alternative B (Map - Alternative D).

The area within the confines of the fence would be managed based on the percentage of acres within the proposed fenceline and Stonehouse Creek as compared to the acreage in the remainder of the pasture. The length of the proposed fence would be approximately 7,500 feet and the area protected would be about 242 acres or 4 percent of the entire pasture. Of the 242 acres protected, 146 acres would be publicly owned and 96 acres would be on privately-owned land.

Under this alternative the number of AUMs would not change, 4 percent of the total AUMs would be used within the fenced area. Dates of utilization would remain within the current management prescription outlined in the Allotment Management Plan (AMP). Fifty head of livestock would be placed in this riparian management unit until utilization levels along the creek and/or riparian areas are reached. These livestock would then be placed in the larger unit along with the remainder of the livestock for the remainder of the duration of authorized use. The use of this portion of the pasture would also be used for trailing approximately 700 head of livestock through the pasture the end of June and again the end of August to access an adjacent allotment.

E. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

Developments described under Alternative B - The Barrel Spring Pipeline Extension, Summit Creek development, troughs and the fence protecting Stonehouse Creek - would be installed following the appropriate Project Design Elements as described under the Proposed Action. Easements would be acquired for the existing Barrel Spring Pipeline.

Under this alternative, a portion of the spring complex located on public lands near Summit Creek would be developed in lieu of the development of the spring as described in the Proposed Action. The area proposed for development lies within a stand of juniper and is in line with the existing fence that is the boundary between Stonehouse Seeding #2 and Mann Lake Seeding #1 Pasture. Approximately 1,100 feet of pipeline would cross Lower Stonehouse WSA and continue east alongside the fenceline for additional 900 feet until the turn north is made toward the proposed trough location (Map - Alternative E).

F. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

This alternative would use range riders to manage livestock distribution during the authorized grazing period instead of developing water sources and constructing a new fence within Stonehouse Seeding #2 Pasture. Stonehouse Creek would not be fenced and water would not be developed at either Summit Creek or Barrel Spring water sources. It would be the responsibility of the permittee to provide a rider to maintain even use across the pasture both inside the seeding and within the WSA in the uplands. Three riders and six horses would be on site for up to 30 days riding the pasture twice daily. A camp consisting of several shelters (tents, campers) would be needed to provide shelter for the riders. Horses would be hobbled.

The grazing rotation would not change under this alternative.

G. Alternatives Considered but not Fully Analyzed

1. Installation of a Single Trough

a. The water sources for the Proposed Action lend toward equal distribution of water across the seeding. Barrel Spring is centrally located in Stonehouse Seeding while the Summit Creek source is located in the southern portion. To install a single trough would only distribute water for livestock to select one-third portion of the pasture. The result would potentially be variation and contrasts in pasture condition visible to the casual observer. The intent of the Purpose and Need is to equally distribute utilization across the seeding and reduce or eliminate points of high use, to that end; this alternative will not meet the Purpose and Need and will not be considered further.

2. Removal of Livestock Grazing from Stonehouse #2 Seeding

This alternative would remove livestock grazing from the seeding and would eliminate the need to construct the proposed pipeline and troughs. This alternative was eliminated from detailed analysis for the following reasons:

a. By implementing the action proposed in this EA, the BLM is simply taking a proactive approach to ensure livestock grazing (as analyzed in the 1991 AMP) continues to meet allotment resource objectives and Rangeland Health Standards.

b. The eastern and interior of the pasture are underutilized as stated in the Purpose and Need. To eliminate grazing in the pasture would serve to compound existing vegetative problems (decadence, etc.) in the seeded portion of the pasture and create a similar situation in the nonseeded portion of the pasture through nonuse.

c. Because current management is achieving all Rangeland Health Standards present, there is no rationale to support removal of livestock grazing from this pasture. The Purpose and Need for action does not originate from problems with livestock carrying capacity, rather, livestock distribution.

3. Reducing Stocking Rate

This alternative would reduce livestock numbers to meet the Purpose and Need for action. This alternative was eliminated from detailed analysis for the following reasons:

a. Reducing livestock numbers and maintaining the current grazing rotation would not resolve the issue of disproportionate utilization between the west and east sides of the pasture. The east side of the pasture has adequate forage, but is underutilized in favor of the western portion of the pasture because of abundant native vegetation and persistent water supply. Although reducing livestock numbers would reduce utilization within this pasture, spring grazing would continue to be focused on the west side uplands of the pasture where resources are abundant. This alternative would not meet the Purpose and Need for modifying current livestock distribution to address uneven livestock utilization and to ensure continuance of achieving Standards for Rangeland Health.

b. By reducing the average number of (or time) livestock present, even reduced concentrations would remain near riparian areas and only moderate improvements to the margins of preferred utilization areas could be expected. Bank trampling/compaction in riparian areas can affect stream health by reducing recruitment of native riparian species and increasing erosion of streambanks and the resulting deposition of sediment into the stream. While the severity of soil compaction from trampling is a function of an animal's weight, hoof size, and the amount of trampling (Thurow 1991), disturbance and compaction impacts are greatest during the initial presence of causal factors.

The core issue remains in that localized livestock distribution and use are based on water availability. In addition, there is adequate forage material to sustain the current management program.

4. Distribution of Salt/Nutrients to Attract Livestock into Desired Areas

The primary reason that livestock avoid the lowlands is the lack of water. Forage material is in abundance. While salt and nutrients are an effective attractant, effects would only last for the duration livestock desire the supplements until livestock return to available water. By creating a situation in which supplements and available water are removed from one another, livestock would migrate between the resources to meet their nutritional needs. Under this alternative, migration may create a corridor leading to increased surface disturbance in localized areas. Because of the known effects of using supplements to attract livestock, this alternative has been incorporated into the Proposed Action to augment its effectiveness.

CHAPTER III: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. Identification of Affected Resources/Issues

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

Table 2: Resource/Issue Identification

Resources/Issues		**If Not Affected, why?** **If Affected, Reference Applicable EA Section**
Air Quality (Clean Air Act)	Not Affected	Dust would be produced briefly during construction and would not be measurable.
American Indian Traditional Practices	Not Present	No concerns have been disclosed.
Areas of Critical Environmental Concern (ACECs)	Not Present	The closest ACECs are the Kiger Mustang ACEC (6 miles north) and Mickey ACEC (12 miles south of the project area).
Cultural Resources	Not Present	Surveys were conducted in spring 2009. No cultural items or sites were discovered.
Environmental Justice (Executive Order 12898)	Not Affected	The alternatives are 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 in the project area.
Flood Plains (Executive Order 13112)	Not Present	The alternatives do not involve occupancy and modification of flood plains, and would not increase the risk of personal losses due to flood.
Hazardous or Solid Waste	Not Present	
Noxious Weeds (Executive Order 13112)	**Affected**	**See Chapter III, Section B.1.**

Resources/Issues			If Not Affected, why? If Affected, Reference Applicable EA Section
Paleontological Resources		Not Present	
Prime or Unique Farmlands		Not Present	
Migratory Birds (Executive Order 13186)		Not Affected	The project would be constructed before most migratory species arrive. Wildlife escape ramps would be installed in troughs. No other issues were identified.
Wildlife/ Threatened or Endangered (T/E) Species or Habitat	Fish	Not Present	Perennial streams within the pasture are not fish bearing or tributary to fish-bearing streams.
	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 or associated Critical Habitat are known or suspected to occur in the project area.
Wildlife/BLM SSS and Habitat	Fish	Not Present	Perennial streams within the pasture are not fish bearing or tributary to fish-bearing streams.
	Wildlife	**Affected**/ Not Present	***greater sage-grouse*** **– Affected, See Chapter III, Section B.8.** *pygmy rabbit* – Not Present. There are no historical sightings within Stonehouse Seeding #2. The project area and the allotment do not contain the following combination of habitat features that would make it suitable pygmy rabbit habitat: > 23 percent 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).
	Plants	Not Present	There are no known Special Status plant species in Stonehouse Seeding #2. *Biddle's lupine* (Lupinus biddlei), a former BLM SSS, is present in the Stonehouse Seeding.
Water Quality (Surface and Ground)		**Affected**	**See Chapter III, Section B.4.**
Wetlands/Riparian Zones (Executive Order 11990)		**Affected**	**See Chapter III, Section B.4.**
Wild and Scenic Rivers		Not Present	
Wilderness/WSAs		**Affected**	**See Chapter III, Section B.5.**
Grazing Management		**Affected**	**See Chapter III, Section B.3.**
Lands and Realty		**Affected**	**Chapter III, Section B.7.**
Recreation		Not Affected	No changes to general recreational setting or access routes would occur.
Soils/Biological Crusts		**Affected**	**See Chapter III, Section B.2.**
Upland Vegetation		**Affected**	**See Chapter III, Section B.2.**
Visual Resources		**Affected**	**Chapter III, Section B.5.**
Social and Economic Values		Not Affected	No measurable changes to customary social or economic values would occur in Harney County.

Resources/Issues		If Not Affected, why? If Affected, Reference Applicable EA Section
		Please see the WSA Section for effects to solitude and grazing management for economic effects to the permittee under the Herding Alternative.
Wildlife	**Affected**	**See Chapter III, Section B.8.**

1. Noxious Weeds

Affected Environment

There are three documented noxious weed sites within Stonehouse Seeding #2 Pasture - one site of field bindweed (0.001-acre) and two sites of Scotch thistle (11.32 acres).

Environmental Consequences

Effects Common to All Alternatives

In general, noxious weeds can invade even healthy range sites such as the Stonehouse Pasture #2 project area. Weed seeds germinate wherever disturbance occurs. Natural disturbances from rodents, ungulates, droughts, and fires provide opportunities for noxious weed establishment. Any new or existing weed sites would be treated using the most appropriate methods as outlined in the Burns District Weed Management EA OR-020-98-05.

While weed treatments have been ongoing, there are still some infestations of scotch, Canada, and bull thistle on private lands in the vicinity of the proposed projects, as well as on BLM lands and along East Steens Road. Thistle seeds are dispersed by wind and could easily blow into the project area from nearby infestations.

Treatment of weeds on private lands should be the responsibility of the private landowner. They have many more pesticides available to them than BLM can utilize on public lands; therefore, weed management actions may be more effective.

If new and existing weed infestations are treated aggressively and on an annual basis, the action alternatives would not likely contribute to the cumulative expansion of noxious weeds within Pollock Allotment.

a. Alternative A (No Action Alternative)

As no new range improvements would occur, there would be less disturbance and the chances of new infestations would be reduced.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

Disturbance associated with the construction of a new riparian fence along Stonehouse Creek creates opportunities for new weed introductions in the short term (less than 2 years). Following the Project Design Features (Chapter II, Section C) would help lessen the risk of new weed introductions. In the long term (more than 2 years), better livestock grazing management of the riparian area associated with Stonehouse Creek would provide healthier vegetative communities. These plants would provide more competition for the resources which would decrease opportunities for new weeds to become established.

Soil-disturbing activities resulting from pipeline and trough placement facilitates spread to new sites of any weed species that arrive on construction equipment. However, Project Design Features are intended to reduce the risk of new introductions and document any new or existing weed sites.

The new trough locations would cause increased disturbance from livestock watering activities which would increase the likelihood of noxious weed introduction and spread in those areas. The disturbance associated with the 1.25 miles of pipeline proposed would increase the likelihood of new weed infestations. Over time, the disturbed areas would become vegetated, providing fewer opportunities for weeds to become established. Better livestock distribution because of the increased water sources would lead to more even utilization and healthier plants in the seeding which would be better able to provide competition to ward off potential introductions of noxious weeds.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Effects from this alternative would be similar to the Proposed Action although the disturbance would be less overall acres. The disturbance proposed in this alternative creates increased risk of new noxious weed introductions along the proposed pipeline route. Effects would be similar to those along other pipeline routes. Aggressive monitoring and treatment if new weeds are discovered would reduce the risks from noxious weeds.

d. Alternative D – Alternate fence location for the protection of Stonehouse Creek

In the short term (less than 2 years), the disturbance from constructing the fence may cause an increase in noxious weed introduction. Following Project Design Features would help minimize weed introduction. Once a riparian pasture is created and grazing is managed to benefit the riparian species, long-term benefits would be the same as in the Proposed Action.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

The impacts from this alternative are similar to those described in the Proposed Action. Following Project Design Features would help reduce opportunities for new weed introductions. The additional disturbance involved in developing the spring would eventually be offset by the revegetating of the area, and the more even grazing utilization resultant from the additional water sources. As always, diligent monitoring and timely treatment would help ensure the area remains minimally infested with noxious weeds.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

This alternative would not involve any new ground disturbance as no fence or pipelines/troughs would be constructed. If herding management successfully improves livestock distribution, utilization levels in Stonehouse Seeding Pasture would be reduced, and effects on noxious weeds would be similar to the Proposed Action. However, using the riding method of herd management to distribute livestock away from the area would add more animals and increase the potential for noxious weed introduction when horses are brought in from other areas. If herding fails to improve livestock distribution, effects on noxious weeds would be equivalent to the No Action Alternative.

2. Upland Soils, Vegetation, and Biological Soil Crusts

<u>Affected Environment</u>

Current discussion and analysis of potential effects to soils, vegetation, and biological crusts are tiered to the Andrews Management Unit (AMU)/CMPA Proposed RMP/Final Environmental Impact Study (PRMP/FEIS) (August 2004) and contained in the following sections: Sections 3.4, p. 3-7, 4.4, p. 4-21, 3.5.4, p. 3-14, and 4.5.5, p. 4-52.

Upland soils in the project area consist primarily of sandy loams in the Spangenburg-Enko-Catlow association (BLM Geographic Information System (GIS) data from Natural Resource Conservation Service soil survey reports). Soils of this type are typically moderately deep to deep with a loamy sand surface texture 10 to 20 inches deep. Erosion potential is low for water and high for wind. No excessive erosion (in the form of developing rills or gullies) has been noted during rangeland health assessments of the pasture. Annual precipitation averages around 13 inches.

Approximately 3,200 acres (55 percent) of Stonehouse Seeding Pasture (including the project area) was part of the Stonehouse Canyon Seeding project (1973). However, the trend photo for the pasture depicts fresh drill rows in 1965, so the pasture was apparently seeded earlier, and no record in GIS exists at this time. The remainder of the pasture is composed of communities dominated by bluebunch wheatgrass, western juniper, rabbitbrush, and Sandberg's bluegrass.

Based on a botanical inventory conducted in 2009, the dominant shrub in the project area is mountain big sagebrush (Artemisia tridentata ssp. vaseyana), and the dominant grass is crested wheatgrass (Agropyron cristatum). Cheatgrass (Bromus tectorum) and bulbous bluegrass (Poa bulbosa) are present, but are not a major influence on the plant community or ecological site processes, since deep-rooted shrubs and bunchgrasses are vigorous, productive, and represented by plants of various ages.

Native forbs are now well-established within the seeded portion of the pasture, including milkvetch (*Astragalus sp*.), lupines (*Lupinus sp*.), biscuitroot (*Lomatium sp*.) and other species typical of the mountain big sagebrush community. No BLM Special Status Plant Species are known or suspected to occur in the pasture (a plant survey was conducted in May 2009).

The pasture has been grazed only 2 years out of the last 8 in June and July, when the crested wheatgrass is most palatable and before cured stems limit use of leafy material. In 2000, 95 percent of the seeded portion of Stonehouse Seeding Pasture was burned; therefore, the pasture was rested in 2001 and 2002. The pasture was also rested in 2005 due to a change in ownership and 2008 when a onetime rest rotation was used in combination with Lambing Canyon Pasture.

There are three photo plots within the pasture, all within the Stonehouse Canyon Seeding portion. Photos taken in 1965, 1966, 1968, 1978, 1980, 1986, 2000, and 2006 document a change from dominance of cheatgrass and annual forbs to a virtually unvegetated desert (in 1968), back to cheatgrass and eventually to the vigorous stand of crested wheatgrass that exists now. These data indicate a clear upward trend from historic conditions, especially since native plant species are becoming established throughout the seeding portion of the pasture.

As with the Seeding Pasture, the adjacent pasture to the north, utilization of crested wheatgrass in the pasture has been uneven, resulting in a mix of heavily used plants and relatively unused plants which limits utilization away from Stonehouse Creek or privately-developed Barrel Spring. Utilization has been recorded as "heavy" along Stonehouse Creek, and "slight" to "moderate" elsewhere in the pasture.

Biological Soil Crusts (BSCs) are highly specialized organisms that occupy nutrient-poor zones between vegetation clumps in many types of upland arid land vegetation communities, and function as living mulch by retaining soil moisture, discouraging annual weed growth, reducing wind and water erosion, fixing atmospheric nitrogen, and contributing organic material to soil fertility (U.S.D.I. TR 1730-2, 2001, p. 2). BSCs include such organisms as mosses, lichens, green algae, microfungi, and cyanobacteria (U.S.D.I. TR 1730-2, 2001, p. 1). Presence and general health of BSCs is reflected in a site's soil surface stability and biological productivity, which in turn is a reflection of BSC contribution to ecological processes that support these elements.

Rangeland health assessments consider the presence of BSCs as a contributor to soil surface stability and ecological process where appropriate. In the case of Stonehouse Seeding Pasture, the primary contributors to soil surface stability are live vascular plant cover and plant litter. When field assessment determines, as in the case with Stonehouse Seeding Pasture, that no excessive erosion is occurring, a combination of soil surface characteristics, including the presence of healthy BSCs, is presumed to be acting in concert to maintain soil surface stability.

Environmental Consequences

Effects Common to All Alternatives

The alternatives, when considered with other Reasonably Foreseeable Future Actions (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, or contribute measurably to accelerated soil surface erosion in the Alvord Basin.

a. No Action Alternative

Grazing management would continue to maintain ecological processes in the current functional condition, which supports diverse, productive vegetative communities in a stable or upward trend. Soil surface stability and the condition of BSCs would remain in the current condition. Livestock would continue to concentrate on upland vegetation near available water and around the existing troughs and wetted area near Barrel Spring on private land.

Livestock use would continue to be focused around existing water sources, resulting in uneven utilization of key forage species. Accumulation of wolfy plants in rangeland pastures frequently results in waste or incomplete utilization of high quality forage by cattle. A study by Gannskopp, Angell, and Rose (1992) found that a negative response was exhibited by cattle during anthesis (the period during which a flower is fully open and functional) when as little as 4 percent of biomass was contributed by cured stems. In other words, livestock are less likely to graze bunchgrass plants when persistent standing dead stems persist through subsequent seasons. Without adequate distribution of water, cows may never utilize plants in the portion of the pasture in this condition.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction

Although the number and kind of livestock grazing within Stonehouse Seeding #2 would not change, vigor and productivity of crested wheatgrass plants could improve as plants in previously lightly-used or unused portions of the pasture are grazed more frequently, and old culms are removed regularly. This redistribution of herbivores into the seeded areas is based on the two new troughs proposed under this alternative. Since no additional water developments are proposed to increase access to the portion of the pasture dominated by native bunchgrasses, these communities should remain unaffected or the condition could improve as a result of the Proposed Action. Soil surface stability would be unlikely to change as a result of the Proposed Action, since vascular plant cover would be maintained or improved, and litter would be well-distributed after grazing each year. Native plant species would continue to increase, especially forb species and shrubs not palatable or preferred by livestock. Grazing in the northern portion of the pasture near Stonehouse Creek would decrease from moderate (41 to 60 percent utilization) to light (21 to 40 percent utilization). This decrease in utilization of the northern portion of the pasture would result from increased livestock distribution to the southern portion of the pasture. Multiple water sources are proposed in the southern portion to induce the redistribution of livestock.

Upland soils would be compacted in localized areas from onetime entry by mechanized equipment used for excavation and placement of pipeline and troughs. However, this type of disturbance would be limited to a linear corridor (approximately 10 feet wide) of previously undisturbed ground. Effects to soil surface condition (amount of bare ground) and plant productivity or recruitment would gradually become less obvious, and would be difficult to detect by the end of the following decade.

The proposed Summit pipeline would utilize an aboveground installation method where a 1.5-inch PVC pipe is concealed within a standard cotton jacketed fire hose. The fire hose conceals the PVC pipe and provides microtopography for soil retention, algal growth and potentially some limited vascular vegetation establishment. All of these factors contribute to the concealment of the pipeline. Although limited, some potential exists for slight vegetation changes along the pipeline from micro-site soil moisture increases. Vegetation composition would not noticeably change, but individual plants may exhibit more vigor as a result of an increased duration of residual soil moisture.

In the event of a breached pipeline, some vegetation responses would be noticed, but would be a function of the volume, duration, and seasonal timing of the breach. BSCs would become more visible during breach events (even very short duration breaches), but would rapidly return to a dormant state following pipeline repair. Erosional forces may impact biological crusts and vascular vegetation if a breach occurs under full or even partial pressure depending on the specific location in the elevational range of the pipeline and duration of the breach. As rain amounts commonly associated with thunderstorm activity are common in the area of the pipeline, impacts from breach events would not be expected to cause surface disturbance to soil and vegetation resources beyond what might occur through natural processes. Alternatively, if the pipe was buried, breach events would result in localized erosion.

Livestock may create new trails to and from the new troughs, 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 in Stonehouse Seeding #2 could buffer these effects. No accelerated erosion associated with livestock trails has been observed elsewhere in the pasture, and none is expected to result from the Proposed Action.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Under Alternative C, water supplied to the southern portion of the pasture would be taken from Barrel Spring via a pipeline plumbed into the existing head box. The entire pipeline would be buried down to the trough location. The trough and surface area around the trough would be prepared similarly to the troughs proposed in Alternative B. The Summit Creek water source would not be developed.

Livestock redistribution would occur in a similar fashion to the Proposed Action in that the existence of new water sources would reduce utilization in the northern portion of the affected pasture. The source of the water is the only major difference between Alternatives B and C and this does not change the potential effects as they would be the same as with Alternative B.

d. Alternative D – Alternate fence location for the protection of Stonehouse Creek

Under Alternative D, a fence would be constructed near the midway point south of Stonehouse Creek and north of Little Stonehouse Creek. The fenceline would begin on the uphill end near the fence corner located in Stonehouse Canyon. The fence would follow a course eastward and (as much as practical) obscured by terrain into and across the privately-owned parcel located in the northwest corner of Stonehouse Seeding Pasture and ending on the fenceline on East Steens Road. Fenceline trailing impacts to soils, vegetation, and BSCs would be evident along the newly-constructed fence.

The existing private water distribution would continue to support the Purpose and Need by supplying water to the north end of the seeding in the lowlands resulting in a better distribution of trampling impacts which would benefit soils, vegetation, and BSCs.

The area within the confines of the fence would be managed as a riparian pasture with dates of utilization to be established based on current management goals and objectives with adjustments to specific dates based on monitoring. Stonehouse Canyon is used for access into pastures west of the seeding. Historically livestock were allowed to trail through and along the stream. If the fence were constructed and management changed to the riparian pasture, cattle would not be allowed to loiter in the area while in transit and would be driven through with only minimum opportunity for use in this area. Soil stability in the fenced areas would increase as livestock use of the riparian vegetation decreased (resulting in an increase in the health and vigor of the plant community). Moss and lichen components in the same area would increase in terms of cover due to a reduction in concentrated use by livestock primarily due to the limited timeframe needed to trail cattle through Stonehouse Canyon.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

This alternative is similar in nature to Alternative B except that the spring development would occur within WSA. The primary benefit of this alternative is the reduced surface area (approximately 500 feet for pipeline placement) needed within the WSA for development. However, the area required for development of the spring on public land is at this point unknown and may cause temporary disturbance equal to the area needed for the pipeline placement. A reduction in surface area disturbance would also proportionally reduce the total disturbance to upland vegetation, soils, and BSCs.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

There would be no direct impacts to vegetation, as no fence would be constructed, and no new water developments would be developed under this alternative. If herding management successfully improved livestock distribution, impacts to vegetation would be equivalent to the Proposed Action. However, if herding fails to improve livestock distribution, impacts would be equivalent to the No Action Alternative.

There would be no direct impacts to soils/BSCs as no fence would be constructed and no water would be developed under this alternative. If herding management successfully improves livestock distribution, long-term (greater than 2 years) impacts to soils/BSCs would be equivalent to the Proposed Action. However, if herding fails to improve livestock distribution, impacts would be equivalent to the No Action Alternative.

In the short term (until livestock are trained) herding is likely to result in new trails which would have more soil compaction than adjacent areas. This would result from the riders developing favored, easier routes to use areas. Herded livestock travel somewhat differently than cattle moving of their own volition. Herding results in somewhat larger and tighter groups of cattle and cattle tend to move faster. Taken together increased soil compaction and to some degree increased BSC disturbance along these preferred travel routes would occur.

3. Grazing Management

Current discussion and analysis of potential effects to Grazing Management are tiered to the AMU/CMPA PRMP/FEIS (August 2004) and contained in the following sections: Sections 3.15, p. 3-48 and 4.15, p. 4-183.

Affected Environment

One term permit is currently authorized for 4,107 Animal Unit Months (AUMs) for Pollock Allotment from November through August. All authorized livestock grazing is by cattle. Other forage allocations include 79 AUMs for mule deer, 12 AUMs for pronghorn, and 408 AUMs for wild horses. There are approximately 2,456 AUMs allocated for the three seedings on the Pollock Allotment for a length of 3½ months. For the past two grazing seasons 680 and 700 AUMs have been grazed on the Stonehouse Allotment for approximately 1½ months. The Stonehouse Seeding #2 season of use is normally late spring and early summer in odd years and late summer early fall in even years. The seeding is in 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 as described in the CMPA RMP p. 55.

The project would not result in an increase in AUMs during the authorized period of use, nor would it alter the authorized season of use as specified in the 1991 AMP. Rather, the project would improve distribution and utilization patterns and be complimentary to the overall grazing prescriptions contained in the AMP.

The pasture has been grazed only 2 years out of the last 8 in June and July, when the crested wheatgrass is most palatable and before cured culms limit use of leafy material. It was rested in 2001 and 2002, following the Stonehouse Fire, and also in 2005 due to a change of ownership that took place and 2008 when a onetime rest rotation was used in combination with the State owned Lambing Canyon Pasture. The utilization data has not exceeded 60 percent in the 5 years in which utilization studies occurred.

Environmental Consequences

An identified RFFA is the Echanis wind project. Grazing management in Stonehouse Seeding #2 is limited to the boundaries of the allotment and no portion of the Echanis Project or transmission line is within the project area.

a. Alternative A (No Action Alternative)

Livestock grazing management would remain the same as current management. Livestock would continue to graze the west side of Stonehouse Seeding disproportionately to the east side of the pasture. The S&Gs, though currently achieved, may be at risk for achievement in the future due to livestock distribution resulting in slight to light (6 to 40 percent) utilization in the western part of the pasture and heavy (61 to 80 percent) utilization in the eastern portion of the pasture.

No range improvement projects would be implemented and livestock distribution with average utilization patterns of moderate utilization through most of the pasture would continue.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction

Effects of the Proposed Action would be centered on modifying livestock grazing management. Under this action, grazing management would be adjusted to achieve an improved utilization pattern across the entire pasture. The proposed pipeline, troughs, supplement placement, and active management using riders would address the Purpose and Need by controlling livestock distribution and utilization between both sides of the pasture allowing an improved grazing management rotation system to be implemented. This action improves the likelihood S&Gs would continue to be achieved within the allotment by reducing seasonal/heavy utilization of key forage plants such as bluebunch wheatgrass, *Poa secunda* and Idaho fescue within Stonehouse Pasture. With the Proposed Action, upland health would be maintained or invigorated with native plant communities that have enhanced weed resistance due to their vigor and productivity. Livestock would be restricted from watering at Lower Stonehouse Creek by construction of the riparian fence.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Effects to Alternative C on Grazing Management would be identical to those of Alternative B (Proposed Action).

d. Alternative D – Alternate fence location for the protection of Stonehouse Creek

Under this alternative the number of AUMs would not change, 4 percent of the total AUMs would be used within the fenced area. Dates of utilization would remain within the current management prescription outlined in the AMP. Fifty head of livestock would be placed in this riparian management unit until utilization levels of no more than 50 percent on native species and 60 percent on nonnative are reached in the uplands and or until a stubble height of no less than 4 inches is left along the creek and/or riparian area in the green line.

In addition if woody herbaceous use on the established willows along Stonehouse Creek within the riparian management unit becomes greater than 30 percent of the current years leader growth, the 50 head would be removed before utilization is reached in the uplands. These livestock would then be placed in the remainder of the seeding with the rest of the livestock for the duration of authorized use. In odd years when the pasture is used during the spring, use would be allowed into the exclosure at the first part of the grazing season. In even years when the pasture is used in the fall, use would be allowed into the exclosure at the end of the season to prevent heavy utilization of riparian shrubs. This portion of the pasture is also used by another permittee for trailing approximately 700 head of livestock through the pasture at the end of June and again at the beginning of August to access an adjacent allotment. Private land incorporated within the exclosure would be managed through a cooperative management agreement between the BLM and landowner.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

Effects on Grazing Management under Alternative E would be identical to those of Alternative B (Proposed Action).

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

Under this alternative, water would not be distributed across the pasture and a fence would not be constructed along Stonehouse Creek.

It is the experience of the BLM that livestock distribution by riding is only successful in situations where reliable water sources and desired forage are well distributed throughout a given pasture. In this instance, consistent, year-round water is only found in the western portions of the pasture. Livestock seek out surface water and areas containing the most palatable forage. For example, the low elevation and earlier plant growth near Stonehouse Creek, the western uplands and the riparian area associated with Barrel Spring naturally draw livestock to these areas. In general, herding is less effective at achieving and maintaining herd distribution than the installation of fixed structures.

Using the riding method of herd management to distribute livestock away from the area would add more animals to the uplands within the WSA.

Additionally, the potential for noxious weed introduction would increase when horses are brought in from other areas. Poorly conducted riding can cause more harm to the riparian zone and to livestock performance than having the cows remain in the riparian area (BLM, 1997). The permittee would be responsible for ensuring that the riders were aware of the purpose of their duties with regard to keeping livestock out of riparian areas and well distributed across the pasture.

Stonehouse Seeding #2 is approximately 4 miles in length with about 5 miles of perennial water within its perimeter in stream and spring form. Considering the shape of the seeding and distribution of water in the uplands, maintaining control over livestock using riders would not be efficient as the distance that livestock would need to travel would be typically about 1-mile to get from the seeding to water. Further, this method would result in constant livestock movement between watering holes and the seeded portion of the pasture for the duration of the authorized grazing period resulting in the creation of new livestock trails and/or increased trampling in riparian zones as traditional livestock trails are abandoned due to harassment by riders.

Up to three riders and six horses could be present in the pasture during the period of authorized grazing (about 30 days). The camp would likely be located on a privately-owned parcel of land in the northeast corner of the pasture near Stonehouse Creek. The cost per rider is estimated to be approximately $100 per day making the total per rider per season about $3,000.

Stonehouse Road is also used as passage into pastures on top of Steens Mountain. Because no fence would be constructed, it would be necessary to ensure that when other permittees are transiting Stonehouse Seeding enroute to their allotments, they would not be allowed to loiter near Stonehouse Creek.

4. Riparian/Water Quality

Affected Environment

Stonehouse Seeding #2 contains three perennial streams - Stonehouse, Little Stonehouse, and Summit Creeks. All of these streams are short (2 to 3-mile) systems which originate on the east slope of Steens Mountain from snowmelt and/or springs, and flow into small lake basins with no outlets, or disappear into coarse alluvium as they approach the basin floor. The subwatersheds are characterized by steep, confined Rosgen A-B channels in the upper to mid-slope area, transitioning into lower gradient Rosgen B-C channels at the basin floor. Numerous ephemeral and intermittent streams also flow off the east face of Steens Mountain. Fish are not present in any of the streams in the pasture.

All three perennial reaches of the streams originate and end within the seeding and pass through private land with the exception being Summit Creek which passes through the northernmost boundary of North Mann Lake Seeding #1 before reentering Stonehouse Seeding #2. No assessments were conducted on perennial streams on private land or on intermittent or ephemeral streams.

In 2005, PFC Assessments were conducted on approximately 4.5 miles of Stonehouse and Little Stonehouse perennial reaches flowing through the public land portion of the seeding. The perennial length of Summit Creek is undetermined due to the coarseness of the substrate. Water tends to surface and disappear in short (5 to 25-foot) sections alternating between privately-owned and BLM-administrated lands. Abundant water resources provided by Barrel Spring have minimized utilization on the publicly-owned sections of Summit Creek. The upper reaches of Summit Creek were evaluated in May 2009. The area west of the privately-owned parcel is steep and rocky and little evidence of use was visible. Summit Creek becomes intermittent in the short reach (approximately 0.14-mile) between the privately-owned parcel and the Mann Lake Seeding to the south.

PFC is limited in two reaches of Stonehouse and Little Stonehouse Creeks only by the amount of riparian vegetation present to protect streambanks. Comparison of erosion monitoring photos taken between 1987-1994 and 2007 indicate recruitment and expansion of willows downstream in Stonehouse Creek is occurring. The IDT expects that upward trends in Stonehouse and Little Stonehouse Creeks would continue under current livestock grazing management.

Summary of PFC Assessments:

a. Stonehouse Creek (2005): The upper reach of Stonehouse Creek (0.4-mile, below Stonehouse Allotment) was determined to be in PFC, although age class diversity needed to improve. Below this reach, approximately 0.4 stream mile was determined to be Functioning At-Risk (FAR) with upward trend. A headcut had developed prior to 1987, which initiated erosion monitoring. Above the headcut, the stream had split into two channels (part of the flow had reentered an abandoned channel), both of which carried perennial flow. Grazing management changed since monitoring was last conducted in 1994, and the 2007 photos indicate recovery has occurred (bare ground is no longer present, and vigorous establishment of willows is clearly indicated). Stabilizing riparian vegetation has become well-established, and is expanding in both channels. The headcut has not migrated upstream since 1987, and it has become stabilized by herbaceous vegetation. The IDT reached a FAR determination (2007 assessment) because areas of streambank on both channels (and downstream from where the channels rejoin) are lacking adequate woody vegetation and are still dominated by upland species (mostly Kentucky bluegrass).

b. Little Stonehouse Creek (2005 assessment) was determined to be FAR with an upward trend. The amount of riparian vegetation present was considered inadequate to protect banks during high water events, although desirable riparian species are present, and some recruitment of willow and sedge was noted.

c. Summit Creek is scheduled for PFC Assessment in 2011.

Water Quality

PFC Assessments indicate riparian vegetation is at or near potential, or is expanding (in an upward trend). By inference, this suggests shade from vegetation is generally at or moving toward potential, and stream temperatures are also moving toward potential. Excessive erosion and sediment deposition were not identified as a contributing factor to previous FAR determinations for Stonehouse and Little Stonehouse Creeks. These indicators as surrogates suggest current management (within Pollock and Stonehouse Allotments) is not contributing to impaired water quality (elevated temperature or sediment levels) in perennial streams capable of supporting aquatic life, providing water for wildlife and livestock, or aesthetic qualities.

Water quality is evaluated with respect to its effects to Designated Beneficial Uses as determined by Oregon Department of Environmental Quality (ODEQ) for each basin in Oregon. For all streams in Malheur Lake Basin, these include: public domestic water supply, private domestic water supply, industrial water supply, irrigation, livestock watering, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, and aesthetic quality. For streams in Pollock Allotment, only livestock watering, fish and aquatic life, wildlife and hunting, and aesthetic quality are applicable.

Since fish are not present in Stonehouse Seeding #2, ODEQ did not address any streams in Pollock Allotment in their development of Total Maximum Daily Load and Water Quality Management Plan completed for Alvord subbasin (2004). However, riparian functioning condition has been used to infer water quality for streams in the allotment that influences overall stream health and aquatic life other than fish.

The Alvord Lake Subbasin Water Quality Restoration Plan for 303(d) Listed Streams on Public Land Administered by BLM-Burns District (BLM 2006) recognizes riparian vegetation as the primary contributing attribute for managing nonpoint source pollution (such as elevated water temperature) in the subbasin. Specifically, shade from riparian vegetation is considered a surrogate for stream temperature (where the potential exists for overstory shade). Also, excessive erosion or sediment deposition is qualitatively assessed during PFC Assessments, and this may also influence aquatic life (other than fish), as well as livestock watering, wildlife, and aesthetic quality.

In July 2008 a road access ROW across the Lower Stonehouse WSA into a private inholding was granted. This ROW crosses Summit Creek, one of the existing perennial streams within the pasture. The point at which crossing would be necessary is in the lower reach of the stream in an area that is intermittent/ephemeral and presents no riparian characteristics other than the channel and therefore would not contribute to cumulative effects.

Environmental Consequences

Riparian and water quality would not be affected by the Echanis Wind Project (RFFA) as the towers and transmission would not be present nor would it affect any of the watersheds in Stonehouse Seeding #2

a. Alternative A (No Action Alternative)

Under the No Action Alternative, utilization in and near riparian areas would continue. Riparian grass, forb, and woody species vigor and productivity would continue to be limited by grazing activity.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

Under the Proposed Action, the riparian areas and water quality are expected to improve. Among the limiting factors in the 2005 PFC evaluation was the lack of riparian vegetation. This assessment also stated there was good recruitment of vegetative components necessary for stream health. Where livestock presence would likely be reduced in riparian areas as other water sources would become available, riparian vegetation vigor and abundance would increase and as a result PFC concerns regarding the woody vegetative component in the lower reaches of Stonehouse Creek would be addressed. The increased canopy over the streams would also benefit water quality through stream shade/temperature protocols, and reduced turbidity from surface disturbance.

The proposed Summit Creek Pipeline would cross an unnamed ephemeral stream. This channel has no riparian characteristics, is not perennial at any point along its length and is not spring fed. Surface disturbance in and near the channel would be localized and disturbed soil, if further disturbed by rainfall would not be distributed into any perennial stream. Thus, excavation across and nearby this channel would not have any affect to riparian health or water quality.

Because placement of the pipeline would occur within the existing ROW or along the existing fenceline and because of the distance between the project areas and perennial streams, burial or surface installation of the pipeline across the WSA portion of the pasture would not affect riparian/water quality.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Barrel Spring supports a small wet meadow although the specific contribution provided by the developed spring to the meadow as a whole is unknown. An increased draw of water from the existing development could reduce the size of the meadow due to reduced retention of unused water; however, where the flow of water into the proposed troughs would be governed by float valves, the extra draw on water is not expected to be measurable. Further, both the spring and the wet meadow lie on privately-owned land directly adjacent to and associated with the permit for use in Stonehouse Seeding #2.

Under this alternative, Summit Creek would not be used as a water resource. As a result, effects to the Summit Creek portion of the pasture are expected to be similar to the No Action Alternative. For the remainder of the pasture, the effects would be the same as Alternative B (Proposed Action).

d. Alternative D – Alternate fence location for the protection of Stonehouse Creek

Under Alternative D Stonehouse Creek would be fenced and managed separately from the remainder of the pasture. This would allow a more direct management approach to monitor and protect Stonehouse Creek ensuring the opportunity for riparian vegetation to naturally migrate downstream. This alternative supports the recommendations provided by the 2005 PFC IDT to better provide for enhancement of the woody component of the lower reach of Stonehouse Creek.

Compaction of streambanks and the resulting loss of vegetation can cause streambank instability. Stonehouse Creek has several historic channels run within a few feet of the current channel near the base of the canyon. The current channel could be breached allowing Stonehouse Creek to migrate back to a historic path that has since lost its vegetative characteristics. By working toward the securing of the current channel, the likelihood of inadvertent migration is reduced.

Should a fence be constructed, monitoring would need to be frequent to ensure utilization in the area not occur in sites intended for protection.

While the number of livestock would not increase across the pasture, concentration of livestock resulting from incidental entrainment or scheduled use within the fence/stream corridor relying on a single source of water (Stonehouse Creek) could degrade the current riparian condition.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

Effects of this alternative would be removal of water farther downslope from the Summit Creek Spring system than in the Proposed Action. This would benefit the wet meadow associated with the Summit Creek unnamed spring by retaining water farther in the uplands.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

Livestock seek out surface water and areas containing the most palatable forage. For example, the low elevation and earlier plant growth near Stonehouse Creek and the riparian area associated with Barrel Spring naturally draw livestock to these areas. The perennial reaches of streams in the pasture run east-west and act as natural corridors in which livestock would travel. If livestock are pushed uphill/downhill twice per day, these small streams would become forcibly trampled reducing water quality.

Cattle do not simply travel to distant water and return to their habitual foraging locations, but they alter their distribution to remain in the vicinity of water (Ganskopp 2004). As a result, the constant movement of livestock over longer distances between the lowland seeding and the upland watering areas would result in the degradation of riparian areas, as they would move toward areas with abundant and more palatable vegetation while remaining close to a watering source. Riders would need to be instructed as to the reasoning behind the need to drive cattle from one side of the pasture while avoiding the riparian areas that connect (and provide easier passage) from east to west.

It could also be expected that up to three riders and up to six horses would camp near a perennial water source (possibly Stonehouse Creek), as a result, the horses used for riding would likely graze and water at the stream. Unlike cows, horses have top and bottom teeth, which, when they are feeding tend to pull vegetation from the ground leaving little of a plant left to regenerate. The effect would be degradation of the lower reach of Stonehouse Creek, unless feed and watering opportunities for horses are created off stream.

5. Visual Resources

All WSAs are designated as Visual Resource Management (VRM) Class I, this includes 3,300 acres of the Lower Stonehouse WSA that lies within the project area. The VRM Class I objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Stonehouse Seeding #2 along with other seedings near the East Steens Road in the Pollock Allotment are designated as VRM Class III. The VRM Class III objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the landscape.

In July 2008, an ROW across Lower Stonehouse WSA into a private inholding was granted. This ROW involves an existing road that departs East Steens Road and proceeds west into the private inholding near Summit Creek. Where the road is existing and follows the southern boundary fence between Stonehouse Seeding #2 and Mann Lake Seeding #1 approximately 1.5 miles south of the project area, and because the pipeline would be located near the existing road and fence the effects of the pipeline from the Summit Creek area is not expected to be cumulative.

Environmental Consequences

An RFFA potentially affecting VRM is the Echanis Project. Wind turbines from the Echanis Project on private lands would be visible from Stonehouse WSA to the south and Lower Stonehouse WSA, which abuts the eastern boundary of the Echanis site. The Echanis site is considered a non-Federal connected action to the applicant's request to BLM for a transmission line ROW on public lands to the west of the turbines. The ROW, although an RFFA, is still in process and subject to change based on public comments in future NEPA analysis and subsequent administrative remedies.

a. Alternative A (No Action Alternative)

No changes to landscape character would be expected under this alternative.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

Barrel Spring Project Area

Under the Proposed Action, visibility of pipeline burial would be limited to one or two growing seasons beyond the actual installation of the pipeline. Excavation for the pipeline would be parallel to East Steens Road making linear features of the construction indistinguishable to the casual observer other than where the topography allows visibility of the project site. Soil disturbed during pipe placement and trough installation would be hand seeded with a mixture of native and nonnative perennial grass species. Topographic features would also limit overall visibility of the excavation across much of the seeding. Project Design Features including reseeding and replacement of surface features such as rocks to camouflage the excavated area would further limit the visibility of the project.

Within the Barrel Spring project area, visible components remaining after construction include two troughs installed under the Proposed Action, and the resulting surface disturbance associated with livestock presence. The troughs would not be located near any known areas of prolonged visitor use, and would only be observable for a short period of time (minutes) as visitors pass by or along the roads either on foot, horseback or vehicle, or from along East Steens Road as they drive by. The existing character of the landscape would still be retained in the general area as a whole and Class III objectives would be met.

Summit Creek Project Area

Within the Summit Creek project area, two considerations would be made. The two distinct regions include the area within Lower Stonehouse WSA inside the boundary of the existing ROW, and the area east of and outside the WSA in the interior (non-WSA) portion of the pasture.

Within the VRM Class I area, the Proposed Action would result in the surface placement of a pipeline placed within a fire hose that would follow an existing ROW. The cotton jacketed pipeline would be visible for the period of time that would be necessary for vegetation to naturally cover the structure or loose dirt could be spread on the pipeline to accelerate the camouflage process. Over time, it is expected that the pipeline would blend naturally and would not be visible except in short segments to an observer more than a few feet away.

Annual removal and installation of the pipeline would result in increased traffic and disturbance along the pipeline route. Even in the absence of the pipeline, an area where vegetation has not grown due to the pipeline could result in a linear feature (or multiple features over a period of years) that may remain visible from varying points within the pasture.

Should regular disturbance result in ongoing maintenance of the pipeline and/or continual movement of the pipeline result in the vegetative disturbance and increased visibility of the pipe, the pipe would be buried in the existing ROW in areas where disturbance occurs or in its entirety. Every effort must be taken to ensure the form, line, color, and texture remains consistent with the surrounding landscape and within the character of the existing road ROW.

Outside of the VRM Class I area, the proposed action is to bury the pipeline. Visible components remaining after construction include one recycled tire trough installed under the Proposed Action, and the resulting surface disturbance associated with livestock presence.

The trough would not be located near any known areas of prolonged visitor use, and would only be observable for a short period of time (minutes) as visitors pass by or along the roads either on foot, horseback or vehicle, or from along East Steens Road as they drive by. The existing character of the landscape would still be retained in the general area as a whole and Class III objectives would be met.

In the short term, evidence of excavation would be visible for a period of 1 to 2 years following construction. Portions of the excavation would be visible for brief periods of time to passersby. Project Design Features including reseeding and replacement of surface features such as rocks to camouflage the excavated area would further limit the visibility of the project.

Stonehouse Creek Riparian Fence

The fence proposed as an adaptive measure under Alternative B would lie between the existing road and Stonehouse Creek. The fence would be visible from within both the Lower Stonehouse and Stonehouse WSAs, but in general would not be more than 100 feet away from Stonehouse Road thus adding to, rather than creating a new feature.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Under Alternative C, there would be no development of water or installation of pipeline within the Lower Stonehouse WSA (VRM Class I).

Consequently, the water development would not affect the VRM Class I area associated with the present WSAs.

Effects to VRM Class III would be the same as the Proposed Action.

d. Alternative D – Alternate fence location for the protection of Stonehouse Creek

Under Alternative D, the pipeline, troughs, and adaptive measures would be the same as those proposed under Alternative B (Proposed Action). This alternative evaluates the construction of approximately 3,200 feet of fence along a line that would follow the terrain to the south of the fenceline proposed under Alternative B. Emphasis on the specific fence location would be to reduce visibility of the fence to passersby, campers using one of the campsites along Stonehouse Road, and those transiting Stonehouse Road.

This fence would be visible from both the Lower Stonehouse and Stonehouse WSAs, but the visibility of the fence would be reduced from Stonehouse Road. Overall, the fence would be visible from points across the present WSAs, but it is not expected that the fence would dominate the landscape as other features such as the East Steens Road (and the fences following the road), and Stonehouse Road would be present within the viewshed of any given casual observer, therefore, VRM Class I objectives would remain.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

Under Alternative E, all aspects of the project would be the same as those described in Alternative B except that the Summit Creek water source would be developed on public land within the Lower Stonehouse WSA rather than the private land proposed in Alternative B.

The installation of a spring box in the spot proposed would reduce the length of pipeline installed within the Lower Stonehouse WSA from approximately 1,700 to 1,100 feet, a reduction of 600 feet. The expected short-term (1 to 2-year) disturbance created by the development of the spring would be less than 100 square feet. The long-term disturbance would be the access and maintenance ports for the development covering less than 10 square feet. Over time, the visibility of the structures associated with the spring development would be reduced as corrosion would subdue the metal finish of the components and vegetation would encroach further masking the presence of the site.

VRM Class I objectives would be retained after masking occurs.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

No fence and no new water development would occur as a result, effects would be the same as the No Action Alternative.

6. Wilderness Study Areas

Two WSAs are within Stonehouse Seeding #2 - Stonehouse and Lower Stonehouse WSAs. Both are located in the western half of the seeding.

Wilderness characteristics include naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and the presence of special features. The following definitions are from BLM Manual Handbook H-8550-1 – Interim Management Policy for Lands under Wilderness Review. ***Naturalness*** - refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." ***Solitude*** - is defined as "the state of being alone or remote from habitations; isolation; A lonely, unfrequented, or secluded place." ***Primitive and Unconfined Recreation*** - is defined as nonmotorized and undeveloped types of outdoor recreation activities. ***Supplemental Values*** - are listed in the Wilderness Act as "ecological, geological, or other features of scientific, educational, scenic, or historical value."

Wilderness characteristics of Stonehouse WSA are summarized from Volume I of the Oregon BLM Wilderness Study Report (1991).

Naturalness**:** Stonehouse WSA is in a relatively natural condition. This WSA contains a wide variety of physical features including rolling hills, steep escarpments, ridgelines, canyons, and flat basins. The most spectacular feature is the Steens Rim which offers spectacular views, colors, and topography. Habitat for a variety of big game, waterfowl, upland game birds, and other wildlife species occurs in the WSA. There are 30 unnatural features: 12 reservoirs, 13 short ways totaling 14 miles, two ditches totaling about 2 miles, two fences totaling 1-mile, an old seeding, and an airplane landing strip. None of the unnatural features, however, is substantially noticeable. Outside sights and sounds have very minor effects on the WSA.

Solitude**:** Stonehouse WSA has outstanding opportunities for solitude; however, movement within the WSA may be constrained, particularly in the northern end.

Topographic screening is provided by the Steens Mountain ridgeline which bisects the WSA. The west side is screened from the east side by the ridgetop peaks. Small areas within the center of the study area are screened by broken ridges and rolling hills. Shallow drainages throughout the WSA also enhance the opportunity for solitude. Juniper is scattered throughout the study area and aspens occurs in small groves along ridge slopes in the north, creating places for solitude. The steep east slopes of the Steens ridge also have dense juniper stands.

***Primitive and Unconfined Recreation*:** Stonehouse WSA provides outstanding opportunities for primitive recreation. These activities include day hiking, backpacking, camping, hunting, and sightseeing. Hunting is the primary recreation use of the WSA. The major attraction for day hiking would be the main ridge which overlooks Juniper, Tudor, and Fifteen Cent Lakes. Short loop hikes are also possible. The steep east face would be a very challenging hike. A 3- to 4-day backpack would also be possible. Game species in the WSA include mule deer, antelope, elk, quail, and chukars. The east rim of Steens Mountain provides spectacular views of the surrounding area including the Alvord Basin and Sheepshead Mountains.

***Special Features*:** A special wilderness feature of Stonehouse WSA is the highly visible escarpment with its variety of landforms, colors, and vegetation. Other special features are small, intermittent lakes, crucial deer winter range, and greater sage-grouse. Most of the WSA is in the Riddle Mountain Wild Horse Herd Management Area (HMA), while a small area on the eastern edge is in the Heath Creek-Sheepshead HMA.

Wilderness characteristics of Lower Stonehouse WSA are summarized from Volume I of the Oregon BLM Wilderness Study Report (1991).

***Naturalness*:** Lower Stonehouse WSA is in a relatively natural condition. The eastern escarpment and the high plateau on the western side of the WSA provide an area with a high degree of naturalness. This east-facing escarpment is highly scenic and combines a variety of landforms, color, and vegetation. Habitat for a variety of big game, upland game birds, and other wildlife species occurs in the WSA. The WSA contains seven unnatural features: three reservoirs, a fence 1.25 miles long, two ways totaling 1.75 miles, and an old 780-acre crested wheatgrass seeding.

***Solitude*:** Opportunities for solitude in Lower Stonehouse WSA are outstanding. Both topography and vegetation provide screening, but the area would support only a limited number of users. Areas with the greatest potential for solitude are in the drainages of the east-facing escarpment and a few places on the ridgetop where shallow drainages and small hills provide some screening. Other portions of the WSA provide insufficient topographic screening to enhance solitude. Juniper stands and a few aspen groves offer some vegetative screening. This screening enhances solitude in the WSA.

***Primitive and Unconfined Recreation*:** Lower Stonehouse WSA has outstanding opportunities for primitive recreation, but they are somewhat limited by the size and topography of the WSA. Hunting, day hiking, backpacking, camping, and sightseeing opportunities are available. Day hiking, backpacking, and camping are limited. Game species in the WSA include mule deer, antelope, elk, and chukars. The east rim of Steens Mountain provides spectacular views of the surrounding area including the Alvord Basin and Sheepshead Mountains. The most attractive feature within the WSA is the impressive east-facing escarpment.

***Special Features*:** Scenic quality and botanical and wildlife values add to Lower Stonehouse WSA's wilderness values. The east-facing escarpment is highly scenic and combines a variety of landforms, colors, and vegetation. Biddle's lupine, a BLM SSS, occurs at the lower elevations. Greater sage-grouse are found at the upper elevations. Crucial mule deer winter range is found on the lower east side slopes.

In July 2008, an ROW across Lower Stonehouse WSA into a private inholding was granted. This ROW involves an existing road that departs East Steens Road and proceeds west into the private inholding near Summit Creek. Where the road is existing and follows the southern boundary fence between Stonehouse Seeding #2 and Mann Lake Seeding #1 approximately 1.5 miles south of the project area, the effects of the pipeline from the Summit Creek area are not expected to be cumulative.

Environmental Consequences

An RFFA with potential to affect wilderness values in these WSAs is the completion of paving East Steens Road, the county road that forms the eastern boundary of the seeding. When finished, visitor use of the county road may rise, which could increase public use of roads leading up toward the east face of Steens Mountain. Another RFFA is the Echanis Project. Wind turbines from the Echanis Project on private lands would be visible from Stonehouse WSA to the south and Lower Stonehouse WSA, which abuts the eastern boundary of the Echanis site. The Echanis site is considered a non-Federal connected action to the applicant's request to BLM for a transmission line ROW on public lands to the west of the turbines. The ROW, although an RFFA, is still in process and subject to change based on public comments in future NEPA analysis and subsequent administrative remedies. However, the Draft EIS states naturalness would be maintained; noise levels would not exceed ambient levels but the turbines would be visible within 3.4 percent of the WSA; opportunities for primitive and unconfined recreation would still exist; and supplemental values (e.g., scenic qualities) would be affected by views of the turbines to Stonehouse WSA.

For Lower Stonehouse WSA, naturalness would be maintained; solitude would be diminished by excessive noise and visibility of the wind turbines within 62.4 percent of the WSA; primitive and unconfined recreation would be affected by noise during project operation; and supplemental values (e.g., scenic qualities) would be affected by close proximity of the wind turbines. However, past wildfires have already diminished solitude in this WSA (Draft North Steens 230-kV Transmission Line Project EIS, pp. 3.13-13-14, 2010).

a. Alternative A (No Action Alternative)

Since the Proposed Action or other action alternatives would not be implemented, there would be no effects to the WSAs.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

Barrel Spring Pipeline Extension - This project occurs outside of Lower Stonehouse and Stonehouse WSAs; therefore, there are no impacts to wilderness characteristics.

Summit Creek Pipeline (placing pipe on top of ground and adaptive management) - The Summit Creek Pipeline crosses approximately 0.35-mile of Lower Stonehouse WSA.

Naturalness: The proposed alternative is to set the cotton-jacketed pipe on top of the soil surface. Placement of pipe on the surface and leaving it year-round would result in the pipeline becoming overgrown with vegetation and consequently becoming naturally camouflaged within one to two growing seasons. The pipeline would be routed within the existing access ROW, then as near as practical, the pipeline would be routed toward and follow the existing fenceline which would be the least disturbance to soil, vegetation, and aesthetic (visual) characteristics within the pasture. This would allow for minimal disturbance to the soil surface and retain the possibility of removing the pipeline each year after livestock are removed from the pasture. Since the pipeline would be placed along an existing ROW within Lower Stonehouse WSA and is considered temporary, this would not affect the area's natural integrity and the project would be unnoticeable to the average visitor.

If burying the pipe is decided upon, the pipeline would be buried within the existing road ROW, limiting disturbance to soil beyond the current disturbance, vegetation, and aesthetic (visual) characteristics.

By supplying water to this portion of the pasture, there would be ecological benefits associated with better distribution of water and cattle throughout the pasture. Health and vigor of key forage species and other upland grasses would be maintained and in some areas there would be improvement by better distribution of grazing patterns from the proposed water projects.

Solitude: As stated in the Wilderness Study Report October 1991, portions of the WSA in the southeast corner provide insufficient topographic screening to enhance solitude. This area of Lower Stonehouse WSA is well seen from the East Steens Road and past wildland fires have diminished any outstanding opportunities for solitude in this part of the WSA. Therefore, adding this proposed project or the adaptive management to the area would not detract from the existing solitude.

Unconfined and Primitive Recreation: Lower Stonehouse WSA as a whole offers outstanding opportunities for primitive recreation as noted in the 1991 Wilderness Study Report. This area is not conducive for having outstanding opportunities for unconfined and primitive recreation, as an existing access ROW already exists; therefore, burying the pipeline would not affect unconfined and primitive recreation

Special Features: The Proposed Action would not have any effect to the special features as the pipe would be buried within an existing disturbed road ROW.

The Proposed Action (pipeline aboveground) and the adaptive management action (buried pipeline) would meet the nonimpairment criteria of the Interim Management Policy for Lands under Wilderness Review.

Riparian Fence Project - The proposed temporary riparian fence would occur in the northeast portion of Lower Stonehouse WSA for approximately 1-mile. The fence would parallel the Stonehouse Creek Road which forms the boundary for both WSAs.

Naturalness – The proposed fence would occur in a crested wheatgrass seeding along Stonehouse Creek Road. Construction of the proposed riparian fence would result in some soil and vegetation disturbance, but would be minimal due to the fence being constructed with hand tools in the WSA portion. This new proposed fence would be an unnatural feature within Stonehouse WSA.

The proposed fence project would allow management of livestock on Stonehouse Creek within Stonehouse Pasture of Pollock Allotment. This project would allow for protection of the riparian areas by eliminating hoof-shear, and riparian vegetation vigor and abundance would increase allowing riparian vegetation to reach potential. As a result, naturalness of the area would be enhanced by the decrease in impacts to Stonehouse Creek.

Even though the proposed fence project would be an unnatural feature, overall riparian vegetation would be enhanced along Stonehouse Creek truly enhancing the naturalness of wilderness characteristics of Stonehouse WSA.

Solitude: As stated in the Wilderness Study Report October 1991, the Stonehouse WSA is in a natural condition, the area would be difficult to manage due to the traditional vehicle-oriented use by hunters, the lack of identifiable boundaries, private inholdings, and split-estate that could be developed, and the WSA's long and narrow configuration, which somewhat constrains opportunities for solitude. Also, the proposed fence follows along Stonehouse Creek Road which is one of the main access roads for this area of Steens Mountain. Therefore, the proposed fence would not affect the outstanding opportunities for solitude.

Primitive Recreation: Stonehouse WSA as a whole offers outstanding opportunities for primitive recreation as noted in the 1991 Wilderness Study Report.

Visitors recreating in the project area are typically motorized recreationists. These visitors as a rule are car camping. Camping occurs just off Stonehouse Creek Road on private land in the eastern portion of the pasture near East Steens Road or at a dispersed campsite along Stonehouse Creek Road (Map - Alternative B). If the proposed riparian fence is constructed as described in Alternative B, livestock would be eliminated from the newly-created riparian pasture improving recreation around the above mentioned campsites, thereby reducing interactions between recreationists and livestock.

Special Features: There would be impacts to wildlife. Please refer to the Wildlife Section of this chapter.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Barrel Spring Pipeline project does not occur within any WSA. Summit Creek Pipeline would not be constructed; therefore, there would be no affects to Lower Stonehouse WSA. The effects of construction of the riparian fence would be as described in Alternative B.

d. Alternative D – Alternative fence location for the protection of Stonehouse Creek

The alternative riparian fence occurs in the northeast portion of Lower Stonehouse WSA for .75-mile. The alternative riparian fence also parallels Stonehouse Creek Road which forms the boundary for both WSAs. The effects would be similar to Alternative B. However, livestock would be managed to truly enhance riparian vegetation along Stonehouse Creek, and there would no changes to primitive and unconfined recreation

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek located on privately-owned ground as described in Alternative B

The effects would be similar to Alternative B except that a spring would be developed on public land within the Lower Stonehouse WSA. The additional disturbance involved in developing the spring would eventually be offset by the revegetating of the area, and the more even grazing utilization resultant from the additional water sources. Over time, corrosion of the installed lid of the spring headbox would allow it to blend into the surface becoming a nondominant feature in the area.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

Under Alternative F, there would be no change in the infrastructure within Stonehouse Seeding #2 Pasture; consequently, there would be no structural changes that would inhibit the wilderness characteristic. However, this alternative proposes that up to three riders and six horses would camp onsite for up to 30 days. This constant human presence, including riding across Lower Stonehouse WSA twice daily and their camp consisting of several shelters (tents, campers), would create a loss in solitude.

There are several campsites located along Stonehouse Creek and there is a 14-day restriction to camping on BLM-administered lands in Burns District. This would create a situation in which a campsite would need to be moved at least once during the period in which riders are present unless a permit is granted.

7. Lands and Realty

Affected Environment

Barrel Spring is located on privately-owned property near the center of the pasture in the Summit Creek subwatershed. When the pipeline was developed, the BLM did not obtain a legal easement for that portion of the pipeline located on private property. Currently the BLM does not have legal access to the existing pipeline. The BLM has entered into negotiations with the private landowner to obtain legal access to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

The unnamed spring near Summit Creek is located on privately-owned land within Lower Stonehouse WSA at the southern end of the pasture within the Summit Creek subwatershed. The BLM has entered into negotiations with the private landowner to obtain legal access to locate, construct, use, control, maintain, improve, relocate, and repair the proposed pipeline on private property.

The private landowner obtained legal access to both his private inholdings by obtaining an ROW, OR-65158, analyzed under EA OR-08-027-021, July 15, 2008. On July 20, 2009, to provide safe access, the route in the WSA had large rocks removed with equipment followed by filling the holes with natural soil material. Additional rehabilitation work would be completed once a decision is made on this EA.

Environmental Consequences

a. Alternative A (No Action Alternative)

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline and the proposed Summit Creek Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

d. Alternative D – Alternative fence location for the protection of Stonehouse Creek

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline and the proposed Summit Creek Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the pipeline on private property.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

BLM would execute an easement document with the private landowner to obtain a legal right to the existing Barrel Spring Pipeline on private land to ensure the ability to locate, construct, use, control, maintain, improve, relocate, and repair the existing pipeline on private property.

8. Special Status Species - Fauna, Wildlife

Affected Environment

The greater sage-grouse, a candidate for listing as T/E under the Endangered Species Act is the only Special Status wildlife species known to inhabit the project area. They have been observed in late summer near East Steens Road around water sources and may use the area during winter. Much of the sagebrush cover in Stonehouse Seeding was burned in a wildfire in 2001 and most of the seeding still lacks the cover necessary for sage-grouse to use the burned area. Sage-grouse may use the north end of this pasture which did not burn and the east side of East Steens Road during the winter since there is still sufficient sagebrush cover for fall and winter use. In 1999, another wildfire burned much of the sagebrush to the north of Stonehouse Seeding. There are no known leks within 4 miles of the project area.

Wildlife known to occur in the area include mule deer, pronghorn antelope, cougar, bighorn sheep, coyote, badger, black-tailed jackrabbits, ravens, turkey vultures, golden eagles, horned larks, California quail, chukar, mourning dove, bats, deer mice, voles, woodrats, rattlesnakes, gopher snakes, sagebrush lizard, western fence lizard, other small mammals, birds, and reptiles. Most of this area is yearlong pronghorn range, mule deer winter range and bighorn sheep winter range.

Environmental Consequences

Effects Common to All Alternatives

The Echanis site is considered a non-Federal connected action to the applicant's request to BLM for a transmission line ROW on public lands to the west of the turbines. The ROW, although an RFFA, is still in process and subject to change based on public comments in future NEPA analysis and subsequent administrative remedies. Cumulative effects to greater sage-grouse that use the lower elevations on the east side of the Steens Mountain in the project area would be negligible since the Echanis site is greater than 3 miles away from where sage-grouse have been observed near Stonehouse Creek.

All alternatives would be in compliance with recommendations in the "Greater Sage-Grouse Conservation Assessment and Strategy for Oregon" (Hagen 2010) for livestock management infrastructure (p. 104). These recommendations include guidelines for fence locations and marking in relation to riparian areas, wildlife escape ramps for water troughs, etc., and are included in the Project Design Features for this project. The Strategy incorporates relevant information from both the sage-grouse monograph (Knick et al. 2011) and the U.S. Fish and Wildlife Service 12-month finding for listing the greater sage-grouse (USFWS 2010).

a. Alternative A (No Action Alternative)

There would be no effects to sage-grouse or other wildlife from continuation of the current management in Stonehouse Seeding Pasture.

b. Alternative B (Proposed Action) – Installation of troughs, pipeline, and construction of a riparian fence along Stonehouse Creek using an adaptive approach (including determination criteria for burying pipeline and fence construction)

Sage-grouse would not be affected by most actions proposed in this alternative since sage-grouse use in this area is negligible due to the lack of sagebrush cover since the wildfire in 2001. Sage-grouse would be affected by installation of the fence along Stonehouse Creek. The closeness of the fence to Stonehouse Creek presents a collision hazard for sage-grouse that use the creek for watering purposes. The fence would be marked with reflectors/diverters which have been shown to reduce collisions by 70 percent over unmarked fences (Christiansen 2009).

Wildlife in general could be disturbed during installation of the pipeline and troughs from the various spring sources. Disturbance from these actions would displace wildlife for a short period of time, approximately 2 to 3 weeks, then wildlife would return to the area. More wildlife would be disturbed if the installation took place during spring and summer months than if installation occurred during the fall or winter months. The fence along Stonehouse Creek could provide a barrier at first to larger wildlife such as deer and pronghorn if they are trying to access water on Stonehouse Creek. Other water sources would be available for watering wildlife such as the springs on public and private land and Little Stonehouse Creek. Building the fence to BLM specifications would reduce the hazard so that over time, wildlife would become accustomed to the new fence. The fence would be marked with reflectors/diverters which have been shown to reduce collisions.

c. Alternative C – Using Barrel Spring to supply water to the southern portion of the pasture instead of Summit Creek Spring

Sage-grouse would not be affected by the installation of the pipeline since their use of the area is limited due to the lack of sagebrush cover. The effects of the fence along Stonehouse Creek would be the same as in Alternative B.

Wildlife in general could be disturbed during the installation of the pipeline and troughs from the various spring sources. Disturbance from these actions would displace wildlife for a short period of time, approximately 2 to 3 weeks, than wildlife would return to the area.

More wildlife would be disturbed if the installation took place during spring and summer months than if installation occurred during the winter months.

d. Alternative D – Alternative fence location for the protection of Stonehouse Creek

The placement of the fence away from Stonehouse Creek would reduce the possibility of sage-grouse collision with the fence to negligible since the farther away the fence is the less likely the possibility of collision. The fence would be marked with reflectors/diverters which have been shown to reduce collisions.

Larger big game mammals would still have to negotiate the fence even though it is not close to a water source. The likelihood of wildlife getting tangled in the fence is reduced by the design specifications as well as the alignment of the fence.

e. Alternative E – Development of the Summit Creek Spring complex on public land instead of the Summit Creek Spring located on privately-owned ground as described in Alternative B

The effects of this alternative would be the same as in Alternative B.

f. Alternative F – Using riders to manage the herd without developing water, or constructing a fence

Sage-grouse generally nest within 4 miles of a lek (Connelly et al. 2004); however, hens have been known to travel further than that but with the 2001 fire that reduced sagebrush cover throughout the pasture, there is no suitable nesting habitat in the pasture. Since no fence would be constructed, there would not be an increased risk of collision to flying sage-grouse. If herding is successful, the improvements to vegetation (increased vigor and residual carryover) would be similar to the Proposed Action, although herding generally is not as effective for controlling livestock as a permanent fence. Herding with riders twice daily to check and move cows would increase the risk of disturbance (flushing) to sage-grouse that may be foraging in the allotment relative to the other alternatives. This would only occur during the late summer to fall months when sage-grouse may be moving to water sources during the drier times of the year.

No fence would be constructed, therefore, there would not be an increased risk of entanglement to large animals (i.e., mule deer and pronghorn) traveling through the allotment. If herding is successful, the improvements to the vegetative communities (increased vigor and residual carryover) would be similar to the Proposed Action, although herding is generally not as effective as a permanent fence for controlling livestock distribution. Herding twice daily to check and move cows would increase the risk of disturbance to wildlife, such as pronghorn and mule deer that may be using the pasture during this time. This type of disturbance would be frequent enough to cause these animals to avoid the area for the duration of the grazing schedule, although use of the area would resume after livestock are removed.

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. 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 impact 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, hunting, and continued paving of East Steens Road are known RFFAs. The cumulative effects of these actions were thoroughly addressed throughout Chapter III by resource.

RFFAs that may contribute to cumulative effects of all resources:

The BLM received a transmission line ROW application in association with wind energy development on private lands (Echanis Project) on the northern end of Steens Mountain. The applicant is proposing the transmission line cross private lands within the boundaries of the Steens Mountain CMPA. The project area lies west of Stonehouse Seeding. The applicant is requesting an ROW to the west of the wind turbine locations. The ROW, although an RFFA, is still in process and subject to change based on public comments in future NEPA analysis and subsequent administrative remedies. The analysis associated with this project is included in the North Steens Transmission Line EIS (DOI-BLM-OR-B060-2010-0035-EIS).

C. Consultation and Coordination

1. List of Preparers

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2. Persons, Groups, or Agencies Consulted

Oregon Natural Desert Association

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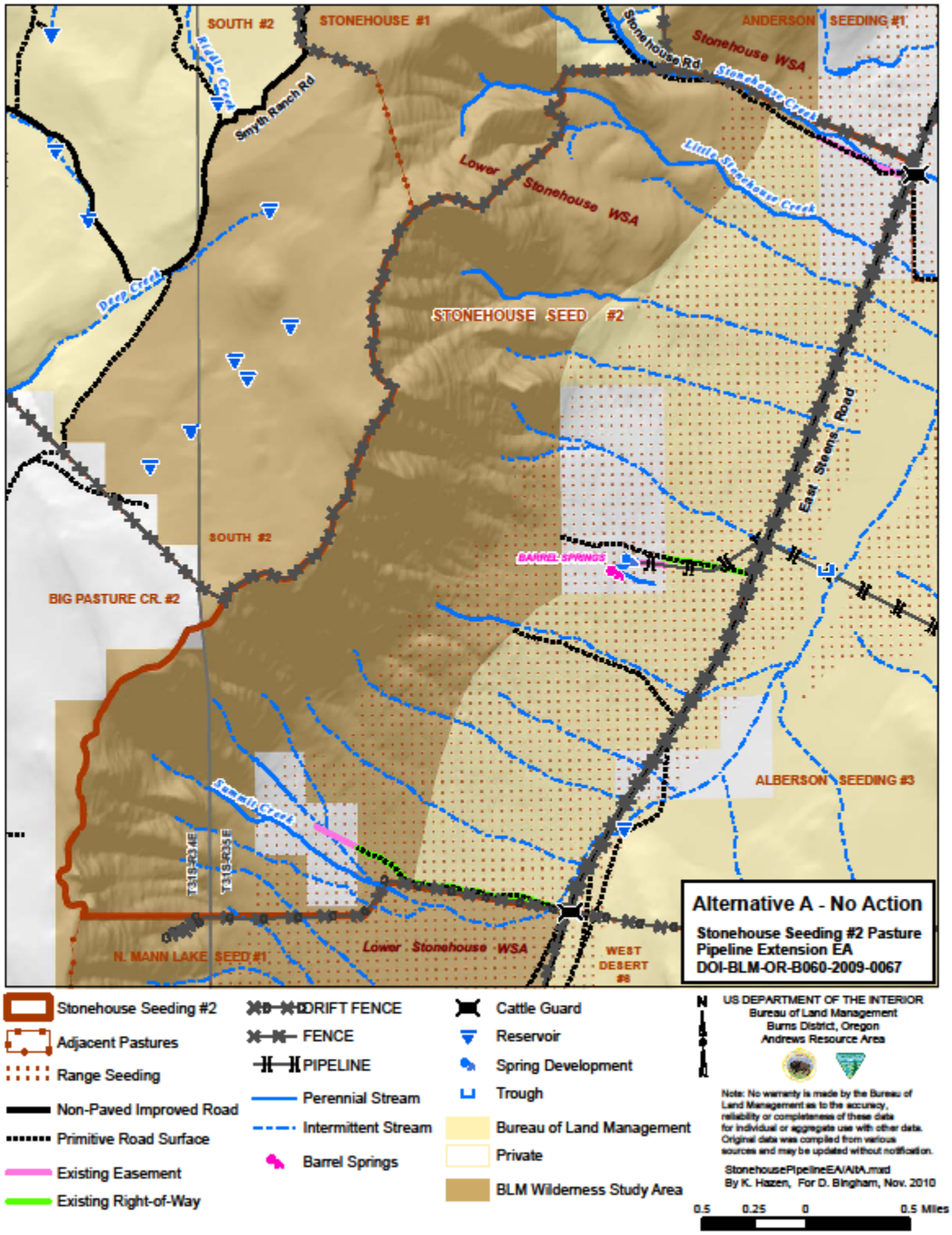
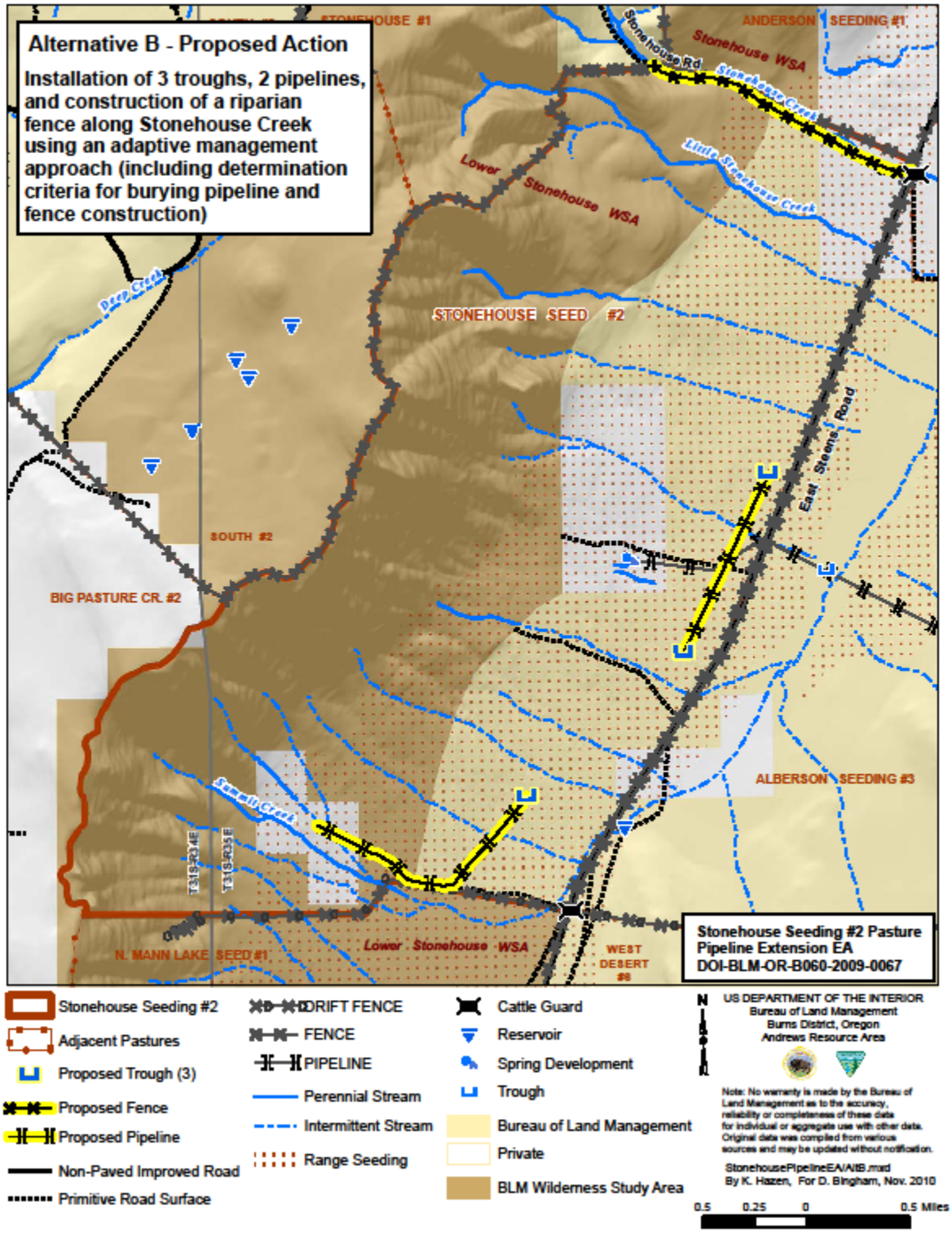
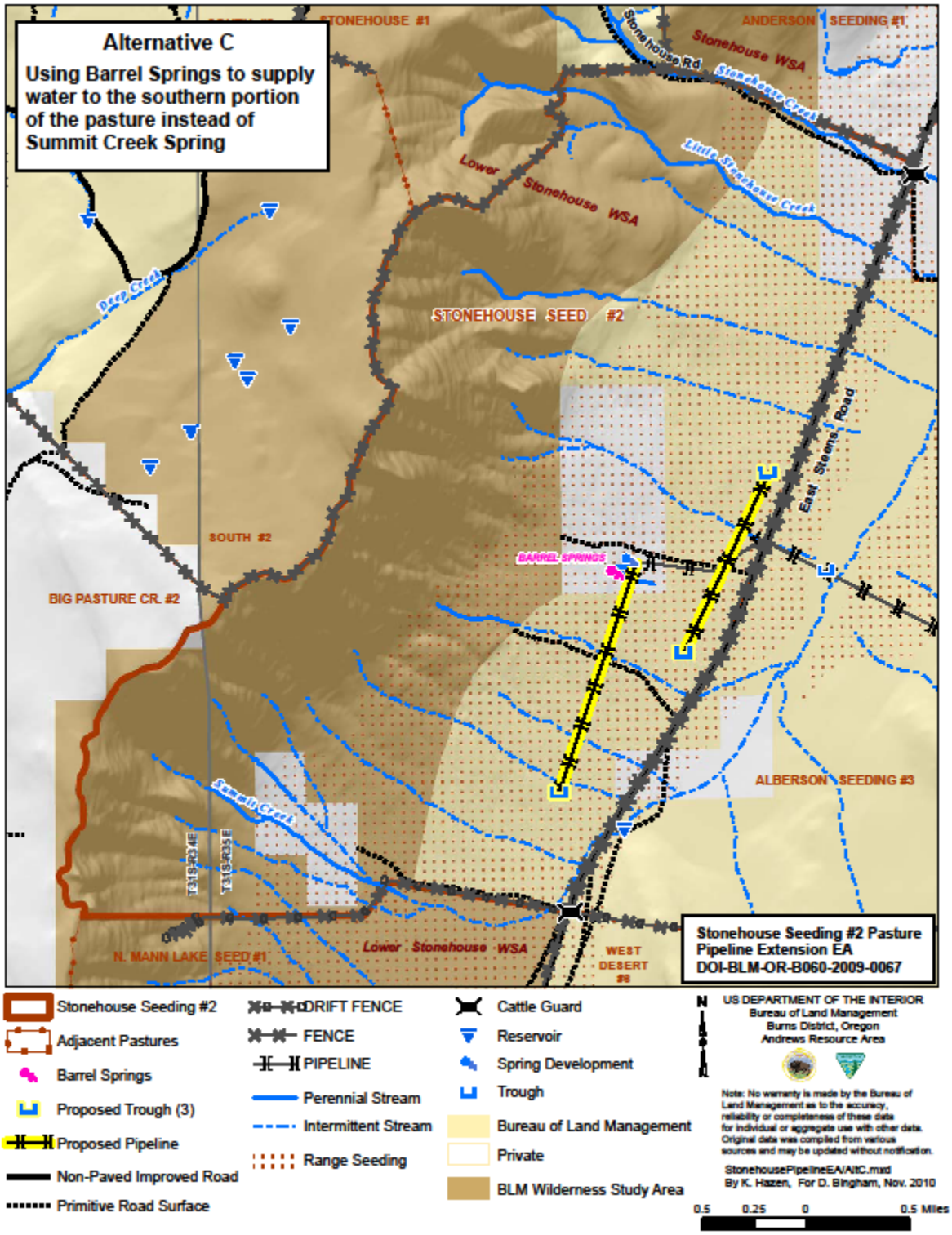
Map – Alternative A



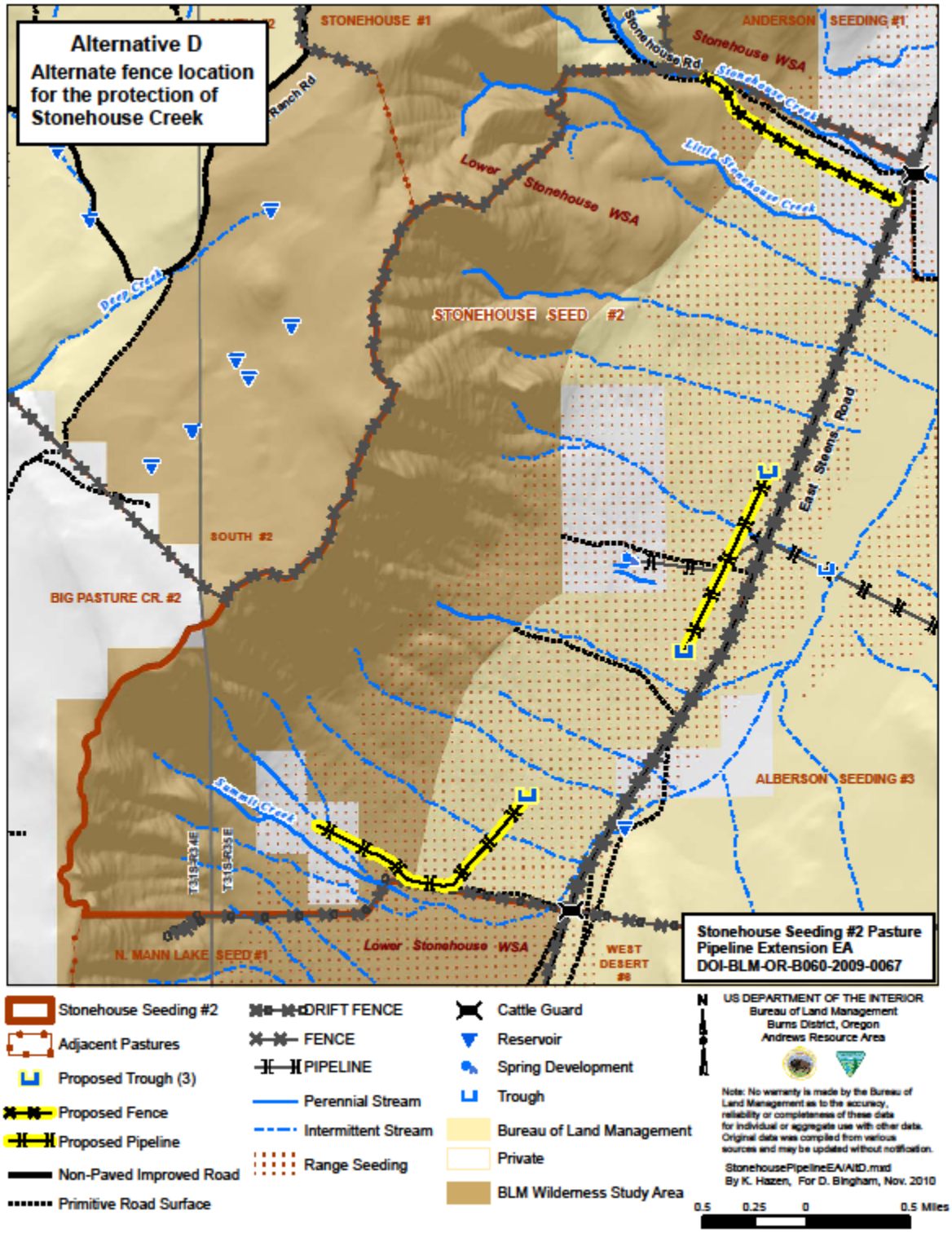
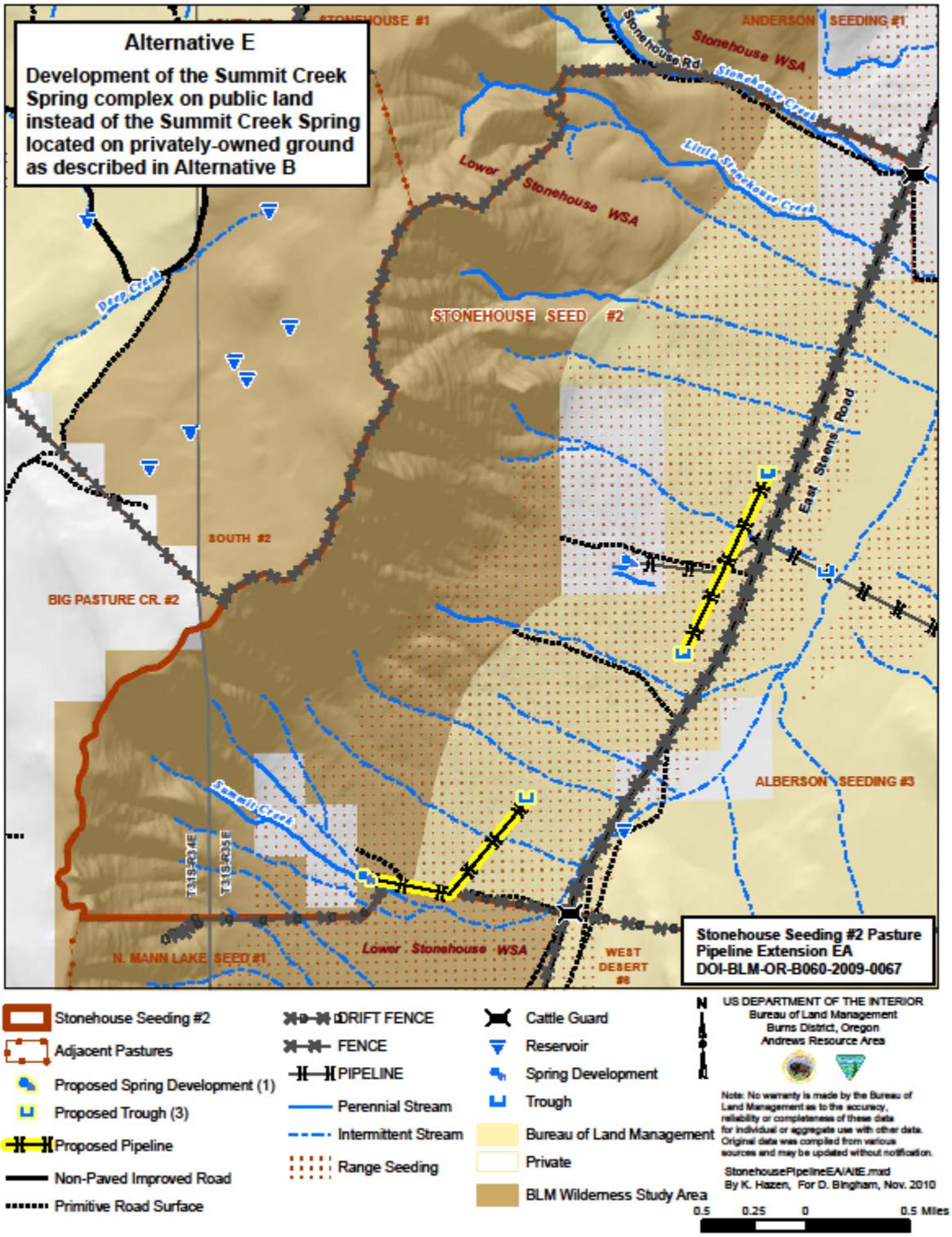
Map – Alternative B



Map – Alternative C



Map – Alternative D



Map – Alternative E