USDI, Bureau of Land Management
Three Rivers Resource Area
Burns District

Finding of No Significant Impact for West Warm Springs Allotment (#7002) Management Plan Environmental Assessment OR-03-025-082

INTRODUCTION

The attached Allotment Management Plan/Environmental Assessment (AMP/EA) analyzes recommended management actions developed through a 2002 evaluation process for West Warm Springs Allotment to aid in accomplishing resource objectives and meeting Standards for Rangeland Health and land use plan objectives for West Warm Springs Allotment set forth in the 1992 Three Rivers Resource Management Plan/Record of Decision/Rangeland Program Summary (RMP/ROD/RPS).

During the 2002 West Warm Springs Allotment evaluation an Interdisciplinary Team (IDT) of Burns District Bureau of Land Management (BLM) staff determined Guidelines for Livestock Grazing Management were not met and one of five Standards for Rangeland Health were not achieved with livestock and wild horses being causal factors (see Table 1 in the attached EA). The IDT recommended and the Three Rivers Resource Area Field Manager concurred Standards for Rangeland Health could be achieved through changes in livestock grazing management and by implementing additional range improvements.

West Warm Springs Allotment #7002 is located approximately 34 miles southwest of Burns, Oregon. The 303,653-acre allotment contains 297,449 acres of BLM-managed land, 138 acres of U.S. Fish and Wildlife Service-managed lands, 57 acres of State of Oregon lands, and 6,009 acres of private land. There are four physically distinct use areas separated by physical boundaries (fences or topography) including the Big Stick, Buzzard, Basque Wells, and the Silver Lake Use Areas. The Big Stick Use Area incorporates two term grazing permits and to distinguish grazing management between both entities, this area is divided into two use areas including the Big Stick and Rimrock Lake Use Areas. Four term grazing permits authorize 11,006 AUMs of active use within West Warm Springs Allotment. The allotment is part of the Warm Springs Wild Horse Herd Management Area.

SUMMARY OF PROPOSED ACTION:

The proposed action was designed by a BLM IDT with representatives from all affected resources. The proposed action was developed to provide measurable progress toward achieving Standards for Rangeland Health and to demonstrate significant progress[1] toward fulfilling fundamentals of rangeland health. It was also designed to meet West Warm Springs Allotment resource objectives brought forth and revised from the 2002 West Warm Springs Allotment Evaluation (see Chapter I, Section C of the attached AMP/EA).

1. Proposed Management

To achieve Standards for Rangeland Health, conform to Guidelines for Livestock Grazing Management and meet resource objectives proposed management includes:

a. Livestock Grazing Management

(1) Livestock grazing management would be authorized to provide periodic growing season rest for upland plant species. Grazing management in riparian/wetland areas would limit grazing intensity and support adequate vegetation to maintain channel and bank stability.

(2) Current permitted season of use would be changed from April 1 through October 31 to March 15 through September 15.

Each pasture/service area would receive growing season rest at least every third year (which is lacking under current management) with the exception of the Horsehead Seeding and Hurlburt Seeding Pastures which would receive a short duration, early-spring (April 1 to April 30) use period annually.

Adaptive management based upon predetermined resource objectives (Allotment Specific Resource Objectives in Chapter I (b) of the attached AMP/EA and Standards for Rangeland Health) and monitoring would be used to provide flexibility in grazing management.

Flexibility would be authorized and changes in rotations would continue to meet resource objectives. Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittee. Monitoring is also a key component of adaptive management.

(3) The proposed action also includes the renewal of the existing livestock grazing permits (#3602860, 3602819, 3602828, and 3602847) in West Warm Springs Allotment for the current permittees.

b. Range Improvement Projects:

[1] **Significant Progress:** Used in reference to achieving a standard as outlined in the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the BLM in the States of Oregon and Washington (1997). The use of the word "significant" in this document does not meet the Council on Environmental Quality's definition of the word.

Refer to attached AMP/EA Maps E1 – E5: Proposed Action Range Improvements.

Proposed Seedings:

Seed approximately 16,697 acres of rangelands previously burned by wildfire and dominated by cheatgrass and other annual species with native and nonnative species in the Big Stick and Buzzard Use Areas. These seedings are needed to improve soil characteristics and reduce soil erosion and encroachment of invasive weed species, where native species are not readily available in sufficient quantities to maintain or achieve properly functioning conditions and biological health. Proposed seedings shall be managed to establish and maintain a perennial ground cover and reduce annual cheatgrass dominance, thus decreasing wildfire frequency. This would allow existing sagebrush-bunchgrass plant communities to remain intact as habitat for sagebrush obligate species such as sage-grouse. Once established, these seedings would provide a forage base for livestock grazing, thus facilitating rest or deferred livestock grazing treatments on native rangelands.

Proposed Fence Construction:

Construct approximately 18 miles of barbed-wire fences across all use areas within the allotment. The fences are necessary to implement livestock grazing rotations on seeded and native rangelands, which would provide periodic growing season rest to key forage plant species.

Proposed Fence Removal:

Remove approximately 13.77 miles of existing barbed wire fence in the Buzzard and Basque Wells Use Areas. Removal of fence materials would be precipitated by a cooperative agreement between the permittee and BLM or by contract. Fence removal is necessary to promote livestock and wild horse distribution and access to water in areas where temporary fire rehabilitation fences are no longer functional.

Proposed Well Construction:

Develop six new wells, redrill two existing wells and install approximately 4 miles of new pipeline to service troughs across the Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas. The proposed wells would aid grazing management by providing reliable water sources outside of service areas currently receiving growing season use each year. This would reduce yearlong grazing by all ungulates (livestock, wild horses, wildlife) and provide for periodic growing season rest in these areas. Grazing management in the service areas associated with these developments would be controlled through well operation.
Reservoir Construction/Reconstruction:

Construct four new reservoirs and reconstruct one existing reservoir located in the Big Stick, Buzzard, Basque Wells, and Silver Lake Use Areas, in accordance with BLM specifications. All new reservoirs would be surveyed for cultural resources prior to implementation and no water developments would occur in archaeological sites. Bentonite would be used to seal reservoirs and would be added as needed for maintenance.

Waterhole/Reservoir Maintenance:

There are 78 existing waterholes or reservoirs documented in the Burns District Geographical Information System database coverage as existing range improvement points in the allotment. The proposed action includes maintaining these water sources by cleaning or reconstructing them using heavy equipment. Leaking waterholes would be sealed by the use of Bentonite.

c. General Project Design Elements for Proposed Range Improvements would be implemented as described in the AMP/EA.

2. Monitoring

Monitoring by BLM staff in coordination with the livestock operator of the success in meeting allotment-specific resource objectives would take place following implementation.

FINDING OF NO SIGNIFICANT IMPACT

Implementation of the proposed action would satisfy resource management goals and objectives outlined in the 1992 Three Rivers RMP/ROD/RPS. Based on the analysis of potential environmental impacts contained in the EA and all other information including consideration of project design elements, I have determined the proposed action and alternatives analyzed do not constitute a major Federal action that would significantly impact the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is not necessary and will not be prepared.

Rationale:

This determination is based on: The following critical elements of the human environment have been analyzed in the 1991 Three Rivers Proposed RMP/Final EIS and are not known to be present or would not be known to be affected by the proposed action or alternatives: Areas of Critical Environmental Concern, Air Quality, Farmlands (prime or unique), Flood Plains, Hazardous Materials, Paleontology, Special Status Fish Species, Threatened or Endangered Species or Habitat, Wild and Scenic Rivers, and Wilderness and Wilderness Study Areas.

American Indian Traditional Practices: It is not known if the allotment is used for American Indian Traditional Practices. Uses such as food and medicinal plant gathering, hunting and, possibly, ceremonial/ritual practices could occur in the allotment. It is not likely any alternative would affect traditional practices beyond what may have occurred in the past. Therefore, American Indian Traditional Practices will not be addressed further in this document.

The following critical element was not discussed in the 1991 Three Rivers Proposed RMP/Final EIS because it was determined there were no effects:

Environmental Justice: Executive Order 12898 requires that Federal agencies adopt strategies to address environmental justice concerns within the context of agency operations. Implementation of any alternative would not result in disproportionately adverse human health or environmental effects on minority or low-income populations. Therefore, Environmental Justice will not be addressed further in this document.

Noncritical elements that are not known to be present or would not be affected by implementation of the proposed action or alternatives are Fire Management, Forestry/Woodlands, Lands and Realty, Minerals and Reclamation, and Operations.

All potentially affected resources were analyzed in the attached AMP/EA specific to the proposed action and all other alternatives. The following critical and noncritical elements were analyzed: Cultural Heritage, Migratory Birds, Noxious Weeds, Special Status Species – Fauna, Special Status Species – Flora, Water Quality and Riparian/Wetland Zones, Biological Soil Crusts, Livestock Grazing Management, Recreation/Visual Resources, Social and Economic Values, Soils, Vegetation, Wilderness Characteristics, Wild Horses and Burros, and Wildlife. Effects to these resources are considered nonsignificant (based on the definition of significance in 40 CFR 1508.27) for the following reasons:

Cultural Heritage:

Range improvement projects would ultimately spread livestock use across the allotment to better utilize available forage. Development of additional water sources would increase geographic spread of livestock and wild horses into locations that may not have received prior grazing pressure and lessen effects of grazing in other, more intensely used areas in the allotment. It is assumed more widely spreading the same number of animals across the allotment would diminish trampling effects generally allotmentwide. Trampling effects on cultural resources would then be lessened in areas grazed in the past and impact of grazing in new areas would be at low levels. The only exception to this assumption would be effects of concentration of animals in new locations near water during late summer and fall. Cultural resources in these new locations could be affected by increased trampling, causing artifact breakage, horizontal and vertical displacement of artifacts and churning of the top 10 inches of sediment. These effects would somewhat reduce the data potential of archaeological sites and diminish their importance.

Archaeological inventory would be needed in the allotment to locate and evaluate archaeological sites within areas that would be the scene of late season livestock and wild horse congregation.

New range improvements would be inventoried for cultural resources prior to improvement construction. 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 data recovery could be used.

Migratory Birds:

Habitat for migratory birds would be expected to improve with selection of the proposed action. Each use area within West Warm Springs Allotment would receive periodic growing season rest, generally under a graze/defer or graze/rest treatment. Creating new water sources as proposed, would increase livestock and wild horse distribution throughout the allotment and reduce grazing pressure around existing water sources. This would lead to improved nesting habitat and forage conditions for migratory birds. The proposed water developments would also reduce the time and distance spent traveling to and from water. The proposed rangeland seedings would improve migratory bird nesting and foraging habitat by providing a perennial ground cover in areas presently dominated by cheatgrass, and would reduce the likelihood of wildfire spread into native plant communities.

The proposed action is designed to sustain and stimulate rangeland vegetation, improve riparian condition, promote enhanced livestock and wild horse distribution, improve water availability and provide more flexibility in timing of use. All of these factors would benefit migratory birds and their habitat, while reducing potential conflicts with livestock.

Noxious Weeds:

Redesigned grazing management to improve upland and riparian conditions would promote resistance to noxious weed invasion and establishment by encouraging diverse, productive, vigorous desirable plant communities. Any ground-disturbing activities associated with the proposed range improvements have the potential to create opportunities for noxious weed establishment and spread. The proposed fences, water developments, and pipelines are activities that could open up niches for weed introductions. Ensuring vehicles and equipment used to perform those activities are free of noxious weed seed or plant parts will aid in preventing introductions to the sites. Those disturbed areas would be monitored closely for at least 3 years after the projects are constructed. If weeds are found, they would be treated as soon as possible using the most effective and appropriate methods available.

The proposed seedings would reduce noxious weed invasion by establishing a perennial ground cover in areas of past wildfire disturbance. These areas are dominated by cheatgrass and other annual species, thus the fire return interval has been significantly reduced. This cheatgrass-wildfire cycle has and would continue to reduce native vegetation and lead to further weed invasion. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into native plant communities on the allotment, thus reducing the potential for weed invasion.

Effective grazing management which promotes healthy rangelands is a prevention strategy for noxious weed introduction and spread. Range improvement projects designed to moderate livestock congregation and help spread the animals on the landscape would reduce disturbance and, therefore, reduce opportunities for noxious weed introduction and spread. Range improvements would also help spread horse use across the landscape, reducing the concentrations and impacts from horses, contribute to enhancing desirable plant communities, and thus lessen the opportunities for weed introduction and spread. Monitoring project areas for possible noxious weed introduction for at least 3 years would offset risks by ensuring early detection of weeds and allow for timely intervention before the weed populations get to unmanageable levels.

Water Quality and Riparian/Wetland Zones:

The proposed action would put into place livestock grazing management which provides periodic growing season rest in all areas of the allotment. The proposed range improvements would enhance utilization patterns by providing water outside of riparian and playa habitats currently used by livestock, wild horses, and wildlife. Providing additional water sources would likely reduce grazing pressure in those areas of concentrated use. Riparian and playa habitats would improve as the proposed grazing rotations would control the timing and intensity of livestock grazing in these areas.

Under this alternative, livestock would have access to the unfenced portion of Buzzard Creek while they are in the Native Pasture of Buzzard Use Area. Wild horses would continue to have year-round access to this creek. This is a known area of livestock and wild horse congregation during the late summer as small waterholes provide water during most years. Ungulate congregation in this area would likely be reduced by providing the proposed additional water sources (Deep Well, Native Well and O'Leary Well) away from Buzzard Creek.
Existing riparian/wetland exclosures (Seiloff Dikes, Lake on the Trail, Ross Springs, Buzzard Creek, and Buzzard Springs) would be maintained and riparian conditions would improve in these areas. This alternative would implement an exclosure around Thorn Springs to improve wetland conditions at the spring source.

Overall, riparian/wetland and playa habitat would likely improve under this alternative as additional water sources are implemented to more evenly distribute utilization patterns across the allotment. The proposed grazing rotations would control timing and intensity of livestock grazing within unfenced riparian and playa habitats, which would likely improve vegetation and soil conditions in these areas.

Special Status Species (Flora):

The proposed actions would promote the recovery and health of plant communities across West Warm Springs Allotment and, therefore, would likely benefit Snowline cymopterus (Cymopterus nivalis) and Raven's biscuitroot (Lomatium ravenii) populations. Reseeded areas would provide perennial species in areas that are dominated or at risk for invasion by annual plant species.

Design modification of the proposed range improvements would be considered for OR-Sensitive plant species. A site-specific botanical clearance would be completed prior to proposed range improvement projects implementation. Mitigation would include moving improvement locations if Special Status plant populations were located in the site-specific project area(s).

Special Status Species (Fauna):

The proposed changes in grazing management are expected to improve rangeland health and maintain rangelands that are currently healthy by providing periodic growing season rest to all areas within West Warm Springs Allotment. Periodic growing season rest allows for increased forb production, which is an important spring food source for sage-grouse. The proposed water developments would improve livestock and wild horse distribution, resulting in more uniform utilization patterns. These improvements would expand sage-grouse and pygmy rabbit habitat by providing reliable water sources in areas outside of existing service areas. Existing riparian/wetland exclosures (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) would continue to be maintained, and the proposed exclosure around Thorn Springs would improve riparian vegetation. In general, rangeland health should improve and consequently so should the quality of sage-grouse and pygmy rabbit habitat.

The proposed rangeland seedings would establish a perennial ground cover in existing cheatgrass communities. This would increase fire return intervals on these sites, thus allowing for the establishment of shrub and forb species on these sites over time. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into existing sagebrush plant communities, significantly reducing the potential for cheatgrass invasion into sage-grouse and pygmy rabbit habitat.

Livestock Grazing Management:

Changes to livestock grazing management would be made to achieve all Standards for Rangeland Health and conform to the Guidelines for Livestock Grazing Management. This proposed action would implement livestock grazing rotations which provide periodic growing season rest to key forage plant species on all pastures/use areas within West Warm Springs Allotment. This affords key forage plant species the opportunity to complete their life cycles, store carbohydrates, and produce the maximum amount of cover and herbage.

The proposed fences would allow for greater control on the timing and intensity of livestock grazing within the Big Stick and Buzzard Use Areas. They would facilitate livestock grazing rotations that would provide periodic growing season rest to key forage plant species on the native and seeded plant communities within these areas. Without these fences, livestock grazing would remain concentrated in areas serviced by reliable water and repeat defoliation of preferred forage species would maintain heavy to severe utilization (>61 percent) in these areas.

The proposed wells and troughs would provide reliable water to livestock, wild horses, and wildlife away from playas and service areas currently receiving heavy to severe utilization. This would promote improved livestock distribution and more uniform utilization patterns, thus reducing forage competition between all grazers. Wild horse range and wildlife habitat would be increased as reliable water would be established in areas currently receiving little to no use due to lack of water. Providing these additional water sources would facilitate livestock grazing rotations that provide periodic growing season rest to key forage plant species on native plant communities across the allotment. During drought years, these wells would serve as filling points for the permittees to haul water to dry waterholes and/or temporary trough sites across the allotment. This would enhance grazing distribution and maintain wild horse and wildlife habitat by providing water in areas that would otherwise be dry. Without these developments, grazing would continue to be concentrated around the existing water sources, resulting in uneven utilization patterns and increased forage competition between all grazers.

The proposed rangeland seedings would aid grazing management by providing a forage base for early season livestock grazing in the Big Stick and Buzzard Use Areas. This would provide partial to full growing season rest from livestock grazing to native plant communities, thus fostering a stable to upward trend in rangeland condition within each use area. The areas proposed for seeding have been burned by wildfire and are dominated by cheatgrass and other annual species. Cheatgrass communities provide very poor wildlife habitat, reduced production and quality of forage, and reduced soil stability. These seedings are needed to improve soil characteristics and reduce soil erosion and encroachment of invasive weed species. Establishment of perennial ground cover on these degraded sites would reduce fire frequency within the area, thus maintaining intact sagebrush-bunchgrass habitat.

Vegetation:

The proposed range improvements would facilitate grazing management which should promote recovery of upland plant communities. Proposed grazing management would provide periodic growing season rest for key forage species across West Warm Springs Allotment. This would allow for improved plant vigor and diversity, improved plant community composition, age class distribution and overall production within the allotment. Livestock and wild horse distribution would be improved with the development of additional water sources. A larger foraging area would be available by providing additional reliable water later in the year. More uniform utilization patterns are expected with more water sources, reducing severe utilization levels on key forage species within service areas around reliable water. Deferred livestock grazing in the Silver Lake Use Area would continue under this alternative. Thus, stable to upward trend in rangeland condition would be maintained in this area. Existing exclosures around playa and wetland areas would continue to be maintained and stable to upward trend in these areas would continue. The proposed exclosure around Thorn Springs would promote recovery of herbaceous riparian plant species within this wetland area.

The proposed rangeland seedings would provide a perennial ground cover in areas presently dominated by cheatgrass and other annual species. Once established, these seedings will provide a forage base to facilitate grazing rest or deferment on native plant communities. These seedings would also increase the fire return interval in the areas presently dominated by cheatgrass, thus reducing the probability of wildfire spread into native plant communities.

The proposed action would improve overall rangeland health by encouraging productivity, vigor and diversity of plant communities within West Warm Springs Allotment. Current carrying capacity for all demands (wild horses, wildlife, and livestock) would be maintained or improved as plant communities remain in stable to upward trend in rangeland condition.

Soils/Biological Soil Crusts:

Proposed grazing management would reduce erosion and likely reduce loss of biological soil crust cover by providing periodic growing season rest to key forage plant species. The proposed water developments would promote enhanced livestock distribution, and reduce livestock and wild horse congregation around existing water sources. The proposed fences would allow for greater control on the timing and intensity of livestock grazing, thus reducing ground disturbance and potential effects to soil integrity. The proposed rangeland seedings would establish a perennial ground cover in areas currently dominated by cheatgrass, thus soil erosion would be reduced in these areas. Soils could be compacted and biological soil crust cover could be reduced in localized areas from mechanized equipment used for implementation of the proposed projects. However, rubber-tired vehicles would ease the amount of compaction disturbance, and this would not be expected to influence biological soil crust productivity or recruitment. There would be potential for short-term livestock trailing along new fences after construction, which could lead to compaction and erosion and associated loss of biological soil crust cover in localized areas.

Long-term potential impacts (3 or more years) would be dependent upon the degree and constancy of the aforementioned potential impacts. Greater control of livestock distribution and potential impacts would occur as a result of implementation which would potentially allow for biological soil crust recovery in areas previously experiencing increased use. The future condition of soil and biological soil crust resources would be dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that affect the condition of these resources would also affect soils and biological soil crusts.

Recreation/Visual Resources:

The proposed action is designed to improve the overall health of the allotment while achieving multiple resource objectives. The visual intrusions created by the development of the range improvements are acceptable under both Visual Resource Management classes within the allotment. The overall benefit to rangeland health that would be initiated by the proposed range improvements would outweigh the attention they would attract by the casual observer.

None of the proposed developments are adjacent to any known campsites or other features associated with prolonged visitor use. If any encounters with visitors occur during the construction of the proposed developments, there would be some temporary and short-term (days) loss of solitude and disturbance to recreational activities in the immediate area surrounding project locations. After construction, should any visitor encounters with developments occur, they would likely be limited to minutes as visitors pass by either by foot, horseback or vehicle. The effects to recreation are expected to be negligible for the allotment as a whole, given their short term and localized nature. Overall, recreational opportunities would likely be enhanced by improvements in rangeland conditions.

Social and Economic Values:

An investment of public funds would be required to implement the proposed projects, providing economic opportunities for local contractors and vendors. The permittees would endure costs related to implementation of the proposed projects and annual maintenance of those projects.

The proposed grazing management and range improvement projects are designed to improve conditions for uplands and riparian areas, which would maintain or increase forage production for livestock, wild horses, and wildlife. Providing for sustainable grazing management that improves habitat conditions for wildlife and wild horses would in turn increase economic opportunities for the livestock operations, help to sustain livelihoods for the multiple families which are employed by these ranching operations, and foster more desirable social opportunities.

Renewing the current 10-year term grazing permits with the proposed action of this AMP as a term and condition of the permits would result in continued viable ranching livelihoods for the livestock operators and families employed by these ranches. Continuing viable ranching operations would also enhance the economy of Harney County through taxes and goods and services purchased by the ranches and people employed by these ranches. By maintaining viable ranching operations and improving rangeland conditions in West Warm Springs Allotment, the traditions associated with the ranching communities of Harney County would be maintained. In addition, in recent years America has had a rising demand for locally grown food sources. Maintaining viable ranching operations would also aid in feeding that demand as cattle are produced in the United States and not imported. In this era of the environmentally friendly movement, locally grown food also reduces the amount of energy expended in shipping.

The area's intrinsic values (i.e., open space, scenic quality and recreational opportunities) would be maintained and likely enhanced under this alternative. Maintaining and improving rangeland health would improve wildlife habitat and abundance thus providing for additional viewing and hunting opportunities. However, some visitors may feel additional range improvements would detract from their recreational experience.

Wildlife/Locally Important Species and Habitat:

The proposed changes in grazing management are expected to improve rangeland health and maintain rangelands that are currently healthy by providing periodic growing season rest to all areas within West Warm Springs Allotment. Periodic growing season rest allows for increased forb production, which is an important spring food source for sage-grouse. The proposed water developments would improve livestock and wild horse distribution, resulting in more uniform utilization patterns. These improvements would expand wildlife habitat by providing reliable water sources in areas outside of existing service areas, especially during drought years.

The proposed fences would facilitate livestock grazing management which promotes rangeland health and enhances wildlife habitat. Existing riparian/wetland exclosures (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Springs) would continue to be maintained, and the proposed exclosure around Thorn Springs would improve riparian vegetation. All fence construction would comply with the BLM's Project Design Features, which are intended to accommodate passage of animals and reduce harm to wildlife. Construction of the fences should have negligible negative impacts on wildlife.

Fires have shaped plant communities within the area of affect, and wildlife species respond to these changes. Reducing impacts of cheatgrass and other invasive species would benefit wildlife by restoring suitable habitat. The proposed rangeland seedings would establish a perennial ground cover in existing cheatgrass communities. This would increase fire return intervals on these sites, thus allowing for the establishment of shrub and forb species on these sites over time. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into existing sagebrush plant communities, significantly reducing the potential for cheatgrass invasion into wildlife habitat. Once established, these seedings would increase carry capacity in the Big Stick and Buzzard Use Areas, thus reducing competition for forage between all grazers (livestock, wild horses, and wildlife).

Wild Horses and Burros:

Under the proposed action, there would be a net increase (approximately 4.5 miles) of interior allotment fences. Wild horse movement across the allotment would be further constrained for the period of time gates would remain closed to control livestock. These effects would be mitigated by installing horse-friendly "double gates" along the Wilson Creek and Buzzard Pasture fences to allow wild horse passage when gates are open. Additionally, the permittees would be required to open all interior gates when they are no longer needed for livestock control.

The impacts to wild horse movement would be offset by the benefits to horse habitat. Under the proposed action, livestock grazing would be managed to provide periodic growing season rest to key forage plant species across the allotment. Because the diets of horses and livestock largely overlap, periodic growing season rest to key forage plant species would benefit wild horses by sustaining and improving plant community composition and productivity. The northern portions of the allotment are known to provide critical winter range for wild horses.

The proposed rangeland seedings would increase herbaceous forage production in these areas, which are currently dominated by invasive annual species and provide poor winter habitat for horses. The proposed wells would benefit wild horses by increasing wild horse range, and sustaining suitable horse range during drought years when existing water sources are dry.

Wilderness Characteristics:

Livestock grazing management would be implemented to control timing of grazing and provide periodic growing season rest for upland plant species and to perpetuate key forage species. Grazing management in riparian areas would be designed to limit grazing intensity and support adequate vegetation to maintain channel and bank stability. These changes would enhance wilderness characteristics by increasing native plant vigor, helping to maintain plant diversity, and likely improving areas currently showing indications of concentrated livestock use across West Warm Springs Allotment.

Successful implementation of the proposed grazing system in the three units containing wilderness characteristics would require installing two new wells, reconstructing one existing well, and relocating approximately one-half mile of fence. After construction, the visual and noise effects associated with either the solar panels or the generator running the well pumps are expected to be observable within one-quarter mile (126 acres) of the wells; however, the areas around the wells would still be dominated by shrubs and grasses. Effects associated with the replacement of any facilities in the future would be expected to disturb the same area and is likely to only occur at 20-year intervals or longer.

Following the installation of the troughs, use by livestock would result in the loss of most vegetation for approximately 200 feet around the troughs. There would also be a secondary area where evidence of livestock use would still be more concentrated. However, this secondary area would still be dominated by shrubs and some grasses.

Very little soil or vegetation disturbance is expected in association with the fence construction, reconstruction and removal, given that no blading or scraping would occur along fencelines and only limited use of All-Terrain Vehicles would be needed and evidence of this use would likely not be observable within 3 to 5 years. The establishment of new routes on these tracks is not expected given that off-road use by the public on motorized vehicles is generally limited in this area. While naturalness would be influenced by the proposed developments, most of the acres affected would still be dominated by shrubs and some grasses.

None of the proposed developments are adjacent to any known campsites or other features associated with prolonged visitor use. If any encounters with visitors occur during the construction of the proposed developments, there would be some temporary and short-term (days) loss of solitude and disturbance to recreational activities in the immediate area surrounding project locations. After construction, should any visitor encounters with developments occur, they would likely be limited to minutes as visitors pass by either by foot, horseback or vehicle. The effects to solitude and recreation are expected to be negligible for the units as a whole, given their short term and localized nature.

Given the limited area affected by the proposed developments, wilderness characteristics would still be present in all three units. The effects of these developments would also be offset by the benefits to the ecological values associated with wilderness characteristics that the proposed grazing system changes would provide.

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Date

West Warm Springs Allotment Management Plan

ENVIRONMENTAL ASSESSMENT OR-03-025-082

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CHAPTER I: INTRODUCTION: PURPOSE OF AND NEED FOR ACTION

A. Background

West Warm Springs Allotment #7002 is located approximately 34 miles southwest of Burns, Oregon (Map A – Vicinity Map). The 303,653-acre allotment contains 297,449 acres of Bureau of Land Management (BLM) land, 138 acres of U.S. Fish and Wildlife Service (USFWS) - Malheur National Wildlife Refuge (Malheur Refuge) lands, 57 acres of State of Oregon lands, and 6,009 acres of private land (Map B – Land Status and Special Management Areas Map). There are four physically distinct use areas separated by physical boundaries (fences or topography) including Big Stick, Buzzard, Basque Wells, and Silver Lake Use Areas (Map C – Use Areas Map). Big Stick Use Area incorporates two term grazing permits. Although there are no physical barriers to separate use within the Big Stick area, the permittees attempt to graze livestock in different locations within the use area to avoid mixing livestock. To distinguish grazing management between both entities, the Big Stick Use Area is divided into two use areas including Big Stick and Rimrock Lake Use Areas. Big Stick area is grazed by 1,005 cattle from April 1 through September 15 for 5,243 Animal Unit Months (AUMs) of active use authorized under Permit #3602860; Rimrock Lake area is grazed by 154 cattle from April 1 through September 15 for 803 AUMs of active use authorized under Permit #3602847; Buzzard area is grazed by 492 cattle from April 1 through September 15 for 2,582 AUMs of active use authorized under Permit #3602819; and Basque Wells area is grazed by 454 cattle from April 1 through September 15 for 2,378 AUMs of active use authorized under Permit #3602828. Silver Lake area is a common use area for all permitted livestock on the allotment. This area is grazed by a portion of livestock from each use area from August 1 through September 15 each year. The four grazing permits authorize 11,006 AUMs of active use on West Warm Springs Allotment.

The allotment is part of Warm Springs Wild Horse Herd Management Area (HMA). Warm Springs HMA contains 478,815 acres of BLM lands and 29,576 acres of State, private, and USFWS lands, with an Appropriate Management Level (AML) of 111 to 202 horses and burros (Map B – Land Status and Special Management Areas). The West Unit of Warm Springs HMA encompasses the entire West Warm Springs Allotment, containing 295,549 acres of BLM lands and 17,547 acres of State, private, and USFWS lands within the allotment. West Warm Springs Allotment is one of two allotments within Warm Springs HMA; the other is East Unit – East Warm Springs Allotment. The AML for the West Unit of the HMA is between 61 and 102 horses and burros. Adequate forage demand to sustain the maximum horse and burro population in the West Unit was identified to be 1,224 AUMs (1987 Warm Springs Wild Horse HMA Plan).

West Warm Springs Allotment is a category "I" allotment. The BLM Selective Management Policy categorized allotments according to the characteristics of natural resources within the allotment to determine which management objectives should be established to maintain current satisfactory condition (M category), to improve current unsatisfactory condition (I category), or to manage custodially to protect existing resource values (C category) (H-1734-2 – Rangeland Monitoring Handbook). The "I" category allotments are highest priority for monitoring and investment in improvements, followed by "M," and then "C" category allotments. Allotments within a category are also prioritized, ensuring allotments of most critical concern receive first and greatest monitoring attention (H-4400-1 – Rangeland Monitoring and Evaluation).

In January 2001, allotments within Three Rivers Resource Area were assigned a rank to prioritize funding for range improvements and monitoring. Criteria relating to Standards for Rangeland Health and Social and Economic Values were used in the priority ranking process. West Warm Springs Allotment was ranked first in Three Rivers Resource Area. Factors influencing this ranking included no Allotment Management Plan (AMP) in place, rangelands in need of improvement, Special Status Species (SSS) habitat present, and riparian habitat in poor condition except where fenced.

In 2002, grazing management actions conducted on West Warm Springs Allotment from 1986 to 2000 were analyzed through a formal interdisciplinary evaluation process. This evaluation identified resource objectives that were or were not being met. The evaluation included an analysis of the allotment to determine if current management was in conformance with Oregon and Washington Standards for Rangeland Health (Standards) and Guidelines for Livestock Grazing Management (Guidelines) (August 12, 1997).

Management in West Warm Springs Allotment did not meet all Standards and is not in conformance with all Guidelines because of continuous seasonal livestock grazing each year. Typically low precipitation (<10 inches/year) occurs in this topographic area, which results in lack of available water and poor distribution of ungulate grazing. Where rotation has not occurred in a timely manner, repeat defoliation has resulted in heavy to severe utilization (>61 percent) of key forage plant species.

Results of the evaluation describe how the Watershed Function – Riparian/Wetland Areas Standard is not being achieved in the allotment with livestock and wild horses as causal factors. Standards were achieved for Watershed Function – Uplands, Ecological Processes, and Native, Threatened and Endangered (T&E), and Locally Important Species including sage-grouse. No data were collected to assess water quality as no perennial streams are present within the allotment.

Guidelines were only partially achieved in the allotment. Although forage (AUMs) has been allocated to all grazers (livestock, wild horses, and wildlife), forage competition exists within service areas containing reliable water. Continuous seasonal livestock grazing in these areas is not providing adequate growing season rest to perpetuate key forage plant species.

Wildfires have shaped plant communities across West Warm Springs Allotment. Approximately 45,000 acres have been burned in the allotment within the last 25 years. Where post-fire seeding efforts did not occur or were not successful, cheatgrass and other annual species have replaced native Wyoming big sagebrush/perennial bunchgrass plant communities. Approximately 23,000 acres are dominated by these annual species.

Total Active Permitted Use of 11,006 AUMs allocated for this allotment exceeds the calculated carrying capacity of 8,754 AUMs from the 2002 West Warm Springs Evaluation. Since 1998, permittees have taken voluntary nonuse, which has resulted in an average actual use of 7,608 AUMs or 69 percent of the Total Active Permitted Use authorized on the allotment.

This AMP/Environmental Assessment (EA) analysis addresses issues from the 2002 West Warm Springs Allotment Evaluation and is tiered to the 1992 Three Rivers Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS).

B. Purpose and Need

During the 2002 West Warm Springs Allotment evaluation an Interdisciplinary Team (IDT) of Burns BLM staff determined Guidelines for Livestock Grazing Management were not achieved due to continuous seasonal livestock grazing in the same areas each year during critical growing periods for key forage plant species. Due to the lack of reliable water in much of this allotment, livestock, wild horses and burros are limited in most years to areas containing reliable water. This results in poor grazing distribution, repeat defoliation, and heavy utilization within these service areas (accessible land within 1 to 2 miles of water). It also provides for continuous seasonal grazing in these areas as livestock permittees are only able to rest these areas during years of above average precipitation (>10 inches) when marginal waterholes contain water. This is estimated to occur one out of every 5 years. Over time, this results in stable to downward trend in rangeland condition in areas experiencing continuous seasonal grazing. This is further complicated by wild horse grazing as herds of horses develop home ranges which are dependent, in part, by location of water. Horses will typically graze the same areas even when additional water sources are periodically available.

There are numerous playa lake beds throughout the allotment, most with waterholes in them that are in stable to downward trend. One of the five Standards for Rangeland Health (Watershed Function-Riparian/Wetland Areas) was not achieved in the allotment with livestock management and wild horses being causal factors influencing downward trend in riparian condition along Buzzard Creek. The Standards for Rangeland Health determinations from the 2002 evaluation are shown below.

Table 1. 2002 Allotment Evaluation Standards for Rangeland Health Determinations

Standard	Achieved	Not Achieved	Casual Factors	Comments
1. Watershed Function - Uplands	Yes			Plant vigor is moderate to good with litter present showing light to moderate movement offsite. The soils are in stable to light movement condition.
2. Watershed Function - Riparian/Wetland Areas	Seiloff Springs, Silver Lake and Lake on the Trail Playas	Buzzard Creek	Livestock grazing management	Repeated grazing and concentration from animals (i.e., cattle and horses) every year in the same service areas results in not allowing sufficient deep-rooted vegetation to be maintained to stabilize sloughing and down-cutting of the streambank. Other contributing factors include timing of use and repeated defoliation of riparian plants.
			Wild horses	
3. Ecological Processes	Yes			Plant communities are diverse and productive containing stable soils.
4. Water Quality	Standard Not Determined			Standard Not Present
5. Native, T&E, and Locally Important Species	Yes			Greater sage-grouse was addressed in the assessment.

Based on the 2002 allotment evaluation, the IDT recommended and the Three Rivers Field Manager concurred Standards for Rangeland Health could be achieved through changes in livestock grazing management with additional range improvements.

The need for the proposed 2008 AMP is to ensure livestock grazing on public land moves toward achieving all Standards and Guidelines and meets the resource objectives identified for West Warm Springs Allotment and RMP objectives.

The purpose of this AMP/EA is to analyze the recommended management actions developed through the evaluation process and subsequent IDT work and through coordination with the livestock permittees to aid in accomplishing resource objectives and meeting Standards and Guidelines and land use plan objectives for West Warm Springs Allotment set forth in the 1992 Three Rivers RMP/Record of Decision (ROD) (GM 1.4 and Appendix 9, Appendices 118).

C. Resource Objectives

The following resource objectives recommended in the 2002 West Warm Springs Evaluation were modified by the current IDT in this AMP to more accurately determine changes in rangeland health and habitat conditions.

1. Increase hydric herbaceous and/or deciduous woody species in conjunction with upward trend in riparian condition on Buzzard Creek, and wetland habitat conditions on Buzzard Springs, Ross Springs, Seiloff Dikes, and Thorn Springs over the next 5 years. This would be measured by taking photographs at the permanent photo points established in each wetland, spring or creek. A Proper Functioning Condition (PFC) Assessment would be completed for Buzzard Creek. Greenline data (Winward 2000) may be collected on Buzzard Creek and repeated on 5-year intervals if warranted by PFC Assessment.

2. Maintain availability of native perennial and annual forbs from May through early July and percent composition by frequency of occurrence of native forbs on all ecological sites to maintain sage-grouse habitat. Success in meeting or moving toward this objective would be measured by relative frequency of occurrence of key forb species as compared with total ground cover.

3. Manage for upward trend in rangeland condition over the next 5 years in order to protect and enhance the integrity of watershed functions. Trend would be measured by relative frequency of occurrence of key forb, shrub, and perennial grass species as compared with total ground cover.

4. Maintain or increase perennial vegetation cover and soil surface stability in conjunction with a stable to upward trend in playa habitat condition at Lake on the Trail, Silver Lake, Flybee Lake, Twin Lakes, Deadman's Bedground, and Buzzard Lake, over the next 5 years. Trend would be measured by establishing and taking photographs at permanent photo points in each playa.

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

This AMP/EA has been designed to conform to the following documents, which direct and provide the framework for management of BLM lands within Burns District:

- August 2005, Oregon Department of Fish and Wildlife (ODFW) Greater Sage-grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat
- 2004, BLM National Greater sage-grouse Habitat Conservation Strategy
- 2004, Local Integrated Noxious Weed Control Plan Burns
- August 12, 1997, Standards for Rangeland Health and Guidelines for Livestock Management for Public Lands Administered by the BLM in the States of Oregon and Washington
- September1992, Three Rivers RMP/EIS (RMP/ROD/Rangeland Program Summary (RPS))
- Endangered Species Act Sections 2(c) and 7(a) 1
- Updated 1987, Warm Springs Wild Horse Herd Management Area Plan
- Public Rangelands Improvement Act (43 U.S.C. 1901, 1978)
- Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1701,1976)

- The National Environmental Policy Act (NEPA) (43 U.S.C. 4321-4347,1970)
- State, local, and Tribal laws, regulations, and land use plans
- Taylor Grazing Act (43 U.S.C.315, 1934)

E. Decision Factors

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:

1. provide for multiple-use of public lands as outlined in the Three Rivers RMP/ROD/RPS?
2. improve riparian conditions to meet the riparian/wetland standard?
3. maintain adequate cover (live plants, plant litter and residue) to promote infiltration, conserve soil moisture and maintain soil stability in upland areas?
4. apply livestock grazing management that improves desirable plant communities by:
    a. allowing plants periodic opportunity to make and store carbohydrates (i.e., recover vigor)?
    b. allowing plants periodic opportunity for seed ripen?
    c. allowing plants periodic opportunity for seedlings to become established (i.e., recruitment)?
    d. allowing litter to accumulate between plants?
5. maintain or restore diverse plant populations and communities that fully utilize site resources by occupying the potential rooting volume of the soil and that promote photosynthesis throughout the potential growing season?
6. promote resistance to noxious weed invasion and establishment by encouraging diverse, productive, vigorous plant communities?
7. provide for the life cycle requirements, and maintain or restore the habitat elements of native and desired plants and animals (including Special Status and locally important species)?
8. improve livestock and wild horse distribution across the allotment and encourage more uniform utilization patterns?
9. promote conservation of cultural resources?
10. provide social and economic benefit to local communities and Harney County?

CHAPTER II: ALTERNATIVES INCLUDING THE PROPOSED ACTION

Alternatives A through D have been fully analyzed in Chapter III of this AMP/EA. Following the public review period for this document a proposed decision would be made by the Field Manager that may choose to proceed with any one of the alternatives analyzed or a combination of portions of multiple alternatives.

A. Actions Common to All Alternatives

This section identifies wild horse management objectives and applies to all alternatives. The information provided is to aid the reader in understanding all aspects of administration of and resources within West Warm Springs Allotment. The intent of this AMP/EA is not to analyze the effects of gathering horses or preparing an HMA Plan, but rather explain the importance of adhering to plans already developed for management of wild horses. The NEPA documentation would be prepared for proposed wild horse gathers or proposed revision to the HMA Plan.

1. Management Objectives

Wild horse management would be implemented to maintain the AML of horses with the permitted numbers of cattle, and existing populations of wildlife in a thriving natural ecological balance with the capability of the land. The1987 Warm Springs Wild Horse HMA Plan states that "the objectives are to:

a. Maintain a viable herd of 111 to 202 wild horses. These horses are found to run between two allotments. The East Unit (East Warm Spring Allotment) will be managed at 50 to 100 horses and the West Unit (West Warm Springs Allotment) at 61 to 102 horses.

b. Provide adequate forage to meet the following: Maximum herd of wild horses - 2,424 AUMs: East Unit – (East Warm Springs Allotment) 1,200 AUMs; West Unit – (West Warm Springs Allotment) 1,224 AUMs. Adjudicated demand for livestock 19,392 AUMs: East Unit – (East Warm Springs Allotment) 8,225 AUMs; West Unit – (West Warm Springs Allotment) 11,167 AUMs. Wildlife forage demands: East Unit - (East Warm Springs Allotment) 149 AUMs; West Unit – (West Warm Springs Allotment) 55 AUMs."

Burros exist within the West Unit and according to the 1987 Warm Springs HMA, "Burros will be gathered in the West Unit and reduced to 15 head when populations reach 35 head." For the purposes of this analysis, effects to burros will be incorporated and referred to as "wild horses."

2. Gatherings to Maintain Horse Numbers within Appropriate Management Level

Gathers should be planned when horse numbers are approaching or would exceed the high end of AML for the HMA or when monitoring data (census, utilization, use supervision, etc.) indicates that ecological balance would be compromised.

According to the Warm Springs Wild Horse HMA Plan Amendment, "This plan is designed to protect, manage, control and maintain viable populations of wild horses on the Warm Springs Herd Management Area on a continuing basis in coordination with forage, soil, watershed, wildlife, and recreation resource values." Knowledge from BLM staff members would ensure safe and humane treatment of the animals along with "on the ground" knowledge of where the horses are located and how many are present. "The numbers of horses to be removed (excess animals) are those animals that exceed the low end of the AML."

Depending on reproductive rates, rangeland monitoring data, funding, and other management considerations, horses within HMAs are typically gathered and removed on a 4 to 5-year cycle. In order to maintain the horse population within the AML during a 4 to 5-year gather cycle and perpetuate desirable characteristics, horses would be gathered initially to below the low AML. Horses would then be chosen based upon their sex, color, and conformation characteristics and returned to the HMA, to equal the low AML of 61 horses in the West Unit-West Warm Springs Allotment and 50 horses in the East Unit-East Warm Springs Allotment. To ensure the low end of AML has been attained in the HMA a census should be conducted immediately after a gathering and on the second year following a gathering to verify numbers and begin planning for the next gather.

Returning horses to the range would be coordinated by the Resource Area Field Manager, Wild Horse Specialist, and Rangeland Management Specialist for the HMA to encourage improved distribution throughout the HMA and promote ecological balance. Small bands selected by sex ratio and color/conformation characteristics would be returned to multiple-use areas within the HMA to reduce pressure on certain areas.

3. Gate Management

Gate management is the responsibility of the livestock grazing permittee, except under Alternative D: Removal of Livestock Grazing, where gate management and fence maintenance would be the responsibility of the BLM. Gates along the boundary of Warm Springs HMA are to stay closed year-round. Interior gates within West Warm Springs Allotment portion of Warm Springs HMA would be managed to contain and control livestock during the grazing season. Interior gates to private pastures would remain closed year-round. Interior gates between BLM-managed pastures would remain open after livestock are gathered in order to aid in the movement and distribution of wild horses.

B. Alternative A: No Action

1. The No Action Alternative would renew all four existing livestock grazing permits on West Warm Springs Allotment. Ten-year livestock grazing permits would be issued that would continue livestock grazing during the permitted season of use April 1 through September 15. The allotment would continue to be managed with four separate use areas and a common use area (Silver Lake) (Map C – Use Areas Map). Permitted Active Use would remain at 11,006 AUMs. The permits would be issued with the same terms and conditions as the expiring permits. Under the No Action Alternative, no rangeland improvement projects would be implemented to improve riparian conditions, upland conditions, or livestock and wild horse distribution. Continuous seasonal grazing by livestock and wild horses would continue in service areas around reliable waterholes. Periodic livestock grazing rest would only be provided on years of above average precipitation when marginal waterholes provide water outside of service areas around reliable waterholes. A 20 percent reduction of (2,252) Voluntary Nonuse AUMs has been implemented across all use areas to meet calculated carrying capacity
(8,754 AUMs) for the West Warm Springs Allotment and is expected to continue. Range condition, range readiness, and locality of available water in each use area would be the determining factors considered for grazing applications each year. Permitted Active Use by use area is shown in Table 2 as follows:

Table 2. No Action Alternative: Total Active Use for West Warm Springs Allotment

Use Area	Permitted Active Use	Voluntary Nonuse	Suspended Use	Total Permitted Use	Exchange of Use
Big Stick	4,170	1,073	0	5,243	110
Rimrock Lake	639	164	0	803	0
Buzzard	2,054	528	0	2,582	0
Basque Wells	1,891	487	0	2,378	0
Total	8,754	2,252	0	11,006	110

C. Alternative B: Proposed Action – Management Changes and Project Development

The Proposed Action was designed by a BLM IDT with representatives from all affected resources. The Proposed Actions would be developed to address Standards determined as not achieved with livestock and wild horses as causal factors in the 2002 West Warm Springs Allotment Evaluation. It was also designed to meet West Warm Springs Allotment resource objectives brought forth and revised from the 2002 West Warm Springs Evaluation (see Chapter II, Section B).

To achieve Standards, meet resource objectives, and conform to the Guidelines, the proposed management in detail follows:

1. Livestock Grazing Management

a. Livestock grazing management was designed and would be authorized to provide periodic growing season rest to upland plant species. Grazing management in riparian areas would be designed to limit grazing intensity and support adequate vegetation to maintain soil stability. Use periods per pasture may vary annually in order to provide for the recommended rest periods described in Tables 4 through 7: Proposed - General Livestock Grazing Management (below).

b. A 20 percent reduction of (2,252) Voluntary Nonuse AUMs would remain across all use areas to meet calculated carrying capacity (8,754 AUMs for livestock) for West Warm Springs Allotment. It is anticipated that carrying capacity would meet or exceed 11,006 AUMs of Total Permitted Use upon implementation of the Proposed Action, including proposed water developments and rangeland seedings. Adaptive management would be used to make changes to livestock grazing management, including stocking rates, based on rangeland monitoring. Voluntary Nonuse AUMs may be reinstated as utilization and trend monitoring indicate resource objectives are being achieved. Permitted Active Use by use area is shown in Table 3 as follows:

Table 3. Proposed Action: Total Active Use for West Warm Springs Allotment

Use Area	Permitted Active Use	Voluntary Nonuse	Suspended Use	Total Permitted Use	Exchange of Use
Big Stick	4,170	1,073	0	5,243	110
Rimrock Lake	639	164	0	803	0
Buzzard	2,054	528	0	2,582	0
Basque Wells	1,891	487	0	2,378	0
Total	8,754	2,252	0	11,006	110

c. The Proposed Action would change season of use from April 1 through September 15 to March 15 through September 15 in Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas. This extension in permitted season of use is necessary to allow flexibility in the timing of grazing in response to annual fluctuations in environmental conditions (e.g., precipitation, temperature, soil moisture). Extending the season of use would not increase the Total Permitted Use of 11,006 AUMs for this allotment. The Silver Lake common use area would continue to receive deferred grazing from August 1 through September 15 each year.

Grazing management would be implemented within the five use areas (Big Stick, Rimrock Lake, Buzzard, Basque Wells, and Silver Lake) to control timing of grazing and provide periodic rest or deferment to perpetuate key forage species. Designated locations within Big Stick, Rimrock Lake, and Basque Wells Use Areas would be rotated every third year. Designated locations within Buzzard Use Area would be rotated every other year. Please refer to Tables 4 through 7 for the proposed grazing management in Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas, respectively. Refer to Maps D1 – D5 for Proposed Grazing Schematics and Appendix A for Grazing Treatment Descriptions.

Table 4. Proposed: General Livestock Grazing Management for Big Stick Use Area (3-Year Rotation)

Location	Year 1	Year 2	Year 3	Treatment
Big Stick Seeding	04/01 to 05/15	04/01 to 05/15	08/01 to 09/15	Graze Defer
Shorty's Butte	05/16 to 07/01	Rest	06/02 to 08/01	Graze Rest
Syrup Can	07/02 to 08/01	06/16 to 09/01	Rest	Defer Graze Rest
Road Lake	08/02 to 09/01	05/16 to 08/01	07/16 to 09/01	Defer Graze
Horsehead Seeding	04/01 to 04/30	04/01 to 04/30	04/01 to 04/30	Early
Trail Lake	Rest	Rest	04/01 to 06/01	Rest Graze
Goose Egg	Rest	05/01 to 06/15	Rest	Rest Graze
Silver Lake	08/01 to 09/15	08/01 to 09/15	08/01 to 09/15	Defer

Construction of approximately 6 miles of new fence (Wilson Creek drift fence) and drilling two new wells (Map E-1: Proposed Range Improvements Map) would facilitate this rotation. The fence would separate Trail Lake service area from Goose Egg and Syrup Can service areas, subsequently creating Trail Lake Pasture. Under this rotation, each pasture/service area would receive growing season rest at least one out of 3 years, except Horsehead Seeding Pasture. This pasture would be used as a holding pasture to process livestock (unload/brand) in early spring each year. All livestock would be removed from this pasture by April 30 each year to allow plants an opportunity to recover after utilization of early-plant growth.

During Years 1 and 2, livestock would be trailed from private land to Big Stick Seeding in early April. This herd would be moved south and rotated through service areas as outlined above. On Year 3, livestock would be trailed through Big Stick Seeding to Trail Lake Pasture (proposed) in early April. This herd would be moved south and rotated through service areas as outlined above. Deferred use (after July 1) in Big Stick Seeding would be authorized during Year 3. Depending on the year, livestock would begin trailing to Silver Lake Use Area as early as August 1 each year. Livestock would be actively herded through Trail Lake and Big Stick Seeding Pastures while on the way to Silver Lake Use Area.

Lunch Lake area (serviced by private well) would be used to overnight livestock while trailing to the southern portions of the use area (i.e., Sunset, Road Lake, Rawhide). Livestock would be actively trailed through this area to limit utilization and livestock drift into Rimrock Lake Use Area. During late summer, livestock would trail through Lunch Lake area while on their way to Silver Lake. Refer to Map D1 - Proposed Grazing Schematic: Big Stick Use Area.

Water hauling to temporary trough sites during drought conditions, and changes in season of use or stocking rates may be necessary to meet resource-specific management objectives. The permittee would initiate necessary changes through the Rangeland Management Specialist that would be approved by the Resource Area Field Manager. Known temporary trough sites are listed below:

Jack Smart - T. 27 S., R. 25 E., Section 31
Shorty's Butte - T. 27 S., R. 26 E., Section 10
North Goose Egg Butte - T. 27 S., R. 25 E., Sections 12, 13

Other trough sites may be used during drought periods, following Special Status plant and archaeological clearances and in coordination with wildlife specialists.

Table 5. Proposed: General Livestock Grazing Management for Rimrock Lake Use Area (3-Year Rotation)

Location	Year 1	Year 2	Year 3	Treatment
Buzzard Reseed	04/01 to 05/20	04/01 to 05/20	 08/16 to 09/15	Graze Defer
Antelope/Rimrock	05/21 to 07/20	05/21 to 07/20	 07/02 to 08/15	Graze Defer
Deadhorse/Oarlock	07/21 to 08/15	07/16 to 08/15	 04/01 to 07/01	Defer Graze
Silver Lake Use Area	08/15 to 09/15	08/15 to 09/15	08/15 to 09/15	Defer

Each pasture/service area would receive growing season rest every third year. Early season livestock grazing would be implemented in Buzzard Reseed Years 1 and 2 and rested or deferred in Year 3. Lack of water would be the limiting factor for good distribution of livestock in Buzzard Reseed. Presently, the only water source within this pasture is provided by wells located on adjacent private land. These water sources would remain available until completion of the proposed Buzzard Reseed Well (Map E-2: Proposed Rangeland Improvements Map). Every third year, season of use would be rotated in Antelope/Rimrock and Deadhorse/Oarlock Lake service areas. This would provide growing season rest every third year within Antelope/Rimrock service area and growing season rest 2 out of 3 years within Deadhorse/Oarlock service area. Silver Lake Use Area would be deferred until after August 1, or not grazed by the permittee's livestock during all 3 years. Refer to Map D2 - Proposed Grazing Schematic: Rimrock Lake Use Area.

Table 6. Proposed: General Livestock Grazing Management for Buzzard Use Area (2-Year Rotation)

Location	Year 1	Year 2	Treatment
Hurlburt Seeding	04/01 to 04/08	04/01 to 04/08	Early
East Hurlburt	Rest	04/01 to 05/30	Rest Graze
Buzzard	04/01 to 06/30	Rest	Graze Rest
Native (Chicken Feed/ Flybee)	07/01 to 09/15	06/01 to 09/15	Defer Graze
Silver Lake	08/01 to 09/15	08/01 to 09/15	Defer

Construction of approximately 8 miles of fence (Buzzard Drift Fence, Hurlburt Division Fence, and East Hurlburt Division Fence) would facilitate this five-pasture, rotation system (Map E-3: Proposed Rangeland Improvements Map). These fences would create East Hurlburt and Buzzard Pastures. Hurlburt Seeding Pasture would be used for up to 1-week each spring to process livestock (unload/brand) prior to turnout on the rest of the allotment. East Hurlburt and Buzzard Pastures would alternate between a graze/rest rotation every other year. Native Pasture would alternate on a graze/defer rotation every other year. Use in Silver Lake Use Area would be deferred until August 1 each year, when a portion of the herd would graze this area until September 15. Livestock would be trailed through Buzzard Pasture each year, when moving from the Native Pasture to Silver Lake Use Area. Refer to Map D3 - Proposed Grazing Schematic: Buzzard Use Area.

Table 7. Proposed: General Livestock Grazing Management for Basque Wells Use Area (3-Year Rotation)

Location	Year 1	Year 2	Year3	Treatment
Basque Flat Fenced Seeding	03/15 to 04/30	05/16 to 07/01	08/26 to 09/15	Graze Defer
Basque Flat Reseed/ Native	05/01 to 07/01	03/15 to 05/15	07/16 to 08/25	Graze Defer
Round Butte	07/02 to 07/15	07/02 to 07/15	07/02 to 07/15	Defer
Lower Buzzard	07/16 to 08/25	08/26 to 09/15	06/02 to 07/02	Graze Defer
Deadman's Bedground	08/26 to 09/15	07/16 to 08/25	04/01 to 06/01	Graze Defer

Basque Flat Seeding and Reseeding Pastures were seeded into crested wheatgrass, following wildfire during 2004, 2005, and 2006, and have been put into rest from livestock grazing until establishment of the seedings. In spring 2008, the seedings received early spring grazing (March 15 to April 15) to reduce cheatgrass seed production, thus reducing competition with crested wheatgrass plants. During this period, perennial grasses are in the vegetative growth stage, when there is adequate soil moisture allowing key species to regrow and complete their reproductive cycle following grazing removal. This treatment would continue until seeded species have become established on the site. Once established, both seedings would serve as a forage base to facilitate growing season rest on native rangelands within this use area.

When the Proposed Action has been fully implemented, the Basque Flat Seeding Pastures would receive graze treatments 2 out of 3 years. Each pasture would receive growing season rest on the third year. Native rangelands adjacent to the unfenced Basque Flat Reseed (i.e., Round Butte to Lower Buzzard area) would be used in conjunction with the seedings.

Native rangeland areas (Lower Buzzard and Deadman's Bedground) would receive a defer treatment (after July 16) on Years 1 and 2. These areas would receive a graze treatment on the third year. This would provide growing season rest to native plant communities in this use area 2 out of 3 years. Use in these areas would be dependant on water availability. The proposed O'Leary Well (Map E-4: Proposed Rangeland Improvements Map) would provide a reliable water source for late season grazing in Lower Buzzard area. This well would serve as a filling point for the permittee to haul water to Deadman's Bedground area.

The permittee would use herding, water availability and supplement to control livestock distribution within these areas. Round Butte area would receive a 2-week, deferred treatment (July 1 to July 15) each year. Refer to Map D4 - Proposed Grazing Schematic: Basque Wells Use Area. Winter grazing treatments (October 1 through February 28) could be authorized in lieu of the spring/summer rotation outlined above in Basque Wells Use Area. Winter grazing would be implemented to reduce growing season use on native rangelands and defer grazing until most plants are dormant. This would provide the permittee maximum flexibility in livestock management between adjacent private lands and grazing allotments on Malheur Refuge. Winter grazing treatments would only be a change in the season of use and would maintain the Total Permitted Use of 2,378 AUMs for this use area. Winter grazing would only be authorized on years when grazing rest has been provided during the spring and summer. This would prevent repeat defoliation of preferred forage species by livestock. Supplements (protein blocks/pellets, molasses licks, etc.) would be used during the winter to ensure livestock are receiving adequate amounts of protein, and as a tool to improve utilization patterns. The permittee would work in cooperation with the BLM Rangeland Management Specialist and Wildlife Biologist to identify supplement locations each year. This would ensure no resource concerns exist in the area. Supplement locations would be alternated each year to reduce impacts on each site.

Water hauling to temporary trough sites during drought conditions, and changes in season of use or stocking rates may be necessary to meet resource-specific management objectives. The permittee would initiate necessary changes through the Rangeland Management Specialist that would be approved by the Resource Area Field Manager. Known temporary trough sites are listed below:

Moon Lake →Twin Lake: T. 29 S., R. 29 E., Sections 8, 9, 17, 19, 20, 31
Alec Reservoir →Junction Lake: T. 29 S., R. 28 E., Sections 24, 25
State Game →Leary Lake →Little Mortor: T. 29 S., R. 29 E., Section 13, and T. 29 S., R. 29.5 E., Sections 18, 19

Other trough sites may be used during drought periods, following Special Status plant and archaeological clearances and in coordination with wildlife specialists.

2. Adaptive Management

Adaptive management based upon predetermined resource objectives (Allotment-Specific Resource Objectives in Chapter I (b), Standards for Rangeland Health) and monitoring would be used to provide flexibility in grazing management. "Adaptive management … is about taking action to improve progress toward desired outcomes." (www.doi.gov/initiatives, 2007). Knowing that uncertainties exist in managing for sustainable ecosystems, changes to the proposed rotation may be authorized for reasons such as, but not limited to:

- adjusting the rotation/timing of grazing based upon previous year's monitoring and current year's climatic conditions.
- drought causing lack of available water in certain areas originally scheduled to be used.
- heavy utilization levels from wild horses in certain areas leaving little feed for livestock.
- changes in use periods to balance utilization levels per pasture.

Flexibility would be authorized and changes in rotations would continue to meet resource objectives. Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittees. Rangeland monitoring is a key component of adaptive management. As monitoring indicates changes in grazing management are needed to meet resource objectives, they are implemented annually working with the permittees.

3. Permit Renewal

The Proposed Action also includes the renewal of the existing livestock grazing permits (#3602819, 3602828, 3602847, and 3602860) in West Warm Springs Allotment for the current permittees. Ten-year, term-grazing permits would be issued to graze livestock on public land. The new term permits would be issued with the same terms and conditions as the expiring permit with the exception of encompassing all changes within this AMP as analyzed in the Proposed Action. After-the-fact billing would be authorized under the Proposed Action. Conditions for this authorization are the permittee keep accurate actual use records and submit them to the BLM within 15 days of the last day of grazing use.

4. Proposed Action

Rangeland Improvements (Maps E1 – E5: Proposed Rangeland Improvements Map).

a. General Project Design Elements for Proposed Rangeland Improvements

(1) Proposed rangeland improvement sites would be surveyed for cultural values prior to implementation. If cultural resources are found, historic property documentation would be completed. National Register eligible sites would be avoided and mitigation plans would be developed in consultation with the State Historic Preservation Office if necessary.

(2) Proposed rangeland improvement sites would be surveyed for Special Status plant species prior to implementation. Special Status plant sites would be avoided.

(3) Special Status wildlife species (terrestrial, avian, and aquatic) habitat would be protected during proposed range improvement project implementation.

(4) Proposed range improvement sites would be surveyed for noxious weed populations prior to implementation. Weed populations identified in or adjacent to the proposed projects would be treated using the most appropriate methods in accordance with the Burns District Noxious Weed Management Program Environmental Assessment/Decision Record (EA/DR) OR-020-98-05.

(5) The risk of noxious weed introduction would be minimized by ensuring all equipment (including all machinery, 4-wheelers, and pickup trucks) is cleaned prior to entry to the sites, minimizing disturbance activities, and completing follow-up monitoring, to ensure no new noxious weed establishment. Should noxious weeds be found, appropriate control treatments would be performed in conformance with the Burns District Noxious Weed Program Management EA/DR OR-020-98-05.

(6) All proposed fences would be constructed using BLM approved standards for three or four-strand fences.

(7) All proposed fences would be designed with horse-friendly double gates, with the natural movement of animals (wild horse, cattle, wildlife) in mind, and crossings that provide ample space as to limit the feeling of confinement.

(8) All proposed fences constructed in sage-grouse habitat would include plastic safety clips on the wire to reduce potential mortality from sage-grouse hitting the fence.

(9) The grazing permittees would be responsible for all fence maintenance. Proper fence maintenance would be a stipulation for turnout each year.

(10) All fences proposed for removal would be rolled up at the site and removed from the allotment.

(11) All watering troughs installed will be equipped with escape ramps for birds and small mammals.

(12) Reseeding would take place in areas disturbed by implementation of rangeland improvement projects. Soil displaced for pipeline installation would be pulled in and returned to original slope and grade then seeded with a whirly bird seeder and drag. The seed mix used for these rangeland improvement projects would be a mixture of native and nonnative species including: crested wheatgrass, bluebunch wheatgrass, squirreltail, and native forbs. Crested wheatgrass would be used in the seed mix because it is drought tolerant, competitive with invasive species, has a long seed viability period, and an aggressive germination characteristics, therefore reducing the chance of noxious weed establishment.

b. Proposed Rangeland Improvements

Rangeland improvement activities would include drilling water wells; construction, removal, and relocation of barbed-wire fences; developing and maintaining waterholes and reservoirs; and rangeland seedings. Additional water resources would enlarge livestock, wild horse and wildlife range, improve distribution of livestock and help to attain acceptable levels and patterns of utilization. Fences would be used as a tool to facilitate a rotation system for livestock management that would provide for periodic rest from livestock grazing during critical growth periods of key forage species. The proposed rangeland improvements are listed below: (Reference "Maps E1 – E5: Proposed Range Improvements Map" for proposed improvements specific to each use area).

Upon affirmative final decision of this Proposed Action, cooperative agreements between the West Warm Springs Allotment permittees and Burns District BLM would be completed to address each partner's responsibilities for construction, maintenance, and/or supplies. Proposed range improvement projects would be funded under a cost share between the BLM and the permittees. Typically, for rangeland seedings, the BLM would supply the seed and rangeland drills, and the permittee would supply the tractors, maintenance, fuel, and labor to implement the seeding. Drilling the proposed wells would be funded by the permittees, with associated power sources, troughs and piping cost shared between the permittees and BLM. For the proposed fences, the BLM would supply all fencing materials, and the permittees would supply the labor and equipment for construction.

(1) Rangeland Seedings: Seed approximately 16,697 acres of rangelands previously burned by wildfire and dominated by cheatgrass and other annual species with native and nonnative species in Big Stick and Buzzard Use Areas. Reseeding portions of the existing Big Stick Seeding where seeded native species failed to establish would also be implemented and precede new seeding efforts. These seedings are needed to improve soil characteristics and reduce soil erosion and encroachment of invasive weed species, where native species are not readily available in sufficient quantities to maintain or achieve PFCs and biological health. Proposed seedings shall be managed to establish and maintain a perennial ground cover and reduce annual cheatgrass dominance, thus decreasing wildfire frequency. This would allow existing sagebrush/bunchgrass plant communities to remain intact as habitat for sagebrush obligate species such as sage-grouse. Once established, these seedings would provide a forage base for livestock grazing, thus facilitating rest or deferred livestock grazing treatments on native rangelands.

The seed mix used would be a combination of native and nonnative species including: crested wheatgrass, bluebunch wheatgrass, squirreltail, and native forbs. Crested wheatgrass would be used in the seed mix because it is drought tolerant, competitive with invasive species, has a long seed viability period, and has aggressive germination characteristics.

Significant research conducted in the Great Basin by A.C. Hull, indicates introduced wheatgrasses (i.e., crested wheatgrass) were superior to native grasses in establishing and persisting in cheatgrass infested rangelands (Hull and Stewart 1948 and Hull, A.C. 1974). Vegetative manipulation may also occur, including fuel treatment in the form of prescribed fire to remove cheatgrass prior to planting seeded species. Fire control methods may include use of engines, plow lines, or foam lines for proposed prescribed fire lines. Seeded species would be planted by use of a rangeland drill or aircraft, and would be dependent upon ground temperature and moisture. Treated areas would be rested from livestock grazing for at least two growing seasons or until BLM interdisciplinary review indicates livestock grazing would not have a detrimental impact on the seeding. Proposed seedings are described as follows:

(a) Trail Lake Seeding (Big Stick Use Area): Seed approximately 9,888 acres within Trail Lake and Goose Egg areas of this use area.

(b) Angie Canyon Seeding (Buzzard Use Area): Seed approximately 3,418 acres within Angie Canyon area of this use area.

(c) Hurlburt II Seeding (Buzzard Use Area): Seed approximately 3,391 acres within East Hurlburt Pasture of this use area.

Refer to Appendix B for location descriptions of proposed seedings

(2) Fence Construction: Construct approximately 18 miles of barbed-wire fences through cooperative agreements with the permittee providing labor or equipment, and BLM supplying fencing materials, with some material provided from removal of nonfunctional fences. Fences would follow design specifications to minimize restrictions to wildlife movement as outlined in Appendix 12 of the Three Rivers RMP and BLM Manual Handbook H-1741-1. Fences are necessary to manage livestock grazing on seeded and native rangelands, and provide periodic growing season rest to key forage plant species. Large double gates would be used to accommodate wild horse passage. Additional double gates would be installed on existing interior fences as part of regular fence maintenance. Gate locations would be coordinated with the wild horse specialist during fence layout. Open gates while livestock are not authorized to graze would allow for wild horses to access all portions of the allotment. Manual labor, using hand tools would be used during construction of barbed-wire fences. Vehicles and All-Terrain Vehicles (ATVs) would be used to access the sites during construction and maintenance. Proposed fencelines would not be bladed or scraped. Proposed fences are described as follows:

(a) Big Stick Use Area (ref. Map E-1: Proposed Rangeland Improvements-Big Stick Use Area)

i) Wilson Creek Drift Fence: Construct approximately 6 miles of three-strand barbed-wire fence within Big Stick Use Area. This fence would separate Trail Lake service area from Goose Egg and Syrup Can service areas, subsequently creating Trail Lake Pasture. This fence would facilitate enhanced livestock control and allow for periodic growing season rest in areas serviced by existing and proposed water sources.

(b) Rimrock Lake Use Area (ref. Map E-2: Proposed Rangeland Improvements-Rimrock Lake Use Area)

i) Section 24 Fence Realignment: Construct approximately one-quarter mile of four-strand barbed-wire fence to relocate the boundary between Big Stick and Buzzard Use Areas at the north end of Buzzard Canyon. The existing fence funnels livestock (from Buzzard Use Area) into the adjacent private land. Realigning this fence would remove this "bottleneck" and reduce the likelihood of livestock congregation in this area.

ii) Section 6 Fence Realignment: Construct approximately one-quarter mile of four-strand barbed-wire fence to relocate the boundary between Big Stick and Buzzard Use Areas west of Angie Canyon area. The existing fence funnels livestock (from Buzzard Use Area) into the adjacent private land. Realigning this fence would remove this "bottleneck" and reduce the likelihood of livestock congregation in this area.

(c) Buzzard Use Area (ref. Map E-3: Proposed Rangeland Improvements-Buzzard Use Area)

i) Hurlburt Pasture Division Fence: Construct approximately 3 miles of four-strand barbed-wire fence within Buzzard Use Area. This fence would create East Hurlburt Pasture and incorporate Angie Canyon area into Buzzard Pasture. The fence would run from the northeast corner of Hurlburt Seeding Pasture to Ross Springs water gap (proposed). This would facilitate enhanced livestock control and allow for periodic growing season rest within these two pastures.

ii) Buzzard Pasture Drift Fence: Construct approximately 4 miles of three-strand barbed-wire fence within Buzzard Use Area. This fence would separate Buzzard Pasture from Native Pasture, facilitating enhanced livestock control. This fence is critical for implementing a graze/defer rotation between these two pastures.

iii) Buzzard Creek Rimrock Gap Fences (reconstruction): Reconstruct approximately one-half mile of existing barbed-wire gap fencing along the rim above Buzzard Creek. This fence would prevent livestock congregation along Buzzard Creek and would reduce livestock drift between Buzzard and Big Stick Use Areas.

iv) East Hurlburt Division Fence: Construct approximately 1.3 miles of four-stand barbed-wire fence between the private land parcels located in the southeast corner of East Hurlburt Pasture (proposed). This fence would separate East Hurlburt Pasture from Native Pasture within Buzzard Use Area. The fence would facilitate enhanced livestock control and allow for periodic growing season rest within both pastures.

v) Ross Springs Water Gap: Construct approximately 1-mile of four-strand barbed-wire fence to create a water gap at Ross Springs waterhole. This would provide a water source to service the northern portions of East Hurlburt and Buzzard Pastures. This water gap would also reduce livestock grazing impacts to saturated areas around the existing waterhole by controlling livestock access to this area when they are in Hurlburt Pasture. Gates would remain open when they are no longer needed to control livestock to provide wild horse access to this water source.

(d) Basque Wells Use Area (ref. Map E-4: Proposed Rangeland Improvements - Buzzard Use Area)

i) Basque Flat Fence Relocation: Construct approximately three-quarter mile of barbed-wire fence extending to the west of the existing Double O Fire Fence to the rimrock west of Basque Flat Seeding. This fence is needed to prevent livestock congregation in the northwest corner of Basque Flat Seeding. Presently, livestock congregate between the rim and existing Double O Fire Fence and frequently break through the boundary fence with Malheur Refuge. The northern portion (approximately 1-mile) of the existing Double O Fire Fence would be removed and Basque Flat Seeding Pasture would extend west to the rimrock.

(e) Silver Lake Use Area (ref. Map E-5: Proposed Rangeland Improvements - Silver Lake Use Area)

i) Thorn Springs Exclosure Fence and Waterhole: Construct approximately one-quarter mile of four-strand barbed-wire fence around Thorn Springs to exclude livestock and wild horse access to the spring source. This exclosure is needed to enhance wetland habitat condition at the spring source. Water would be provided by constructing a new waterhole adjacent to the proposed exclosure, or by piping water approximately 100 feet (north) to a trough outside the proposed exclosure.

Refer to Appendix C for location descriptions of proposed fence construction.

(3) Fence Removal: Remove approximately 13.77 miles of existing barbed-wire fence in Buzzard and Basque Wells Use Areas. Removal of fence materials would be precipitated by a cooperative agreement between the permittee and BLM or by contract. Fence removal is necessary to promote livestock and wild horse distribution and access to water in areas where temporary fire rehabilitation fences are no longer functional. Refer to Appendix D for location descriptions of proposed fence removal and Maps E1-E5: Proposed Rangeland Improvements.

(4) Well Construction: Develop six new wells, redrill two existing wells and install approximately 4 miles of new pipeline to service troughs across Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas. Proposed wells would aid grazing management by providing reliable water sources outside of service areas currently receiving growing season use each year. This would reduce yearlong grazing by all ungulates (livestock, wild horses, wildlife) and provide for periodic growing season rest in these areas. Grazing management in service areas associated with these developments would be controlled through well operation. Cooperative agreements between the BLM and grazing permittees would be developed to fill associated storage devices (i.e., troughs, storage tanks, overflow ponds) after livestock are removed, to provide water for wild horses and wildlife. Heavy equipment (i.e., drill rigs and trenchers) and manual labor would be used during construction of these developments. For each well, the well pad would be leveled for the drilling rig and water trough installation. The disturbed area would measure approximately 100 feet in diameter. Constructing new or maintaining existing service roads would be required to access proposed well sites. During pipeline installation, a ripper tooth mounted to a dozer would be used to trench up to 36 inches into the soil. Where applicable, windmills, solar power, fuel type generators or electrical power would be used. Associated storage tanks, pipelines, water troughs with float valves and overflow ponds would be included in project designs, as needed. The required design for the proper function of the water supply would vary to accommodate the associated storage tanks, capacity, number of water troughs, and size of outlet overflow ponds. Proposed well developments are described as follows:

(a) Big Stick Use Area

i) Syrup Can Well and Pipeline: Drill a new well and install a water trough (20-foot bottomless) and approximately one-quarter mile of pipeline. The pipeline would run from the proposed well to the existing Syrup Can Lake waterhole. Piping into the existing waterhole would eliminate the need for constructing an overflow pond, and would provide a water source to wild horses and wildlife when the well is turned off after livestock grazing each year.

A propane generator or solar panels would be installed to power this well. This well would provide reliable water in the western portion of Big Stick Use Area and aid livestock management by reducing livestock drift between Big Stick and Rimrock Lake Use Areas. This well would serve as a filling point for the permittee to haul water to temporary trough sites or dry waterholes during drought years.

ii) Goose Egg Well: Drill a new well and install a water trough (20-foot bottomless) and overflow pond or float valve near Goose Egg Butte. This well would be powered by a generator or solar panels. This well would provide reliable water to Goose Egg Butte area.

iii) Fries Well (existing): Drill existing well deeper and install new power source (generator or solar panels) and a new trough (20-foot bottomless) at the existing well site. The project area would remain within the original disturbance area of the existing well site.

iv) South Big Stick Pipeline and Trough: Install approximately one-quarter mile of new pipeline and a new trough (20-foot bottomless). The pipeline would run north from a proposed well on private land to service the southern portions of Big Stick Seeding Pasture. Currently there is no water within this portion of Big Stick Seeding Pasture.

(b) Rimrock Lake Use Area

i) Buzzard Seeding Well: Drill a new well and install a water trough (20-foot bottomless) and overflow pond or float valve in Buzzard Seeding Pasture. This well would be powered by a generator or solar panels. Currently the only reliable water in this pasture is located on adjacent (to the west) private land, thus the western portion of this pasture receives heavy utilization. This well would enhance livestock distribution away from areas of historical heavy use.

(c) Buzzard Use Area

i) Buckaroo Well Pipeline: Install approximately one-half mile of pipeline and a new trough (20-foot bottomless) from the existing Buckaroo Well. The well is located in Native Pasture and services the northern portions of this area. The pipeline would run northwest from the well and cross into Buzzard Pasture (proposed) to service the southern portions of this area. This would enhance livestock distribution by providing reliable water in both pastures.

ii) Yellow Spot Well (existing): Install a new storage tank, two water troughs (1,500-gallon aluminum), and retain the existing overflow pond at the existing well site. The project would remain within the original disturbance area of the existing well site. This well would continue to be powered by a generator. It would provide reliable water servicing Native and Buzzard Pastures within Buzzard Use Area.

iii) Deep Well: Drill a new well and install a new trough (20-foot bottomless) and overflow pond or float valve. This well would be powered by generator or solar panels. It would provide reliable water to service areas north of Deep Canyon in the western portion of Buzzard Use Area. A motorized access route approximately one-quarter mile in length would be needed to construct and maintain the well. The route would only be driven by equipment and no blading or other road construction activities would occur. Two possible sites have been identified; however, an additional on-the-ground assessment is needed in selecting the site with the greatest potential to provide water. Both locations are listed in Appendix D.

iv) Native Well: Drill new well and install new water trough (20-foot bottomless) and overflow pond or float valve in Native Pasture of this use area. This well would be powered by generator or solar panels. It would provide reliable water centrally located within this large pasture.

(d) Basque Wells Use Area

i) O'Leary Well: Drill a new well and install a trough (20-foot bottomless) and overflow pond or float valve in Lower Buzzard area. This well would provide reliable water in an area which currently only holds water during years of above average precipitation. It would be used as a filling point when hauling water to Deadman's Bedground area of this use area.

ii) Basque Flat Well Pipeline: Install approximately one-quarter mile of new pipeline and a new trough (1,500-gallon aluminum) serviced from the existing Basque Flat Well. This pipeline would provide a reliable water source in Basque Flat Seeding Pasture. Presently there is no water source within this pasture.

Refer to Appendix E for location descriptions of proposed well sites.

(5) Reservoir Construction/Reconstruction: Construct four new reservoirs and reconstruct one existing reservoir located in Big Stick, Buzzard, and Basque Wells Use Areas, in accordance with BLM specifications. All new reservoirs would be surveyed for cultural resources prior to implementation and no water developments would occur in archaeological sites. Heavy equipment would be used during reservoir construction and maintenance. Bentonite would be used to seal reservoirs and would be added as needed for maintenance. Locations of the proposed reservoirs are as follows:

(a) Basque Flat Reservoir: T. 28 S., R. 29.5 E., Section 5, SW¼NE¼ (Basque Wells Use Area)
(b) Angie Canyon Reservoir: T. 27 S., R. 28 E., Section 16, SE¼NW¼ (Buzzard Use Area)
(c) Lake on the Trail Reservoir (reconstruct): T. 26 S., R. 26 E., Section 11, SE¼NW¼ (Big Stick Use Area)
(d) West Seiloff Reservoir: T. 26 S., R. 27 E., Section 14, NE¼NE¼ (Silver Lake Use Area)
(e) East Seiloff Reservoir: T. 26 S., R. 27 E., Section 13, NW¼NE¼ (Silver Lake Use Area)

(6) Waterhole/Reservoir Maintenance: There are 78 existing waterholes or reservoirs documented in Burns District Geographical Information System (GIS) database coverage as existing range improvement points in the allotment. The Proposed Action includes maintaining these water sources by cleaning or reconstructing them using heavy equipment. Leaking waterholes would be sealed with Bentonite. Waterhole cleanout, maintenance, and reconstruction would require archaeological inventory that would help to provide complete inventory of the ephemeral lakes and assess archaeological site condition.

5. Monitoring

Monitoring by BLM staff in coordination with the livestock operator of the success in meeting allotment-specific resource objectives and achieving Standards would take place following implementation. Pace 180° methodology (Technical Reference 4400-4) and permanent photo points would be used to measure the relative frequency of occurrence of key forbs, shrubs, and perennial grass species, to assess trend in rangeland condition. Soil Surface Factor methodology would be used to measure soil stability, and Observed Apparent Trend would be assessed at each upland trend plot. Permanent photo points would be used to assess trend in wetland/spring and playa condition. A PFC Assessment would be completed for Buzzard Creek. Greenline data (Winward 2000) may be collected on Buzzard Creek if warranted by the PFC Assessment. Upland trend and riparian/wetland data would be collected and analyzed on 5-year intervals. Photo monitoring of playas would also be collected and analyzed on 5-year intervals.

Annual utilization studies for each pasture grazed by livestock along with multiple-use supervision reports of livestock and wild horses would be collected by BLM staff. The Key Forage Plant method would be used to measure utilization in each pasture or service area. Upon implementing the proposed water developments, use pattern mapping would occur to more accurately measure utilization within the service areas of these water sources. Target utilization levels for key forage species are shown in Table 8 below.

Table 8. Key Species and Target Utilization Levels for West Warm Springs Allotment

Key Species	Utilization Target
bluebunch wheatgrass	50%
Thurber's needlegrass needleandthread grass	50%
bottlebrush squirreltail	50%
Idaho fescue	50%
crested wheatgrass	60%

During each allotment visit monitoring for noxious weed establishment would be occurring as well as observations of overall rangeland condition. Adjustments to timing of grazing, pasture use, sequence, etc., to ensure measurable progress toward achieving standards and to meet resource objectives may be implemented based on this annual data. Any disturbed areas created by construction of proposed range improvement projects would be monitored closely for at least 3 years after construction for noxious weeds. All information would aid in determining if projects and implemented management changes in the Proposed Action are sufficient to achieve Standards and meet objectives.

Existing seedings including Big Stick Seeding (Big Stick Use Area), Buzzard Reseed (Rimrock Lake Use Area), Basque Wells Seedings (Basque Wells Use Area), and proposed seedings would be monitored and evaluated to ensure specific objectives for planted species have been achieved. Seedings shall be managed to establish/maintain a perennial ground cover and reduce annual cheat grass dominance, thus decreasing wildfire frequency. This would allow existing sagebrush-bunchgrass plant communities to remain intact as habitat for sagebrush obligate species such as sage-grouse.

D. Alternative C – Proposed Action plus Additional Range Improvement

Alternative C would include renewal of the existing term grazing permits and the same grazing management and range improvement projects as the Proposed Action, with the exception of proposing an additional 4 miles of fencing described below:

Buzzard Creek Exclosure Fence: Construct approximately 4 miles of four-strand barbed-wire fence to exclude livestock and wild horse access to the unfenced portions of Buzzard Creek. This exclosure would be located adjacent (to the northwest) to the existing Buzzard Creek Exclosure and would exclude an additional 2 miles of Buzzard Creek. This exclosure would be designed to exclude livestock and wild horses from a portion of Buzzard Creek, while maintaining passage routes and access to water in Buzzard Canyon in areas outside the exclosure. Topography, existing ungulate trails, and waterholes would be considered during layout and implementation of this exclosure to allow for wild horse and livestock passage through Buzzard Canyon. Two gates would be included in the exclosure design to allow for livestock/wild horse removal in the event they are trapped within the exclosure. This fence would be located in Buzzard Use Area in T. 28 S., R. 28 E., Section 13 and T. 28 S., R. 29 E., Sections 17, 18, 19, and 20.

Refer to Map F: Alternative C - Proposed Range Improvements.

E. Alternative D – Removal of Livestock Grazing

Livestock grazing would no longer occur in West Warm Springs Allotment under this alternative. No additional range improvement projects would be proposed under this alternative.

Maintenance, improvement, or removal of range improvements and water sources within the allotment would occur as needed only to achieve resource objectives other than livestock management, as funding is available. Funding would likely come from the wild horse or riparian programs. Perimeter fences would be maintained by the grazing permittee adjacent to West Warm Springs Allotment, adjacent private landowners, or the BLM wild horse program staff. According to the Code of Federal Regulations (CFR), published in August 1995 Subchapter D - Range Management (4000) Subpart 4100 – 4110.3-3, Implementing Reductions in Permitted Use, the BLM would implement changes in active use after consultation, cooperation, and coordination with the affected permittee and through a documented agreement or by decision of the authorized officer. When the authorized officer determines that the soil, vegetation, or other resources on the public lands require immediate protection because of conditions such as drought, fire, flood, or insect infestation, or when continued grazing use poses a significant risk of resource damage, after consultation with, or a reasonable attempt to consult with, affected permittees … the authorized officer shall close allotments or portions of allotments to grazing by any kind of livestock or modify authorized grazing use.

F. Alternatives Considered but Eliminated from Further Analysis

1. Conversion of Livestock Type and Removal of Fences

This alternative would convert the current livestock grazing permits from cattle to domestic sheep. Because sheep utilization is intensively managed by a herder, the internal allotment fences could be removed. This type of livestock use would intensively manage utilization levels and timing of use on riparian/wetland areas and around reliable water sources, therefore improving rangeland condition without the construction of additional fences. More uniform utilization patterns could occur as areas of pastures currently receiving heavy utilization due to their proximity to water could have lower utilization levels through more intensive management of sheep movements. Removal of fences would benefit the free-roaming nature of wild horses and aid in improved wild horse distribution across the HMA. However, this alternative was eliminated from detailed analysis for the following reasons:

a. Dietary overlap with greater sage-grouse – West Warm Springs Allotment contains extensive tracts of Wyoming big sagebrush plant communities which provide critical habitat for greater sage-grouse, an SSS. Rangeland Health Standard #5 focuses on retaining and restoring native plant and animal species, populations and communities (including SSS and species of local importance). To achieve this Standard, the 2002 West Warm Springs Allotment Evaluation stipulated a management objective to: "Maintain the availability of native perennial and annual forbs from May through early July and the percent composition by frequency of occurrence of native forbs on all ecological sites to maintain sage-grouse habitat."

Research has shown cattle and sheep prefer to graze different plant species. Typically, cattle prefer to graze grass species, whereas sheep exhibit a preference for forbs (Blaisdell et al. 1982). Over time, sheep grazing can shift ranges toward grass dominance, whereas cattle grazing promotes increased forb composition (Beck and Mitchell 2000). Switching to domestic sheep grazing would likely decrease availability of perennial forbs to sage-grouse. Additionally, during fall and winter, sheep diets increase in browse, further exacerbating forage competition with sage-grouse. This would be contrary to allotment-specific objectives and would hinder achievement of the Standard for SSS.

b. No demand for domestic sheep grazing – West Warm Springs Allotment has historically been a cattle grazing allotment. The four permittees who hold grazing permits on the allotment operate ranches which have been producing cattle for multiple generations. The infrastructure of these ranches (i.e., handling facilities, winter range, winter feed, and employees) are designed for cattle production, and significant costs would be required to facilitate the switch to sheep production. Two of the four permittees hold cattle grazing permits on other grazing allotments, and manage their ranch operations around cattle grazing across all allotments. Because of these reasons, there has been no demand by the affected permittees to switch to sheep production on this allotment.

Based on the above rationale, this alternative was not considered for further analysis.

2. Eliminating Proposed Rangeland Improvements in Units found to have Wilderness Character

This alternative would have emphasized wilderness values in units found to have wilderness character, by dropping the proposed rangeland improvements in each unit. This alternative was eliminated from detailed analysis for the following reasons:

a. The effects associated with this alternative are already analyzed in the Removal of Livestock Grazing Alternative and the No Action Alternative. There were some design features identified to help reduce impacts to wilderness values as part of the Proposed Action and wilderness character would still be present in all of the units under all of the alternatives analyzed.

b. This alternative would not meet the Purpose and Need for Action because it would not allow for development of rangeland improvements which would improve grazing distribution and allow for livestock grazing rotations which provide periodic growing season rest to upland plant communities. Under this alternative, continuous seasonal livestock grazing, repeat defoliation of key forage plant species, and heavy utilization patterns would continue in areas presently containing reliable water. This would not allow for achievement of allotment resource objectives or meet all Standards and Guidelines.

Based on the above rationale, this alternative was not considered for further analysis.

CHAPTER III: DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The IDT reviewed the elements of the human environment, required by law, regulation, Executive Order and policy, to determine if they would be affected by the Proposed Action or alternatives. The results are summarized in Table 9 below.

This environmental consequence section presents the potential changes to the environment due to implementation of the alternatives. This chapter describes all effects including direct, indirect, and cumulative on resources from enacting the proposed alternatives. A distinction between direct and indirect effects is not made and in many cases cumulative effects are only described as effects. All effects are considered direct and cumulative; therefore, use of these words may not appear.

Table 9. Critical Elements Affecting the Human Environment

Critical Elements of Human Environment	Status	Projects Contribute to Cumulative Effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
Areas of Critical Environmental Concern	Not Present	No	
Air Quality (Clean Air Act)	Not Affected	No	There would only be temporary change in air quality as a result of drilling wells, reconstruction of existing wells or reservoirs, or building fences. Effects would not be measurable.
American Indian Traditional Practices	Not Present	No	No concerns have been disclosed.
Cultural Heritage	**Affected**	No	See Section III.
Environmental Justice (Executive Order 12898)	Not Affected	No	The Proposed Action and alternatives would not expect to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

Farmlands (prime or unique		Not Present	No	No concerns have been disclosed.
Flood Plains (Executive Order 13112)		Not Present	No	No occupancy or modification of flood plains, no risk of flood loss.
Hazardous or Solid Waste		Not Present	No	No concerns have been disclosed.
Migratory Bird Treaty Act (Executive Order 13186)		**Affected**	No	See Section III.
Invasive Nonnative Species (plants) (Executive Order 13112)		**Affected**	No	See Section III.
Paleontology		Not Present	No	No concerns have been disclosed.
Wetlands/Riparian Zones and Water Quality (Executive Order 11990)		**Affected**	Yes	See Section III.
SSS and Habitat	Wildlife	**Affected**	No	*Greater sage-grouse* - nesting and brood-rearing habitat *pygmy rabbit* – habitat See Section III.
	Plants	**Affected**	No	See Section III. *Raven's lomatium* *Cymopterus nivali*
	Fish	Not Present	No	
Threatened or Endangered (T/E) Species or Habitat	Wildlife	Not Present	No	
	Plants	Not Present	No	
	Fish	Not Present	No	
Wild and Scenic Rivers	Not Present	Not Present	No	
Wilderness		Not Present	No	

Noncritical Elements of Human Environment	Status	Projects Contributes to Cumulative Effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
Grazing Management/ Rangelands	**Affected**	Yes	See Section III.
Upland Vegetation	**Affected**	No	See Section III.
Soils/Biological Crusts	**Affected**	No	See Section III.
Paleontology	Not Present	No	No concerns have been disclosed.
Recreation/Visual Resources	**Affected**	No	See Section III.
Water Resources (303d listed streams, Department of Environmental Quality (DEQ) 3219 assessment, downstream beneficial uses)	Not Present	No	
Social and Economic Values	**Affected**	No	See Section III.
Wilderness Characteristics	**Affected**	No	See Section III.
Wildlife/Locally Important Species and Habitat	**Affected**	No	See Section III.

AFFECTED ELEMENTS

A. Critical Elements

1. Cultural Heritage

Current discussion and analysis of potential effects to cultural heritage are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-152 and Chapter 3, p. 3-21.

Affected Environment:

Much of the West Warm Springs Allotment contains ephemeral lakes and ancient stream courses. Cultural resources are highly prevalent in these areas. Although the area has not been well inventoried for archaeological sites, several sites are known to exist near ephemeral lakes. It is likely many more remain to be identified.

Site importance tends to be medium to high in this area as (1) many sites have modest buried deposits with potentially intact cultural materials, and (2) the area was used by prehistoric people shortly after the Pleistocene (12,000 years ago), and these early sites are generally very rare. Where waterholes are present in playas, cultural materials have been damaged by livestock wallowing.

Environmental Consequences:

Alternative A: No Action – Effects to archaeological resources would continue to occur as a result of continuing current livestock management. Areas of historical concentrated ungulate use (water sources) would continue receiving concentrated use. Trampling effects from livestock and horses would likely remain the same as in the past.

Alternative B: Proposed Action - The Proposed Action range improvement projects would ultimately spread livestock use across the allotment to better utilize available forage. Development of additional water sources would increase geographic spread of livestock and wild horses into locations that may not have received prior grazing pressure and lessen the effects of grazing in other, more intensely used, areas in the allotment. It is assumed more widely spreading the same number of animals across the allotment would diminish trampling effects generally allotmentwide. Trampling effects on cultural resources would then be lessened in areas grazed in the past and the impact of grazing in new areas would be at low levels. The only exception to this assumption would be the effects of concentration of animals at new water developments. Cultural resources in these new locations could be affected by increased trampling, causing artifact breakage, horizontal and vertical displacement of artifacts and churning of the top 10 inches of sediment. These effects would reduce the data potential of archaeological sites and diminish their importance.

Archaeological inventory would be needed in the allotment to locate and evaluate archaeological sites within areas that would be the scene of livestock and wild horse congregation. New range improvements would be inventoried for cultural resources prior to improvement construction. 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. Proposed mitigation measures for livestock damage to sites in playa areas would include recordation and limited subsurface testing, possible formal excavation and assuring sites are within exclosures to protect other resource values. One benefit to having additional range improvement projects implemented is that our knowledge of cultural heritage would be increased with the added need for cultural resource inventories.

Alternative C: Proposed Action plus Additional Range Improvement - Effects to cultural heritage under Alternative C would be similar to those discussed for the Proposed Action. Excluding livestock and wild horses along Buzzard Creek would reduce trampling affects in this area

Alternative D: Removal of Livestock Grazing - Eliminating permitted livestock grazing would allow, to some degree, archaeological site surfaces to stabilize even though previously disturbed sediments would still have low integrity (condition). Site integrity below previously disturbed sediments would more likely remain undisturbed under this alternative than other alternatives. However, stabilization of these sites may be limited as wild horses would continue to congregate in areas around water sources.

2. Noxious Weeds

Current discussion and analysis of potential effects to noxious weeds are tiered to the 1991 Three Rivers PRMP/FEIS vegetation sections and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-53, V1.6.

Affected Environment:

There are areas of perennial pepperweed in the Ross Springs and Seiloff exclosures and in the riparian areas. Perennial pepperweed in Ross Springs and Seiloff exclosures has been treated by BLM contractors and has been contained to less than 2 acres. These areas are being monitored yearly for new pepperweed infestations. Large populations of perennial pepperweed can be found on Malheur Refuge just east of the allotment. With the large populations of pepperweed on adjacent lands, wetlands and riparian areas near the Refuge are at risk for infestation. There are Russian olive trees in the Seiloff exclosure being eradicated for protection of waterfowl from birds of prey.

Approximately 45,000 acres have been burned by wildfire and are dominated by cheatgrass and other annual species within the allotment. Portions of these areas (i.e., Big Stick, Buzzard, Basque Wells Seedings) have been seeded to crested wheatgrass. The remaining areas have or would likely experience reduced fire return intervals.

Environmental Consequences:

Alternative A: No Action – Selection of the No Action Alternative would continue downward trend in riparian and playa habitats and would lead to downward trend in upland range condition. Since there are no proposed ground-disturbing activities under this alternative, there would be less risk of new weed introductions initially. However, without developing new water sources, herbaceous vegetation within 1 to 2 miles of water would continue to be grazed during the growth period each year. Over time, this would lead to reduced plant vigor of native vegetation, thus making these areas more susceptible to noxious weed invasion. Areas of historic ungulate concentration (i.e., playas, waterholes) would continue receiving concentrated use by livestock and wild horses, leading to continued ground disturbance. These areas would be more susceptible to noxious weed invasion.

Under this alternative, no rangeland seedings would be implemented to establish perennial ground cover in areas previously burned and dominated by cheatgrass and other annual species. Fires originating in these areas would likely spread into native rangelands, increasing the likelihood of cheatgrass invasion in these areas.

Alternative B: Proposed Action - Redesigned grazing management to improve upland and riparian conditions would promote resistance to noxious weed invasion and establishment by encouraging diverse, productive, vigorous, desirable plant communities. Any ground-disturbing activities associated with proposed range improvements have potential to create opportunities for noxious weed establishment and spread. Proposed fences, water developments, and pipelines are activities that could open up niches for weed introductions. Ensuring vehicles and equipment used to perform those activities are free of noxious weed seed or plant parts would aid in preventing introductions to the sites. Those disturbed areas would be monitored closely for at least 3 years after projects are constructed. If weeds are found, they would be treated as soon as possible using the most effective and appropriate methods available.

The proposed seedings would reduce noxious weed invasion by establishing a perennial ground cover in areas of past wildfire disturbance. These areas are dominated by cheatgrass and other annual species, thus the fire return interval has been reduced [research suggests fire return intervals of less than 5 years on cheatgrass infested rangelands, compared to 32 to 70-year fire return on sagebrush communities (Pellant 1990)]. This cheatgrass-wildfire cycle has and would continue to reduce native vegetation and lead to further weed invasion. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into native plant communities on the allotment, thus reducing potential for weed invasion.

Effective grazing management, which promotes healthy rangelands, is a prevention strategy for noxious weed introduction and spread. Range improvement projects designed to moderate livestock congregation and help spread animals on the landscape would reduce disturbance and, therefore, reduce opportunities for noxious weed introduction and spread. Range improvements would also help spread horse use across the landscape, reducing concentrations and impacts from horses, contribute to enhancing desirable plant communities, and thus lessen opportunities for weed introduction and spread.

Alternative C: Proposed Action plus Additional Range Improvement - Effects on noxious weeds would be similar to those analyzed under the Proposed Action. Constructing the additional proposed fence could further open up niches for noxious weed introductions.

The additional range improvement project is designed to remove livestock and wild horse congregation along Buzzard Creek. This would reduce disturbance in the area and, therefore, reduce opportunities for noxious weed introduction and spread. Effective grazing management which promotes healthy rangelands is a prevention strategy for noxious weed introduction and spread.

Alternative D: Removal of Livestock Grazing - Removal of livestock grazing could help enhance desirable plant community diversity, productivity, and vigor which could reduce opportunities for noxious weed introduction and spread. On the other hand, by removing livestock from the allotment, implementation of range improvement projects which would also help moderate distribution and concentrated impacts of wild horse populations, would not occur. Overuse of areas by wild horses can create opportunities for noxious weed introduction and spread.

Fence maintenance would be turned over to the BLM with range improvements receiving much less attention due to lack of funding for such activities. Wild horses would eventually be able to enter existing riparian exclosures and cross through failing HMA boundary fences. Year-round access by wild horses in riparian areas causes heavy utilization levels and continuously disturbed areas are more susceptible to noxious weed establishment.

Additionally, with no livestock in the allotment, opportunities for trained staff and grazing permittees to discover new weed populations would be compromised as there would be reduced monitoring on the allotment. New weed introductions, if not discovered and treated in a timely manner, would spread rapidly and become difficult and expensive to treat. Eradication would be much less likely to occur.

3. Migratory Bird

Current discussion and analysis of potential effects to migratory birds are tiered to the 1991 Three Rivers PRMP/FEIS wildlife sections and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-66 and Chapter 3, p. 3-9.

Affected Environment:

Migratory birds likely use the area of affect for nesting, foraging, and resting, as they pass through during their yearly migrations. Migrating birds that use grassland and sagebrush habitat in eastern Oregon could occur in this area. Habitat for migratory birds within the allotment has been degraded in the past from fires and subsequent replacement of desirable native vegetation with invasive annuals and weed species. Although no recorded surveys have been conducted in this area, Brewer's sparrow, sage sparrow, ferruginous hawk, Swainson's hawk, golden eagle, snowy plover, long-billed curlew, burrowing owl, and loggerhead shrike, all of which are Birds of Conservation Concern for the Great Basin Region, inhabit the area.

Environmental Consequences:

Alternative A: No Action – Grazing management under the No Action Alternative would not allow for periodic growing season rest for upland and riparian vegetation and would lead to degraded conditions, thus, providing less desirable nesting habitat and forage for migratory birds. Habitat may continue to be degraded as the fire regime is affected by cheatgrass and invasive weeds. Areas with cheatgrass invasion tend to burn much more frequently than historic plant communities and this keeps desirable native species from reestablishing. Improvements to migratory bird habitat from the Proposed Action, such as water developments and proposed changes to livestock grazing management, would not be realized with selection of this alternative.

Alternative B: Proposed Action - Habitat for migratory birds would be expected to improve with selection of the Proposed Action. Each use area within West Warm Springs Allotment would receive periodic growing season rest, generally under a graze/defer or graze/rest treatment. Creating new water sources as proposed, would increase livestock and wild horse distribution throughout the allotment and reduce grazing pressure around existing water sources. This would lead to improved nesting habitat and forage conditions for migratory birds. Proposed water developments would also reduce the time and distance spent traveling to and from water. Proposed rangeland seedings would improve migratory bird nesting and foraging habitat by providing a perennial ground cover in areas presently dominated by cheatgrass, and would reduce likelihood of wildfire spread into native plant communities.

The Proposed Action is designed to sustain and stimulate rangeland vegetation, improve riparian condition, promote enhanced livestock and wild horse distribution, improve water availability and provide more flexibility in timing of use. All of these factors would benefit migratory birds and their habitat, while reducing potential conflicts with livestock.

Alternative C: Proposed Action plus Additional Range Improvement – Effects under Alternative C on migratory birds would be similar to those analyzed under the Proposed Action. Fencing of riparian areas, such as Buzzard Creek, would likely lead to improved habitat conditions for birds. Buzzard Creek supports several species of migratory land birds. Excluding the proposed section of Buzzard Creek would eliminate livestock and wild horse congregation in this area, thus shrub and herbaceous vegetation would likely increase in this area. This would enhance nesting and forage habitat for migratory birds.

Alternative D: Removal of Livestock Grazing - Under this alternative, habitat conditions for migratory birds would improve over time as vegetation would likely become denser across the landscape, providing better hiding and nesting cover. There would be no disturbance from livestock and livestock management activities, especially for ground nesting birds. However, there would still be risk of increased fire activity and spread of cheatgrass, which could lead to degraded migratory bird habitat conditions. Riparian/wetland areas currently excluded from livestock and wild horse grazing (e.g., Lake on the Trail, Seiloff Dike, Ross Springs, Buzzard Creek, and Buzzard Springs,) may be compromised by late-season wild horse use as fence maintenance responsibilities are turned over to the BLM. The BLM assigned these responsibilities to the grazing permittees on all allotments due to a shortage of funding for such activities. Fences would likely fail with less attention to maintenance.

4. Wetland/Riparian Zones and Water Quality

Current discussion and analysis of potential effects to water quality and wetlands/riparian zones are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Water Quality: Chapter 2, p. 2-4 and Chapter 3, p. 3-2; Riparian: Chapter 2, 2-96 and Chapter 3, p. 3-12 (Aquatic Habitat).

Affected Environment:

Buzzard Creek is a temporal and spatially intermittent stream that flows into Silver Lake playa. Water is dispersed into the creek from spring runoff or other high-water events and subsurface flow from Buzzard Spring. Primary use is as a water source for wildlife, wild horses, burros and livestock. This stream is not an Oregon DEQ 303(d) listed stream, is not fish bearing, does not contribute to any fish-bearing stream, and is not a source for public drinking water.

Applicable designated beneficial uses are Livestock Watering and Wildlife and Hunting (OAR 340-41-0190). Standards and Guidelines conducted by the IDT determined the water quality standard was not applicable as there are no perennial streams within the allotment; therefore, water quality data were not collected. Numerous springs and playas provide additional water resources, however, these waters do not leave the allotment due to terrain and soils types.

According to the 2002 Standards and Guidelines Assessment, Standards were not met in riparian/wetland areas with livestock and wild horses being the causal factors. Actions to be implemented were to fence wetlands and manage them for wetland and moist soil areas. Seiloff Dikes, Lake on the Trail, Ross Springs, potions of Buzzard Creek, and Buzzard Spring have been fenced, and are experiencing an upward trend in vegetation and soil conditions.

The 2002 Allotment Evaluation identified livestock and wild horse congregation within the unfenced portions of Buzzard Creek (adjacent to existing Buzzard Creek Exclosure) as a contributing factor for failing to achieve the Watershed Function - Riparian/Wetland Areas Standard; however, no formal monitoring of vegetation conditions has occurred along Buzzard Creek. Professional judgment and qualitative comparisons between the fenced and unfenced portions of this creek indicate heavy utilization has impaired vegetation conditions along the unfenced portions of this creek where late-season water is present.

Numerous playa lake beds exist within the allotment with many containing waterholes. Presently, these areas receive seasonlong use by livestock, wild horses, and wildlife each year. The majority of these areas are experiencing stable to downward trends in vegetation and soil surface condition. Deferred livestock grazing in Silver Lake Playa and the exclosure around Lake on the Trail have increased vegetation cover and species diversity in these playas.

Environmental Consequences:

Alternative A: No Action – Grazing management would continue to be dependant on water availability each year. Utilization patterns would be concentrated around areas within 1 to 2 miles of water. Continuous seasonal grazing would maintain stable or downward trend in riparian and playa condition in these areas. Growing season rest would only be provided on years of above average precipitation when water is available in areas usually dry. Existing riparian/wetland exclosures (Seiloff Dikes, Lake on the Trail, Ross Springs, Buzzard Creek, and Buzzard Springs) would be maintained and riparian conditions would improve in these areas. No new range improvements would be constructed to provide grazing rest, improved utilization patterns, or water sources outside of playa habitats.

Alternative B: Proposed Action – The Proposed Action would put into place livestock grazing management which provides periodic growing season rest in all areas of the allotment. Proposed range improvements would enhance utilization patterns by providing water outside of riparian and playa habitats currently used by livestock, wild horses, and wildlife. Providing additional water sources would likely reduce grazing pressure in those areas of concentrated use. Riparian and playa habitats would improve as the proposed grazing rotations would control the timing and intensity of livestock grazing in these areas.

Under this alternative, livestock would have access to the unfenced portion of Buzzard Creek while they are in Native Pasture of Buzzard Use Area. Wild horses would continue to have year-round access to this creek. This is a known area of livestock and wild horse congregation during the late summer as small waterholes provide water during most years. Ungulate congregation in this area would likely be reduced by providing the proposed additional water sources (Deep Well, Native Well, and O'Leary Well) away from Buzzard Creek.

Existing riparian/wetland exclosures (Seiloff Dikes, Lake on the Trail, Ross Springs, Buzzard Creek, and Buzzard Springs) would be maintained and riparian conditions would improve in these areas. This alternative would implement an exclosure around Thorn Springs to improve wetland conditions at the spring source.

Overall, riparian/wetland and playa habitat would likely improve under this alternative as additional water sources are implemented to more evenly distribute utilization patterns across the allotment. The proposed grazing rotations would control timing and intensity of livestock grazing within unfenced riparian and playa habitats, which would likely improve vegetation and soil conditions in these areas.

Alternative C: Proposed Action plus Additional Range Improvement – Effects on wetland/riparian areas and water quality would be similar to those analyzed under the Proposed Action. However, under this alternative, two additional miles of Buzzard Creek would be excluded from livestock and wild horse use. Construction of an additional 2 miles of fence along Buzzard Creek would improve riparian structure of the stream. Excluding livestock and wild horses from grazing this area would help to improve wetland and riparian zones around the existing pools of water. Reestablishment of vegetation would improve streambank stability, shade, cover and quality of aquatic habitat.

Alternative D: Removal of Livestock Grazing – Removing livestock grazing would reduce grazing impacts in unfenced riparian/wetland areas. Over time, removal of livestock grazing may result in late seral riparian vegetation and increased deciduous woody species recruitment around springs and portions of Buzzard Creek. However, riparian habitat improvement would be limited as wild horses would still have yearlong access to these areas. Like cattle, wild horses preferentially select riparian habitats during the growing season (Crane 1997).

Under this alternative, fence maintenance responsibilities would be turned over to the BLM causing fences to receive much less attention than they do currently with the grazing permittees as the responsible party. In this case, fences would likely fail and those riparian/wetland areas currently excluded from livestock and wild horse grazing (i.e., Seiloff Dikes, Ross Springs, Lake on the Trail, Buzzard Springs, and Buzzard Creek Exclosure) would be accessed by wild horses.

5. Wildlife/Plant - BLM Special Status Species and Habitat

Special Status Flora

Current discussion and analysis of potential effects to Special Status Flora are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-56 – 2-57: SSS 1, SSS 2, SSS 2.1.

Affected Environment:

Two Special Status plant species from the 2008 OR/WA State Director's list are known to exist in West Warm Springs Allotment. Snowline cymopterus (*Cymopterus nivalis*) and Raven's biscuitroot (*Lomatium ravenii*) are Oregon-Sensitive species. Raven's biscuitroot exists on about 3,500 acres in the northwest portion of the allotment. Snowline cymopterus is found in the southeast part of the allotment in small populations covering a total of about 3 acres.

Environmental Consequences:

Alternative A: No Action – The No Action Alternative would maintain cheatgrass dominance on disturbed sites, would decrease the fire return intervals, and pose a threat to existing native plant communities. Lack of growing season rest and limited change in timing and duration of grazing would result in reduced herbaceous plant vigor, density and cover. Over time, this would lead to downward trend in rangeland condition across West Warm Springs Allotment.

Alternative B: Proposed Action - The Proposed Actions would promote recovery and health of plant communities across West Warm Springs Allotment, and would likely benefit Snowline cymopterus (*Cymopterus nivalis*) and Raven's biscuitroot (*Lomatium ravenii*) populations. Reseeded areas would provide perennial species in areas dominated or at risk for invasion by annual plant species such as cheatgrass. Design elements of the proposed range improvements would be considered for Oregon-Sensitive plant species. A site-specific botanical clearance would be completed prior to proposed range improvement project implementation. Mitigation would include moving improvement locations if Special Status plant populations were located in the site-specific project area(s).

Alternative C: Proposed Action plus Additional Range Improvement - The same potential affects as described under the Proposed Action Alternative would occur. Additional site-specific botanical clearances would be completed prior to the construction of Buzzard Creek Exclosure.

Alternative D: Removal of Livestock Grazing - Removing livestock grazing would reduce grazing impacts in the allotment. However, wild horses would still have yearlong access to many portions of the allotment. It is unlikely Snowline cymopterus (*Cymopterus nivalis*) and Raven's biscuitroot (*Lomatium ravenii*) populations would decline or improve under this alternative.

Special Status Fauna

Current discussion and analysis of potential effects to Special Status Fauna are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: SSS 1, SSS 2, SSS 2.1: p. 2-56, 2-57

Affected Environment:

There are no known Federally listed Threatened, Endangered, or Proposed wildlife species found within or near the allotment. Greater sage-grouse (*Centrocercus urophasianus*), a BLM SSS, is found throughout the allotment. Five active leks including Shorty's Waterhole, Paradise Lake, Flybee, North Twin Lakes, and Buzzard Reservoir leks, are within the boundaries of the allotment. There are several leks to the south of the allotment as well. Brush beating of Wyoming big sagebrush communities in the western portion of the allotment has been completed to improve greater sage-grouse habitat.

Habitat for pygmy rabbit is also within the area of affect. There are no historical sightings within West Warm Springs Allotment; however, there are anecdotal reports of them existing within the allotment area. Several possible habitat sites for pygmy rabbits are located near the southeast boundary of the allotment and it is likely some rabbits do exist within the allotment. Further investigation is warranted.

Potential pygmy rabbit burrows have been observed in the existing Buzzard Creek exclosure. The area of affect contains the following combination of habitat features suitable for pygmy rabbit habitat: No seeding or recent fire; >23 percent big sagebrush cover; >40 inches deep soil with sandy loam or loamy sand surface texture; <40 inches deep soil with loamy subsoil; and historical plant community had big sagebrush and basin wildrye.

Other SSS that may inhabit this allotment include several species of bats and migratory birds.

Environmental Consequences:

Alternative A: No Action Alternative – Current grazing management which lacks periodic growing season rest to sagebrush plant communities would continue under this alternative. Continuous seasonal grazing would continue to be concentrated around existing water sources. Continued heavy to severe utilization (>61 percent) patterns in these areas would lead to downward trend in herbaceous vegetation, thus reducing nesting and foraging habitat for sage-grouse and pygmy rabbits. Additional water developments to facilitate enhanced livestock and wild horse distribution and more even utilization patterns would not be implemented. Fences to control timing of livestock grazing and provide growing season rest to sagebrush plant communities would not be constructed and subsequent habitat improvements for wildlife would not be realized.

Rangelands presently dominated by cheatgrass would continue to provide little to no habitat for sage-grouse and pygmy rabbits. No rangeland seedings would be implemented to provide perennial ground cover and increase fire return intervals in these cheatgrass communities. Existing sagebrush plant communities, providing critical sage-grouse and pygmy rabbit habitat, would remain at risk from cheatgrass expansion as wildfires originating in cheatgrass areas would likely spread into these native communities. Selection of this alternative would not lead to improved conditions for sage-grouse and pygmy rabbits.

Existing riparian/wetland exclosures (e.g., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) would continue to be maintained, and riparian vegetation in these areas would continue to provide quality sage-grouse forage during late brood rearing.

Alternative B: Proposed Action - Proposed changes in grazing management are expected to improve rangeland health and maintain those rangelands currently in a healthy condition by providing periodic growing season rest to all areas within West Warm Springs Allotment. Periodic growing season rest allows for increased forb production, which is an important spring food source for sage-grouse.

The proposed water developments would improve livestock and wild horse distribution, resulting in more uniform utilization patterns. These improvements would expand sage-grouse habitat by providing reliable water sources in areas outside existing service areas. Existing riparian/wetland exclosures (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Springs) would continue to be maintained, and the proposed exclosure around Thorn Springs would improve riparian vegetation. In general, rangeland health should improve and consequently so should the quality of sage-grouse and pygmy rabbit habitat.

The proposed rangeland seedings would establish a perennial ground cover in existing cheatgrass communities. This would increase fire return intervals on these sites allowing for establishment of shrub and forb species over time. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into existing sagebrush plant communities, reducing the potential for cheatgrass invasion into sage-grouse and pygmy rabbit habitat.

Alternative C: Proposed Action plus Additional Range Improvement – Effects to SSS Fauna under Alternative C would be similar to the Proposed Action. Proposed fencing of Buzzard Creek would benefit sage-grouse habitat by allowing the riparian area to be more productive and provide suitable late-season forage and improved cover. Potential pygmy rabbit burrows have been observed in the existing Buzzard Creek exclosure. Removing livestock and wild horse congregation in that portion of Buzzard Creek would likely promote increased sagebrush cover enhancing potential habitat for pygmy rabbits.

Alternative D: Removal of Livestock Grazing – The SSS Fauna would benefit from improved habitat conditions with selection of this alternative. There would be greater amounts of forage and cover available for sage-grouse and no disturbance from livestock and livestock management activities. Potential pygmy rabbit habitat would be maintained or may improve as sagebrush cover would likely increase in current livestock congregation areas (waterholes). These benefits would be limited, however, as wild horses would continue to congregate around reliable water. Riparian/wetland areas currently excluded from livestock and wild horse grazing (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) may be compromised by late season wild horse use as fence maintenance responsibilities are turned over to the BLM.

The BLM assigned these responsibilities to the grazing permittees on all allotments due to a shortage of funding for such activities. Fences would likely fail with less attention to maintenance. Riparian vegetation is a critical sage-grouse food source during late brood rearing and negative impacts to riparian areas would likely occur as these exclosures become unserviceable, over time.

Rangelands presently dominated by cheatgrass would continue to provide little to no habitat for sage-grouse. No cost-share opportunities between the BLM and permittees would be available to implement rangeland seedings in these areas. The high costs of such projects would likely prohibit effective rehabilitation on these sites. Therefore, minimal or no rangeland seedings would be implemented to provide perennial ground cover and increase fire return intervals in these cheatgrass communities. Existing sagebrush plant communities, providing critical sage-grouse and pygmy rabbit habitat, would remain at risk from cheatgrass expansion as wildfires originating in cheatgrass areas would likely spread into these native communities.

B. Noncritical Elements

1. Grazing Management/Rangelands

Current discussion and analysis of potential effects to livestock grazing management are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-33 and Chapter 3, p. 3-4.

Affected Environment:

Four term grazing permits (#3602860, 3602847, 3602819, and 3602828) authorize livestock grazing across West Warm Springs Allotment. The four grazing permits authorize 11,006 AUMs of permitted active use from April 1 through September 15. Calculated carrying capacity from the 2002 West Warm Springs Allotment Evaluation (1987-2000) is 8,754 AUMs for livestock. Since 1998, the permittees have taken voluntary nonuse, which has resulted in an average actual use of 7,608 AUMs across the allotment.

No AMP incorporating livestock grazing rotations has been implemented on West Warm Springs Allotment. Current livestock grazing management is continuous seasonal grazing during an April 1 through September 15 season of use each year.

The existing crested wheatgrass seedings (Horsehead, Big Stick, Hurlbert, and Buzzard) have been used early in the season (April 1 to May 30) each year to provide partial growing season rest to native plant communities within Big Stick, Rimrock Lake, and Buzzard Use Areas. Repeated growing season grazing has resulted in reduced plant vigor and stable to downward trend in condition of these seedings. Beginning in 1988, livestock grazing in the Silver Lake Use Area has been deferred until after August 1 each year. Vegetation within this area has responded positively with improved density and cover of key forage species.

Lack of reliable water sources is the limiting factor affecting grazing management across the allotment. On most years, livestock and wild horse utilization are concentrated in service areas within 1 to 2 miles of reliable water sources. This results in poor grazing distribution, repeat defoliation of herbaceous plants, and heavy to severe utilization (>61 percent) patterns within these service areas. The permittees have attempted to provide growing season rest within these service areas during years of above average precipitation when marginal waterholes contain water; however, this is only estimated to occur one out of every 5 years. Areas further away from water experience light (<20 percent) to no grazing use.

Lack of interior pasture fences within Big Stick and Buzzard Use Areas limits the ability to control timing and intensity of livestock grazing. Operators actively herd livestock within their respective use areas; however, livestock naturally drift into areas containing the best water and preferred forage species. This results in repeat defoliation of desired forage species and uneven utilization patterns within these areas.

The 2002 Allotment Evaluation identified livestock and wild horse grazing as casual factors for not achieving the Watershed Function - Riparian/Wetland Areas Standard and current grazing management is not conforming to the Guidelines for grazing management. Continuous seasonal grazing without periodic growing season rest is limiting achievement of all Standards and conformance to Guidelines. Grazing management within Silver Lake Use Area has achieved all Standards and Guidelines since switching to deferred use each year.

Environmental Consequences:

Alternative A: No Action – Livestock grazing management would be maintained as described in Chapter II under the No Action Alternative. This alternative would maintain continuous seasonal grazing during the authorized season of use (April 1 through September 15) in Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas. Periodic growing season rest from livestock grazing would only be provided in these areas during years of above average precipitation when marginal waterholes contain water.

During these years, wild horse utilization would remain concentrated around reliable water sources as horses develop home ranges and typically graze the same areas even when additional water sources are periodically available. No new fences or water developments would be implemented to enhance livestock and wild horse distribution and utilization patterns. Repeated heavy to severe utilization (>61 percent) patterns would continue within 1 to 2 miles of reliable water sources. Upland and riparian plant communities that lack periodic opportunity to recover vigor, set seed, and establish seedlings, decline in population over time.

Under current management, carrying capacity in the Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas would be reduced. Continuous seasonal grazing would lead to reduced functional and structural diversity of these plant communities as key forage plant species decline in vigor and population. Over time, this would promote homogeneous plant communities less efficient at utilizing site resources by occupying the potential rooting volume of the soil and photosynthesizing throughout the potential growing season. This could also promote establishment of undesirable plant species such as cheatgrass.

Rangeland Health Standard #2: Watershed Function-Riparian/Wetland Areas would remain unachieved in Big Stick, Rimrock Lake, Buzzard, and Basque Wells Use Areas, as unfenced wetlands and playas would continue to receive continuous seasonal grazing by livestock and wild horses. Current management in these use areas would continue to fail at meeting Guidelines as plant communities would not be provided periodic growing season rest from livestock grazing. All Standards and Guidelines would be met in Silver Lake Use Area as this area would continue to receive a deferred (after August 1) grazing treatment each year.

Alternative B: Proposed Action – Under this alternative, changes to livestock grazing management would be made to achieve all Standards and conform to Guidelines. Grazing management specific to each use area would be implemented as described in Chapter II under the Proposed Action Alternative. A 20 percent reduction of (2,252) Voluntary Nonuse AUMs would remain to meet calculated carrying capacity of 8,754 AUMs for livestock. Adaptive management would be used to adjust stocking rates (up or down) based on rangeland monitoring. Voluntary Nonuse AUMs may be reinstated as utilization and trend monitoring indicate resource objectives are being achieved. This Proposed Action would implement livestock grazing rotations providing periodic growing season rest to key forage plant species on all pastures/use areas within West Warm Springs Allotment. This affords key forage plant species the opportunity to complete their life cycles, store carbohydrates, and produce the maximum amount of cover and herbage.

Proposed fences would allow for greater control on timing and intensity of livestock grazing within Big Stick and Buzzard Use Areas. They would facilitate livestock grazing rotations providing periodic growing season rest to key forage plant species on native and seeded plant communities within these areas. Without these fences, livestock grazing would remain concentrated in areas serviced by reliable water and repeat defoliation of preferred forage species would continue.

Proposed wells and troughs would provide reliable water to livestock, wild horses, and wildlife away from playas and service areas currently receiving heavy to severe utilization. This would promote improved livestock distribution and more uniform utilization patterns, thus reducing forage competition between all grazers. Wild horse range and wildlife habitat would be increased as reliable water would be established in areas currently receiving little to no use due to lack of water. Providing these additional water sources would facilitate livestock grazing rotations providing periodic growing season rest to key forage plant species in native plant communities across the allotment. During drought years, these wells would serve as filling points for the permittees to haul water to dry waterholes or temporary trough sites across the allotment. This would enhance grazing distribution and maintain wild horse and wildlife habitat by providing water in areas that would otherwise be dry. Without these developments, grazing would continue to be concentrated around existing water sources, resulting in uneven utilization patterns and increased forage competition between all grazers.

Proposed rangeland seedings would aid grazing management by providing a forage base for early season livestock grazing in Big Stick and Buzzard Use Areas. This would provide partial to full growing season rest from livestock grazing to native plant communities, thus fostering a stable to upward trend in rangeland condition within each use area. The areas proposed for seeding have been burned by wildfire and are dominated by cheatgrass and other annual species. Cheatgrass communities provide very poor wildlife habitat, reduced production and quality of forage, and reduced soil stability. These seedings are needed to improve soil characteristics and reduce soil erosion and encroachment of invasive weed species. Establishment of perennial ground cover on these degraded sites would reduce fire frequency within the area, thus maintaining intact sagebrush-bunchgrass habitat.

Alternative C: Proposed Action plus Additional Range Improvement - Proposed grazing management is the same under the Proposed Action and Alternative C; therefore, management effects would be the same. Constructing an exclosure around an additional 2 miles of Buzzard Creek would preclude livestock and wild horse access to this area. This intermittent creek holds small pools of water late in the season, thus livestock, wild horse, and wildlife utilization are concentrated in the area. Excluding livestock and wild horse access to this area would promote recovery of upland and riparian vegetation within this canyon. This would further aid in achieving Standards.

This exclosure would be designed to exclude livestock and wild horses from a portion of Buzzard Creek, while maintaining passage routes and access to water in Buzzard Canyon. Topography, existing ungulate trails, and waterholes would be considered during layout and implementation of this exclosure to allow for wild horse and livestock passage through Buzzard Canyon.

Alternative D: Removal of Livestock Grazing - Under the Removal of Livestock Grazing Alternative, the current livestock grazing permits would be cancelled. The BLM would implement changes in active use after consultation, cooperation, and coordination with the affected permittees and through a documented agreement or by decision of the authorized officer. When the authorized officer determines soil, vegetation, or other resources on public lands require immediate protection because of conditions such as drought, fire, flood, or insect infestation, or when continued grazing use poses a significant risk of resource damage, after consultation with, or a reasonable attempt to consult with, affected permittees … the authorized officer shall close allotments or portions of allotments to grazing by any kind of livestock or modify authorized grazing use (CFR Subchapter D (4000) Subpart 4110.3-3, 1995).

Under this alternative, no additional range improvements would be completed unless deemed necessary for management of wild horses to move toward achieving Standards. Existing range improvements (i.e., internal pasture fences) in place for livestock grazing management would most likely be removed by the Burns District BLM wild horse program to facilitate improved wild horse distribution. The HMA boundary fences and existing riparian exclosures (i.e., Seiloff Dike, Lake on the Trail, Buzzard Creek, and Buzzard Spring) would be maintained by the BLM wild horse and riparian programs, adjacent livestock grazing permit holders, or adjacent private landowners. However, fences would likely fail with BLM responsible for their maintenance due to a lack of funding for such activities.

This alternative could require amendment to the 1992 Three Rivers RMP/ROD/RPS prior to implementation.

2. Upland Vegetation

Current discussion and analysis of potential effects to vegetation are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-51 and Chapter 3, p. 3-7.

Affected Environment:

Wyoming big sagebrush (*Artemisia tridentate wyomingensis*)/Sandberg's bluegrass (*Poa* secunda) is the most common plant community found within West Warm Springs Allotment. Secondary plant communities include Wyoming big sagebrush/bluebunch wheatgrass (*Pseudoregneria spicata*), Wyoming big sagebrush/Thurber's needlegrass (*Stipa thurberiana*), Wyoming big sagebrush/cheatgrass (*Bromus tectorum*), and low sagebrush (*Artemisia arbuscula*)/Sandberg's bluegrass. Other common perennial grass species found within these plant communities include Idaho fescue (*festuca idahoensis*), basin wildrye (*Leymus cinereus*), bottlebrush squirreltail (*Elymus elymoides*), and needleandthread grass (*Stipa comata*). Common shrub species found in lower elevation sites include silver sagebrush (*Artemisia cana*), greasewood (*Sarcobatus vermiculatus*), and green rabbitbrush (*Chrysothamnus viscidiflorus*). Numerous species of perennial and annual forbs exist across these plant communities. Common perennial forb species include Nevada lomatium (*Lomatium nevadense*), Lupine (*Lupinus* sp.), buckwheat (*Eriogonum* sp.), Phlox sp. and milkvetch (*Astragalus* sp.).

Approximately 45,000 acres have been burned by wildfire and 21,533 acres have been seeded to crested wheatgrass to establish a perennial ground cover following these fires. Rangelands previously burned and not seeded (approximately 23,467 acres) are dominated by cheatgrass and other annual species. Native perennial grasses, forbs, and shrubs are a minor (<3 percent) or nonexistent component within these cheatgrass communities. As a result, forage production and nutritional value for livestock, wild horses, and wildlife, and nesting cover for sagebrush obligate species such as sage-grouse have been reduced in these areas.

The 2002 West Warm Springs Allotment Evaluation analyzed trend in rangeland condition (1987-1998) on 21 upland trend sites across West Warm Springs Allotment. An upward trend in rangeland condition was determined on native rangelands within Basque Wells and Big Stick Use Areas with a stable trend in rangeland condition assessed on native rangelands within Rimrock Lake and Buzzard Use Areas. A stable trend in rangeland condition was assessed on all crested wheatgrass seedings within the allotment. An upward trend in rangeland condition resulting from increased plant cover and plant species diversity has occurred within the Silver Lake Use Area since the shift to a deferred grazing treatment in 1988. Increased plant cover and plant species diversity have resulted in playa and wetland areas excluded from livestock and wild horse grazing (Seiloff Dikes, Ross Springs, Lake on the Trail, and Buzzard Springs).

Environmental Consequences:

Alternative A: No Action – Under this alternative, no new fences or water developments would be implemented to enhance utilization patterns and provide periodic growing season rest for upland plant communities. Service areas within 1 to 2 miles of existing waterholes would continue to receive continuous seasonal grazing by livestock, wild horses, and wildlife. Lack of growing season rest and limited change in timing and duration of grazing would result in reduced herbaceous plant vigor, density, and cover. Over time, this would lead to downward trend in rangeland condition across West Warm Springs Allotment. Deferred livestock grazing in Silver Lake Use Area would continue under this alternative. Thus, stable to upward trend in rangeland condition would be maintained in this area. Existing exclosures around playa and wetland areas would continue to be maintained and stable to upward trend in these areas would be maintained.

No rangeland seedings would be implemented under this alternative, and rangelands presently dominated by cheatgrass would remain. Reduced fire return intervals associated with cheatgrass communities would likely result in the loss of native plant communities as fires originating in cheatgrass communities would quickly spread into native communities.

Alternative B: Proposed Action – Under this alternative, the proposed range improvements would facilitate grazing management which should promote recovery of upland plant communities. Proposed grazing management would provide periodic growing season rest from livestock grazing for key forage species across West Warm Springs Allotment. This would allow for improved plant vigor and diversity, improved plant community composition, age class distribution and overall production within the allotment. Livestock and wild horse distribution would be improved with development of additional water sources. A larger foraging area would be available by providing additional reliable water later in the year. More uniform utilization patterns are expected with more water sources, reducing heavy to severe utilization levels on key forage species within service areas around reliable water. Deferred livestock grazing in Silver Lake Use Area would continue under this alternative. Thus, stable to upward trend in rangeland condition would be maintained. Existing exclosures around playa and wetland areas would continue to be maintained and stable to upward trend in these areas would continue. The proposed exclosure around Thorn Springs would promote recovery of herbaceous riparian plant species within this wetland area.

Proposed rangeland seedings would provide a perennial ground cover in areas presently dominated by cheatgrass and other annual species. Once established, these seedings would provide a forage base to facilitate grazing rest or deferment on native plant communities. These seedings would also increase the fire return interval in areas presently dominated by cheatgrass, thus reducing the probability of wildfire spread into native plant communities.

The Proposed Action would improve overall rangeland health by encouraging productivity, vigor, and diversity of plant communities within West Warm Springs Allotment. Current carrying capacity for all demands (wild horses, wildlife, and livestock) would be maintained or improved as plant communities would remain in stable to upward trend in rangeland condition.

Alternative C: Proposed Action plus Additional Range Improvement - Proposed grazing management is the same under the Proposed Action and Alternative C; therefore, management effects would be the same. Constructing an exclosure around an additional 2 miles of Buzzard Creek would preclude livestock and wild horse access to this area. This stretch of Buzzard Creek contains intermittent pools of water during late summer. This is an area known for wild horse congregation as horses use the area to water throughout the year. Excluding wild horse and livestock grazing in this area would promote recovery of riparian plant species around intermittent pools of water within this area. Over time, deep-rooted herbaceous riparian species would likely increase within the exclosure.

Alternative D: Removal of Livestock Grazing – Under this alternative lower utilization levels would occur on key forage plant species and less forage competition between wildlife and wild horses would occur as livestock grazing would be removed. More frequent growing season rest and life cycle completion would be provided for key forage plant species if livestock were removed. Wild horse and wildlife utilization would continue to be concentrated in service areas around reliable water sources. Allotment boundary and exclosure fence maintenance would become the responsibility of the BLM. Over time, these fences would become unserviceable as BLM does not have the budget to adequately maintain such improvements. Existing playa and spring exclosures (Seiloff Dikes, Ross Springs, Lake on the Trail, and Buzzard Springs) would eventually fail, and wild horse utilization would be concentrated in these areas.

No rangeland seedings would be implemented to provide perennial ground cover and increase fire return intervals in areas presently dominated by cheatgrass.

Wildfires originating in these cheatgrass systems would rapidly spread into native plant communities. More frequent wildfires would likely result in transition of native plant communities into cheatgrass communities. Research in progress and soon to be published from the Eastern Oregon Agriculture Research Center show preliminary findings indicating complete exclusion of livestock grazing weakens the ability of *A. tridentate* ssp. *wyomingensis* plant communities to tolerate fire and thus, allows *B. tectorum* (cheatgrass) invasion (Davies et al., research in progress).

3. Soils/Biological Soil Crusts

Current discussion and analysis of potential effects to soils are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-15 and Chapter 3, p. 3-3.

Affected Environment:

The majority of soils are a Raz-Brace-Anawalt on cold plateaus and uplands with Wyoming big sagebrush, low sagebrush, needlegrass, and bluebunch wheatgrass with light erosion potential. Raz-Brace-Anawalt soils are loamy in a 10 to 12-inch precipitation zone on tablelands from 4,100 to 6,000 feet in elevation and mostly gravelly loams that are shallow to moderate in depth, on 2 to 40 percent west slopes with west drainage. These soils are classified at a 6e capability class, indicating they are not suitable for cultivation and are at risk for erosion. The secondary soil is a Reallis-Vergas-Lawen on cold plateaus and uplands with Wyoming big sagebrush, needlegrass and bluebunch wheatgrass with light erosion potential. Reallis-Vergas-Lawen soils are loamy in a 10 to 12-inch precipitation zone on fan terraces and depressions from 4,200 to 6,000 feet in elevation and mostly very deep gravelly loams on 0 to 5 percent west slopes with a 6s capability class which is land suitable for pasture, range, woodland or wildlife habitat and the soil is shallow, droughty, or stony.

Common biological soil crusts found in the allotment are included in the following list of genera: Bryum, Cladonia, Collema, Didymodon, Lecanora, Psora, and Tortula. This is not an all inclusive list of potential genera. In wildfire influenced vegetation systems such as those represented in West Warm Springs Allotment, biological soil crust cover would be primarily determined by historic and current disturbance patterns (including wildfire), while site-specific species composition would be determined primarily by soil chemistry gradients. Wildfire can reduce biological soil crust cover; however, such disturbance can establish new interspace zones that can be colonized by nonvascular plants, lichen or fungi.

Percent rock cover influences total biological soil crust cover. Embedded rocks provide armor for microbiota contained within soil interspaces. North and east slopes generally favor crust development due to moisture and temperature requirements for optimal physiological activity. Calcareous and gypsiferous soils can support higher species richness. The soil chemistry gradient has been shown to be the "…strongest explanatory factor for the compositional difference among research sites" (Ponzetti and McCune 2001).

Calcareous and gypsiferous soils occur in West Warm Springs Allotment and site-specific soil chemistry varies throughout. Potential for biological soil crusts is site-specific.

Effects from grazing, recreationists, and reduced fire return intervals have occurred in the allotment. The specific contribution of these activities to current biological soil crust condition and cover is not discernable from other historic disturbances.

Microbiota, such as biological soil crusts, can be divided into three groups based on their physical location in relation to the soil: hypermorphic (aboveground), perimorphic (at ground), and cryptomorphic (below ground).

Morphological Groups:

Identification of biological soil crusts at the species level is very difficult and is often not practical for fieldwork. The use of some basic morphological groups simplifies the situation. Morphological groups are also useful because they are somewhat representative of the ecological function of the organisms (TR-1730-2).

The morphological groups are:

1. Cyanobacteria - Perimorphic/cryptomorphic
2. Algae - Perimorphic/cryptomorphic
3. Micro-fungi - Cryptomorphic/perimorphic
4. Short moss (under 10mm) - Hypermorphic
5. Tall moss (over 10mm) - Hypermorphic
6. Liverwort - Hypermorphic
7. Crustose lichen - Perimorphic
8. Gelatinous lichen - Perimorphic
9. Squamulose lichen – Perimorphic
10. Foliose lichen - Perimorphic
11. Fruticose lichen - Perimorphic

Biological soil crust communities within the allotment are likely to be most developed in the rockiest, most unproductive (for vascular plants) areas on north and east aspects, with shallow soils.

Environmental Consequences:

Alternative A: No Action Alternative – Livestock grazing could increase soil compaction and damage biological soil crusts, particularly along trails and at waterholes. Current livestock grazing management which lacks periodic growing season rest from livestock grazing could lead to erosion in those areas not receiving rest and therefore decrease biological soil crust cover.

Current soil productivity and biological soil crust cover reflects site-specific natural conditions and past management practices. By not providing periodic growing season rest, uplands, playa, and riparian areas in a stable or downward trend in condition would likely continue this pattern under the No Action Alternative. No rangeland seedings would occur to reduce soil erosion in cheatgrass plant communities, and reduced fire return intervals would likely promote the spread of this species. The future condition of soil and biological soil crust resources would be dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that affect the condition of these resources would also affect soils and biological soil crusts.

Alternative B: Proposed Action - Proposed grazing management would reduce erosion and likely reduce loss of biological soil crust cover by providing periodic growing season rest to key forage plant species, promoting enhanced grazing distribution and rehabilitation of disturbed areas.

Proposed water developments would enhance livestock distribution, and reduce livestock and wild horse congregation around existing water sources. Proposed fences would allow for greater control on timing and intensity of livestock grazing reducing ground disturbance and potential effects to soil integrity. Proposed rangeland seedings would establish a perennial ground cover in areas currently dominated by cheatgrass, thus soil erosion would be reduced in these areas. Soils could be compacted and biological soil crust cover could be reduced in localized areas from mechanized equipment used for implementation of the proposed projects. However, rubber-tired vehicles would ease the amount of compaction disturbance, and this would not be expected to influence biological soil crust productivity or recruitment. There would be potential for short-term livestock trailing along new fences after construction, which could lead to compaction and erosion and associated loss of biological soil crust cover in localized areas.

Long-term potential impacts (3 or more years) would be dependent upon the degree and constancy of the aforementioned potential impacts. Greater control of livestock distribution as a result of implementation would potentially allow for biological soil crust recovery in areas currently experiencing increased use. The future condition of soil and biological soil crust resources would be dependent on the condition of other resources, primarily upland and riparian vegetation.

Management actions that affect condition of these resources would also affect soils and biological soil crusts.

Alternative C: Proposed Action plus Additional Range Improvement - Potential effects of Alternative C are similar to the Proposed Action Alternative with regard to Soils and Biological Soil Crusts and are incorporated by reference. Removing livestock and wild horse grazing within Buzzard Creek Exclosure would further reduce erosion and may increase biological soil crust cover by providing sustained growing season rest to key forage plant species. Removal of livestock grazing could decrease soil compaction and related damage to biological soil crusts, particularly along trails and near water pools in the bottom of this canyon.

Alternative D: Removal of Livestock Grazing - Removal of livestock grazing would reduce erosion and may increase biological soil crust cover by providing sustained growing season rest to forage plant species. Conversely, if vascular plant cover dominates an area due to re-growth, biological soil crust cover may be reduced. Removal of livestock grazing could decrease soil compaction and related damage to biological soil crusts, particularly along trails and at water sources. Soil and biological soil crust resources are dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that influence the condition of these resources would also influence soils and biological soil crusts. Activities other than livestock grazing, such as wild horses and off-road recreation, that disturb soils where biological soil crust communities have developed, would still occur and could deplete soil productivity and increase potential for noxious weeds and other invasive species.

Positive and negative changes to soil resources and biological soil crusts could result from the Removal of Livestock Grazing Alternative. Soil movement (from erosion) would continue in areas of the allotment as a result of wildland fires, and to a lesser extent, from rehabilitation activities. No rangeland seedings would occur to reduce soil erosion in cheatgrass plant communities, and reduced fire return intervals would likely promote the spread of this species.

4. Recreation/Visual Resources

Current discussion and analysis of potential effects to recreation are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-107 and Chapter 3, p. 3-15.

Current discussion and analysis of potential effects to visual resources are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-148 and Chapter 3, p. 3-17.

Affected Environment:

Primary recreational opportunities within the allotment include big game hunting for deer and antelope, upland bird hunting for sage-grouse and quail, camping, hiking, photography, Off-Highway Vehicle (OHV) riding, and horseback riding. Approximately 90 percent of West Warm Springs Allotment is in Visual Resource Management (VRM) Class IV. Management objectives for this class allow for modifications to the existing character of the landscape. Management activities may dominate the view and be the major focus of viewer attention. A small portion (approximately 10 percent) of the allotment (western edge of Big Stick Use Area) is in a VRM Class III. Management objectives for this class require partial retention of the existing character of the landscape. Management activities which may attract attention are allowed but should not dominate the view of the casual observer or can be mitigated so they do not dominate the view of the casual observer.

Environmental Consequences:

Alternative A: No Action - Effects to recreation and visual resources under the No Action Alternative would be minimal. Existing range improvements would be maintained and remain visible. However, current livestock grazing management is resulting in concentrated livestock and wild horse use around existing water sources. These impacts would continue and would likely become noticeable to the casual observer under this alternative. Over time, a downward trend in rangeland condition would increase forage competition between livestock, wild horses, and wildlife which would likely result in reduced opportunities for such activities as hunting and wildlife viewing. Under this alternative, no new fences or wells would be constructed; therefore, there would be no additional effects to visual resources.

Alternative B: Proposed Action - Under this alternative multiple range improvement projects are being proposed; however, they are allowed under the VRM Class IV. No range improvement projects are proposed within the VRM Class III area in Big Stick Use Area. The Proposed Action is designed to improve overall health of the allotment while achieving multiple resource objectives. Visual intrusions created by development of range improvements are acceptable under both VRM classes within the allotment. Overall benefit to rangeland health initiated by the proposed range improvements would outweigh the attention they would attract by the casual observer.

None of the proposed developments are adjacent to any known campsites or other features associated with prolonged visitor use. If any encounters with visitors occur during construction of the proposed developments, there would be some temporary and short-term (days) loss of solitude and disturbance to recreational activities in the immediate area surrounding project locations. After construction, should any visitor encounters with developments occur, they would likely be limited to minutes as visitors pass by foot, horseback or vehicle. Effects to recreation are expected to be negligible for the allotment as a whole, given their short term and localized nature. Overall, recreational opportunities would likely be enhanced by improvements in rangeland conditions.

Alternative C: Proposed Action plus Additional Range Improvement – Alternative C would have similar recreation/visual effects as the Proposed Action. Visitors wishing to access the portion of Buzzard Creek within the exclosure would need to climb through the fence or enter through one of two gates. This may slightly decrease their recreation experience; however, overall their recreation experience would likely be enhanced by the lack of livestock presence within the exclosure. Buzzard Creek is within a VRM Class IV, which permits construction of this fence. Improvements in riparian habitat condition along this portion of Buzzard Creek would outweigh the visual intrusion to the casual observer.

Alternative D: Removal of Livestock Grazing – Removal of livestock grazing under this alternative would be followed by removal of internal fences within West Warm Springs Allotment. Nevertheless, some range improvement projects would remain necessary for management of wild horses. Visual resources would basically be unaffected by this alternative since wild horse management must continue in order to achieve Standards. For some visitors, absence of livestock would enhance their recreation experience. Removal of livestock would likely reduce forage competition between wild horses and wildlife which may increase opportunities for hunting and wildlife viewing.

5. Social and Economic Values

Affected Environment:

Those engaged in ranching and forage production make up a strong component of the fabric of local society. Livestock grazing operations also have a "historical value" as grazing has occurred in the area since the late 1800s. Livestock and feed production industries are major contributors to the economy of Harney County. The highest individual agricultural sales revenue in Harney County is derived from cattle production, which is inextricably linked to the commodity value of public rangelands. According to information derived from Harney County the "…cattle industry is counted on to provide an average of $28,000,000 per year to the economy of the county," (www.harneycounty.com 2003).

In addition, nearly half of the county taxes are derived from the ranching community. There are currently four ranches which employ multiple families relying on the rangeland resources within West Warm Springs Allotment. Livestock grazing operations on public and private lands can have a stabilizing influence on local employment and standards of living. Hunting, wildlife viewing, and other types of dispersed outdoor recreation also contribute to the local economy on a seasonal basis. Fee hunting and recreation contributed $100,000 alone to Harney County in 2007 (Oregon State University Extension Service, 2007). The undeveloped, open spaces in Harney County are a tourist attraction and contribute to a share of revenue for local business.

Environmental Consequences:

Alternative A: No Action - The value of livestock in the allotment would remain at current levels or could decrease under the No Action Alternative should the condition of upland and riparian plant communities move toward downward trend in rangeland condition with no changes in grazing management. If the productivity of these rangelands declines this could lead to lower weaning weights or a reduction in permitted livestock numbers. Reducing livestock numbers could negatively affect individuals who make their living from these ranches. At the same time, public lands in and around the allotment would continue to contribute environmental amenities such as open space, scenic quality and recreational opportunities (including hunting, bird watching, sightseeing, hiking, and OHV). These amenities would remain but could be reduced if rangeland health is not maintained or improved to provide recreational opportunities such as wildlife viewing and hunting.

Renewing the current 10-year term grazing permits under the No Action Alternative would result in Standards and Guidelines remaining unachieved. Viability of the ranching operations would most likely decline as livestock grazing and wild horse management goes unchanged and as rangeland health declines.

The Federal government would continue to collect grazing permit fees from four permittees at approximately the current annual rate. This commodity use on public lands would continue to generate revenues for the Federal government and local economies. Under this alternative, no contracts for construction of range improvement projects would be granted and no supplies would be purchased from local vendors for the purpose of range improvement project implementation.

Alternative B: Proposed Action - An investment of public funds would be required to implement the proposed projects, providing economic opportunities for local contractors and vendors. The permittees would endure costs related to implementation of the proposed projects and annual maintenance of those projects. Collection of grazing permit fees would likely increase under this alternative as the proposed range improvements would likely increase carry capacity, allowing the permittees to eventually use their Total Permitted Use (11,006 AUMs) on the allotment.

The proposed grazing management and range improvement projects are designed to improve conditions for uplands and riparian areas, which would maintain or increase forage production for livestock, wild horses, and wildlife. Providing for sustainable grazing management that improves habitat conditions for wildlife and wild horses would in turn increase economic opportunities for livestock operations, help sustain livelihoods for the multiple families employed by these ranching operations, and foster more desirable social opportunities.

Renewing the current 10-year term grazing permits with the Proposed Action of this AMP as a term and condition of the permits would result in continued viable ranching livelihoods for livestock operators and families employed by these ranches. Continuing viable ranching operations would also enhance the economy of Harney County through taxes and goods and services purchased by the ranches and people employed by these ranches. By maintaining viable ranching operations and improving rangeland conditions in West Warm Springs Allotment, traditions associated with the ranching communities of Harney County would be maintained. In addition, in recent years there has been a rising demand for locally grown food sources. Maintaining a viable ranching operation would also aid in feeding that demand as cattle are produced locally and not imported. In this time of high transportation costs, locally grown food also reduces the amount of energy expended in shipping.

The area's intrinsic values (i.e., open space, scenic quality, and recreational opportunities) would be maintained and likely enhanced under this alternative. Maintaining and improving rangeland health would improve wildlife habitat and abundance thus providing for additional viewing and hunting opportunities. However, some visitors may feel additional range improvements would detract from their recreational experience.

Alternative C: Proposed Action plus Additional Range Improvement – Alternative C would have similar social and economic effects as the Proposed Action. Construction of the proposed Buzzard Creek exclosure would be precipitated through a contract with a local contractor and additional materials and supplies would be purchased from local vendors, thus providing additional input into the local economy. However, effects from additional range improvements may detract from a visitor's social experience.

Improvements in rangeland health would be similar to those described for the Proposed Action. A difference in economic opportunities based upon the differences in these alternatives would be undetectable.

Alternative D: Removal of Livestock Grazing - Under Alternative D, no materials would be purchased from local vendors as no new range improvements would be constructed. Several contracts may become available for removal of fences and other range improvements deemed unnecessary due to removal of livestock grazing. However, wild horse management must continue in order to achieve Standards; therefore, additional range improvements would be necessary in the future. Maintenance of existing and future improvements needed for wild horse management would be out of the BLM budget. Range improvement maintenance responsibilities have been assigned to grazing permittees on all allotments because BLM could not fund such a program.

The collection of grazing fees would be reduced by approximately $14,858 annually (based on the legal minimum cost per AUM); depending on the grazing year, and a reduction of 11,006 licensed AUMs would also occur. Based on current rates reported by permittees, cost to livestock operators to find alternative forage is estimated at $12 to $16 per AUM to place livestock on private pasture, which does not include labor, fuel, and equipment for hauling livestock if only distant pasture is available. The cost of providing hay is variable (currently approximately $185 per ton for grass hay in the area), based upon annual supply and demand, but is likely to be much higher than pasture. The ranches would also not be able to employ the current number of people which would have a negative effect on the rural economy of Harney County. Viability and sustainability of the ranches holding grazing permits in West Warm Springs Allotment could decline as a portion of the lands they rely on become unavailable; therefore, potentially affecting their way of life.

The FLPMA of 1976 states that, "public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands…" Given the general rising demand for "locally grown" food, removal of potentially sustainable livestock grazing operations from public lands could lessen any economic opportunities to help accommodate this growing demand and subsequently affect the way of life for the grazing operator as well as other publics.

The FLPMA also defines the term "multiple use" as, "management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people."

Tourism is a growing part of the economy of Harney County. Some people come here to see the wide open spaces and explore the rich history and traditions of the active ranching communities while others' social experience may be enhanced with removal of livestock. However, the needs of the local people, such as tourism in Harney County and the livelihoods associated with ranching, would be hindered with removal of livestock grazing from public land portions of West Warm Springs Allotment.

6. Wildlife/Locally Important Species and Habitat

Current discussion and analysis of potential effects to wildlife are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-66 and Chapter 3, p. 3-9.

Affected Environment:

Habitat within West Warm Springs Allotment supports a wide diversity of wildlife species. Mule deer and pronghorn antelope are common ungulates in the allotment and elk occasionally use the area. Other mammals commonly found in the area include jackrabbit, cottontail rabbit, badger, coyote, bobcat, mountain lion as well as many species of small rodents. Amphibians found in the area include pacific tree frog and Great Basin spadefoot toad. The Standards and Guidelines assessment conducted in 2002, determined Standards were met for wildlife and locally important species.

This area is in ODFW's "Juniper" Wildlife Management Unit. Approximately 45,000 acres are classified as deer winter range and approximately 3,000 acres are classified as pronghorn wintering habitat. Although either species may be found throughout the allotment at any time of year, deer use is much higher during winter months. Deer numbers are currently at 57 percent of management objectives while pronghorn are meeting management levels in the Juniper Unit. The 1992 Three Rivers RMP/ROD/RPS allocated 116 AUMs to deer and 38 AUMs to antelope within West Warm Springs Allotment.

Environmental Consequences:

Alternative A: No Action - Current grazing management which lacks periodic growing season rest to sagebrush-bunchgrass plant communities would continue under this alternative. Continuous seasonal grazing would continue to be concentrated around existing water sources. Heavy to severe utilization patterns in these areas would lead to downward trend in rangeland condition reducing nesting and foraging habitat for wildlife. These areas where livestock and wild horses congregate would continue to provide lower quality habitat for wildlife.

Additional water developments to facilitate enhanced livestock and wild horse distribution and more even utilization patterns would not be implemented. Fences to control timing of livestock grazing and provide growing season rest to sagebrush plant communities would not be constructed and subsequent habitat improvements for wildlife would not be realized.

Rangelands presently dominated by cheatgrass would be maintained and would continue to provide lower quality habitat for wildlife. No rangeland seedings would be implemented to provide perennial ground cover and increase fire return intervals in these cheatgrass communities. Existing sagebrush plant communities would remain at risk from cheatgrass expansion as wildfires originating in cheatgrass areas would likely spread into these native communities. Selection of this alternative would not lead to improved habitat conditions for wildlife.

Existing riparian/wetland exclosures (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) would continue to be maintained. No additional fences or additional water resources would be constructed under this alternative.

Alternative B: Proposed Action - The proposed changes in grazing management are expected to improve rangeland health and maintain those rangelands currently healthy by providing periodic growing season rest to all areas within West Warm Springs Allotment. Periodic growing season rest allows for increased forb production, which is an important spring food source for sage-grouse. Proposed water developments would improve livestock and wild horse distribution, resulting in more uniform utilization patterns. These improvements would expand wildlife habitat by providing reliable water sources in areas outside of existing service areas, especially during drought years.

Proposed fences would facilitate livestock grazing management which promotes rangeland health and enhances wildlife habitat. Existing riparian/wetland exclosures (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) would continue to be maintained, and the proposed exclosure around Thorn Springs would improve riparian vegetation. All fence construction would comply with BLM's Project Design Elements, which are intended to accommodate passage of animals and reduce harm to wildlife. Fence construction should have negligible negative impacts on wildlife.

Reducing impacts of cheatgrass and other invasive species would benefit wildlife by restoring suitable habitat. Proposed rangeland seedings would establish a perennial ground cover in existing cheatgrass communities. This would increase fire return intervals on these sites allowing for establishment of shrub and forb species over time. Fires have shaped plant communities within the area of affect, and wildlife species respond to these changes. Establishing a perennial ground cover in these areas would reduce the likelihood of wildfire spread into existing sagebrush plant communities, thus reducing the potential for cheatgrass invasion into wildlife habitat. Once established, these seedings would increase carry capacity in Big Stick and Buzzard Use Areas, thus reducing competition for forage between all grazers (livestock, wild horses, and wildlife).

Alternative C: Proposed Action plus Additional Range Improvement - Proposed grazing management is the same under the Proposed Action and Alternative C; therefore, effects on wildlife would be similar. Excluding an additional stretch of Buzzard Creek would benefit several species of wildlife. The proposed exclosure area supports a diversity of birds including breeding waterfowl, California quail, chukar, sage-grouse, great horned owls, migratory land-birds, and several pairs of prairie falcons. This area also supports amphibians and several mammal species. Eliminating livestock and wild horse congregation in this area would improve herbaceous plant and shrub cover improving habitat for wildlife species.

Alternative D: Removal of Livestock Grazing - Removal of livestock grazing would likely lead to improved conditions for wildlife. Wildlife forage and cover would increase over time and competition for forage between livestock and wildlife would be eliminated. Some fences and other infrastructure could be removed. Wildlife habitat and cover would increase and riparian areas would improve if existing range improvements are maintained and wild horse numbers are kept within AML. However, maintenance of existing range improvements (i.e., wells, troughs, exclosure fences) would become the responsibility of the BLM. The BLM does not have funding for a maintenance program which would cause fences to receive much less attention than they do currently with the grazing permittees as the responsible parties. Under this alternative, fences would likely fail and those riparian areas currently excluded from livestock and wild horse grazing (i.e., Lake on the Trail, Seiloff Dike, Ross Spring, Buzzard Creek, and Buzzard Spring) would be accessed by wild horses. Wild horse year-round access would cause a downward trend in riparian condition and degrade wildlife habitat and cover. Additionally, there would likely be a loss of water sources as existing wells and troughs would not function, over time.

Rangelands presently dominated by cheatgrass would continue to provide little to no wildlife habitat. No cost share opportunities between the BLM and permittees would be available to implement rangeland seedings in these areas. High costs of such projects would likely prohibit effective rehabilitation on these sites.

Therefore, minimal or no rangeland seedings would be implemented to provide perennial ground cover and increase fire return intervals in these cheatgrass communities. Existing sagebrush plant communities, providing critical wildlife habitat, would remain at risk from cheatgrass expansion as wildfires originating in cheatgrass areas would likely spread into these native communities.

7. Wild Horses and Burros

Current discussion and analysis of potential effects to wild horses and burros are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Chapter 2, p. 2-43 and Chapter 3, p. 3-6.

Affected Environment:

Background

West Warm Springs Allotment is part of Warm Springs Wild Horse HMA. Warm Springs HMA contains 478,815 acres of BLM-managed lands and 29,576 acres of State, private, and USFWS-managed lands, with an AML of 111 to 202 horses and burros. West Warm Springs is one of two allotments within Warm Springs HMA the other is East Unit – East Warm Springs Allotment. The West Unit of Warm Springs HMA encompasses the entire West Warm Springs Allotment. The AML for the West Unit of the HMA is between 61 and 102 horses and burros. Adequate forage demand to sustain the maximum horse and burro population in the West Unit was identified to be 1,224 AUMs (1987 Warm Springs HMA Plan).

Management

There exists a direct competition for forage within West Warm Springs Allotment as livestock and wild horses (the primary species of large herbivores) have a dietary overlap of 90 to 100 percent. Site observations and utilization studies indicate wild horse utilization patterns are similar to livestock. Wild horse utilization is typically concentrated within 1 to 2 miles of reliable water. Although wild horse distribution cannot be controlled within the HMA, livestock grazing is controlled through prescribed rotations.

To maintain a thriving ecological balance, wild horse gathers are to be done as the herd reaches the maximum number in the established AML within the HMA and when monitoring data (census, utilization, use supervision, etc.) indicates ecological balance would be exceeded. Depending on reproductive rates, results of rangeland monitoring data, funding, and management considerations, horses within HMAs are typically gathered and removed on a 4 to 5-year cycle. The low AML for the West Unit of the HMA is 61 horses and the high is 102 (1987 Warm Springs HMA Plan). This is the equivalent to 732 to 1,224 AUMs across the allotment. The 1987 Warm Springs HMA stipulates "a control program will be initiated when horse numbers reach 100 head in either the East or West Unit, and reduced back to a minimum of 50 animals. Burros will be gathered in the West Unit and reduced to 15 head when populations reach 35 head."

Since 1996, there have been numerous census counts, gathers, and releases within the HMA. There is limited data available distinguishing horse populations specific to each unit of the HMA; therefore, horse management must be presented for the entire Warm Springs HMA.

Table 10. Warm Springs HMA - Census and Gather History since 1996

Date	Activity	Number of Horses
Sep-96	Census	288
Nov-96	Gather	163
Nov-96	Release	28
Jun-97	Release	3
May-98	Release	4
Oct-98	Gather	1
Jun-99	Release	1
Aug-01	Gather	368
Aug-01	Release	45
Sep-04	Census	226
Sep-06	Gather	249
Sep-06	Census	123

The census conducted in 2006 documented 71 horses and 17 foals within West Warm Springs Allotment. Although not documented in the 2006 census, 15 to 20 burros are known to inhabit Iron Mountain and Big Stick areas of the allotment. These data indicate wild horse populations were slightly above the low end of the AML for West Warm Springs Allotment following the 2006 gather. Additionally, these data indicate wild horse numbers typically exceed the high end of the AML before a gather is completed.

Fences

In an HMA, external perimeter fences exist to contain wild horses within the horse area of use while internal fences are used to manage timing of livestock grazing or provide periodic rest from livestock grazing. While necessary for livestock grazing management, these internal fences create seasonal barriers to the free movement of wild horses within the HMA. To mitigate effects of fencing, once livestock have been removed from an HMA, internal fence gates are required to be opened by the permittee as a term and condition of their permit. In addition, during the livestock grazing season, pasture gates should be left open whenever possible (when not allowing livestock drift). Currently there are approximately 87 miles of fence in the interior of the HMA boundary within West Warm Springs Allotment. Existing fences were constructed to manage timing of livestock grazing, allow grazing rest during post-fire rehabilitation efforts, and exclude livestock and wild horses from riparian and wetland habitat on the allotment. Approximately 18 miles of these fences surround private property.

Environmental Consequences:

Alternative A: No Action - Current grazing management which lacks periodic growing season rest to sagebrush-bunchgrass plant communities would continue under this alternative. Continuous seasonal grazing from livestock and wild horses would continue to be concentrated around existing water sources. Heavy to severe utilization patterns in these areas would result in increased forage competition between livestock and wild horses as desired forage species would likely decline over time. Because the diets of wild horses and livestock largely overlap, compositional changes of plant communities dominated by key forage species to either more grazing tolerant plants or noxious weeds would decrease the quality and quantity of forage for wild horses.

Under this alternative, no new fences would be constructed which could limit the free-roaming nature of wild horses and cause them to remain in certain areas for portions of the season while livestock are present. However, no new water developments would be implemented to expand wild horse habitat and maintain suitable horse range during drought years. Wild horse distribution would continue to be limited to service areas around reliable water and year-round grazing within these areas would continue. Existing interior allotment fences would be maintained to manage livestock grazing and exclude livestock and wild horses from riparian and wetland habitats. Removal of nonfunctional fire-rehabilitation fences could be precipitated through cooperative agreements with the permittees or be contracted.

Alternative B: Proposed Action - Under the Proposed Action, there would be a net increase (approximately 4.5 miles) of interior allotment fences. Wild horse movement across the allotment would be further constrained for the period of time gates would remain closed to control livestock. These effects would be mitigated by installing horse-friendly "double gates" along Wilson Creek and Buzzard Pasture Fences to allow wild horse passage when gates are open. Additionally, the permittees would be required to open all interior gates when they are no longer needed for livestock control.

Impacts to wild horse movement would be offset by the benefits to horse habitat. Under the Proposed Action, livestock grazing would be managed to provide periodic growing season rest to key forage plant species across the allotment. Because the diets of horses and livestock largely overlap, periodic growing season rest to key forage plant species would benefit wild horses by sustaining and improving plant community composition and productivity. The northern portions of the allotment are known to provide critical winter range for wild horses. Proposed rangeland seedings would increase herbaceous forage production in these areas, which are currently dominated by invasive annual species and provide poor winter habitat for horses. Proposed wells would benefit wild horses by increasing wild horse range, and sustaining suitable horse range during drought years when existing water sources are dry.

Alternative C: Proposed Action plus Additional Range Improvement - Proposed livestock grazing management is the same under the Proposed Action and Alternative C; therefore, effects would be the same.

Excluding an additional 2 miles of Buzzard Creek would constrain wild horse passage through this canyon and would exclude horse access to water in this area. These effects would be mitigated through design and layout of this exclosure. A one-quarter mile gap between the existing Buzzard Creek exclosure and the proposed exclosure would allow wild horse passage through this canyon without the feeling of confinement, and would provide access to water.

Alternative D: Removal of Livestock Grazing - Removal of livestock would reduce forage competition between livestock and wild horses. Herbaceous forage quality and quantity would increase as more key forage plant species are allowed to mature, set seed, and store carbohydrates. With removal of livestock grazing, many internal allotment fences could be removed which would aid in the free-roaming nature of wild horses. Wild horse bands are territorial and tend to remain in the same general area unless they are pushed out by such things as weather or predators. However, wild horse movement would likely expand to some extent as internal fences are removed.

Under this alternative, maintenance of existing allotment boundary fences and riparian exclosure fences (Buzzard Creek, Buzzard Springs, Lake on the Trail, Seiloff Dikes, Ross Springs) would be turned over from the permittees to the BLM. Over time, these fences would likely fail as the BLM does not have funding for maintaining such improvements. Wild horses would naturally congregate in these areas, especially during the late summer season.

8. Wilderness Characteristics

Affected Environment:

Section 2(c) of the Wilderness Act of 1964 requires that in order to be considered to have wilderness characteristics, an area must meet the following criteria:

"(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;" This is commonly referred to as naturalness.

"(2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation;"

"(3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition;"

The Act states areas with wilderness characteristics "may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." These are commonly referred to as supplemental values and are not required to be present.

The BLM reviewed all information submitted by the public as part of updating its original wilderness characteristics inventory. The BLM also used staff and field knowledge along with onsite verification (where necessary) to update its wilderness characteristics inventory for the project area. The BLM-managed lands in the project area determined not to have wilderness characteristics present are not analyzed further. Three units found to have wilderness characteristics present are described and analyzed below.

Unit 6

Unit 6 is located in the center of West Warm Springs Allotment (Map G-1: Unit 6 Character Map) and is approximately 18,871 acres. Big sagebrush, perennial bunchgrass, annual grass, and Sandberg's bluegrass are the common vegetative types. Buzzard and Deep Canyons are the most prominent features in this unit.

In the original 1977 field inventory of this area, a route running north to south through the center of Unit 6 was identified as a unit boundary road. As part of the inventory update process, the BLM determined this route is no longer a unit boundary road.

Unnatural features in this unit consist of two corrals, one reservoir, four waterholes, 3 miles of fencing, 16.6 miles of motorized routes, a 131-acre seeding and brush beating along some unit boundary roads and interior motorized routes. These unnatural features are located along the outer edges of the unit or are dispersed enough that Unit 6 generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable.

The unit offers recreation opportunities for hunting, viewing wildlife, hiking, horseback riding, backpacking, camping, rock hounding, and photography. Buzzard and Deep Canyons were identified as important features that contributed to making many of these primitive and unconfined recreation opportunities outstanding.

The combination of both Buzzard and Deep Canyons provide sufficient topographic screening over enough of the unit to provide outstanding opportunities for solitude.

Supplemental values identified for the unit include presence of wild horses and burros and cultural resources associated with prehistoric use by indigenous people. The unit does provide habitat for pygmy rabbit and greater sage-grouse, both of which are Bureau Sensitive Species. The unit does have some unique geological features of interest primarily associated with the canyons.

Unit 11

Unit 11 is located near the eastern boundary of Unit 16 and is approximately 11,403 acres (Map G-2: Unit 11 Character Map). Vegetation in the unit is dominated by big and low sagebrush, rabbitbrush and herbaceous species. Buzzard Canyon is the most prominent feature in this unit.

Unnatural features in this unit consist of one reservoir, one well, 3 miles of fencing, 8.1 miles of motorized routes and brush beating along some unit boundary roads and motorized routes. These unnatural features are located along the outer edges of the unit or are dispersed enough that Unit 11 generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable.

The unit offers recreational opportunities for hunting, viewing wildlife, hiking, horseback riding, backpacking, camping, rock hounding, and photography.

Buzzard Canyon was identified as an important feature that contributed to making many of these primitive and unconfined recreation opportunities outstanding.

The combination of Buzzard Canyon along with some smaller drainages in the northern part of the unit provide sufficient topographic screening over enough of the unit to provide outstanding opportunities for solitude.

Supplemental values identified for this unit are the same as those identified for Unit 6.

Unit 25

Unit 25 is adjacent to the northern boundary of Unit 6 and is approximately 11,525 acres (Map G-3: Unit 25 Character Map). Vegetation in the unit is dominated by big and low sagebrush, rabbitbrush and herbaceous species. Iron Mountain is the most prominent feature in the unit rising to 5,400 feet.

In the original 1977 inventory, Iron Mountain was within a unit less than 5,000 acres due to presence of a unit boundary road. As part of the inventory update, the BLM determined this route was no longer a boundary road and Iron Mountain became part of Unit 25.

Unnatural features in this unit consist of one well, 6 miles of fencing, 4.3 miles of motorized routes, a 1,976-acre seeding and brush beating along a portion of one unit boundary road. These unnatural features are located along the outer edges of the unit or are dispersed enough that Unit 25 generally appears to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable.

The unit offers recreational opportunities for hunting, viewing wildlife, hiking, horseback riding, backpacking, camping, rock hounding, and photography. Iron Mountain was identified as an important feature contributing to making many of these recreation opportunities outstanding.

The unit was found not to have outstanding solitude given most of the unit has limited vegetative and topographic screening. Iron Mountain itself had limited vegetative screening and given its location along the eastern edge of the unit it does not provide sufficient topographic screening across the rest of the unit to offer outstanding opportunities for solitude.

Supplemental values identified this unit are the same as those identified for Unit 6 except geologic features were not identified.

Environmental Consequences:

Alternative A: No Action - Under this alternative, none of the benefits to wilderness characteristics associated with the change in grazing system would occur and none of the proposed developments and their associated impacts to wilderness characteristics would occur. Changes to supplemental values associated with cultural resources or wildlife are described in their respective sections of this chapter. No changes to geological supplemental values are expected.

Alternative B: Proposed Action –

Unit 6: This unit falls within Buzzard and Rimrock Lake Use Areas. Under this alternative the grazing systems in these use areas would be modified to provide for meeting Standards and Guidelines. Grazing management would be implemented to control timing of grazing and provide periodic growing season rest for upland plant species and to perpetuate key forage species. Grazing management in riparian areas would be designed to limit grazing intensity and support adequate vegetation to maintain channel and bank stability. This change would enhance wilderness characteristics in this unit by increasing native plant vigor, helping to maintain plant diversity, and likely improving areas currently showing indications of concentrated livestock use.

Successful implementation of the proposed grazing system in these use areas, including Unit 6, would require installation of a well (Deep Well) and a trough with an overflow pond. A motorized access route approximately one-quarter mile in length would be needed to construct and maintain the well. The route would only be driven by equipment and no blading or other road construction activities would occur. The total area of vegetation and soil disturbed by construction of the well, trough, and overflow pond would be less than 1-acre. Also proposed is relocating a fence (Section 24 Fence) and reconstructing existing gap fencing in this unit.

After construction visual and noise effects associated with either the solar panels or the generator running the well pump are expected to be observable within one-quarter mile of the well; however, the area around the well would still be dominated by shrubs and grasses. Effects associated with replacement of any facilities in the future would be expected to disturb the same area and is likely to only occur at 20-year intervals or longer.

Following installation of the trough, use by livestock would result in the loss of most vegetation for approximately 200 feet around the trough. There would also be a secondary area where evidence of livestock use would still be more concentrated. However, this secondary area would still be dominated by shrubs and some grasses.

Very little soil or vegetation disturbance is expected in association with fence construction, reconstruction and removal given no blading or scraping would occur along fencelines and only limited use of ATVs would be needed. Evidence of this off-road use would likely not be observable within 3 to 5 years. Establishment of new routes on these tracks is not expected given off-road use by the public is generally limited in this area.

Presence of the new one-quarter mile of fencing would influence naturalness in the localized area. However, naturalness would be enhanced by removal of one-half mile of fence in the same general area. In addition the new fence alignment would reduce disturbance to vegetation associated with livestock congregating in the area under the current situation. The reconstruction of one-eighth mile of existing gap fencing is not expected to influence naturalness in an area greater than the current gap fencing, once evidence of the reconstruction as described above has rehabilitated.

Implementation of this alternative would increase the influence of unnatural features in the unit by less than 1 percent (172 acres). While naturalness would be influenced by the proposed developments, most acres affected would still be dominated by shrubs and some grasses.

None of the proposed developments are adjacent to any known campsites or other features associated with prolonged visitor use. If any encounters with visitors occur during construction of the proposed developments, there would be some temporary and short-term (days) loss of solitude and disturbance to recreational activities in the immediate area surrounding project locations. After construction, should any visitor encounters with developments occur, they would likely be limited to minutes as visitors pass by foot, horseback or vehicle. Effects to solitude and recreation are expected to be negligible for the unit as a whole, given their short term and localized nature.

Given the limited area affected by the proposed developments, wilderness characteristics would still be present in the unit. Effects of these developments would also be offset by the benefits to ecological values associated with wilderness characteristics that the proposed grazing system changes would provide.

Changes to supplemental values associated with cultural resources or wildlife are described in their respective sections of this chapter. No changes to geological supplemental values are expected. There are no other known reasonably foreseeable actions that would contribute effects to wilderness characteristics in this unit.

Unit 11: This unit falls within Buzzard Use Area. Proposed changes to the grazing system and benefits to wilderness characteristics associated with the change in grazing system for the allotment and this unit are the same as those described for Unit 6.

Successful implementation of the grazing system in Buzzard Use Area, including Unit 11, would require installation of a well (Native Well) and a trough with an overflow pond. Increasing the depth of an existing well and reconstructing 1-mile of existing gap fencing would also be needed in this unit.

Types of effects to naturalness associated with construction, operation/use, and future replacement of the proposed well, trough, and overflow pond are not expected to be greater than those described in Unit 6. Access to this proposed well is provided by an existing road so disturbance associated with accessing the well for construction and maintenance would be less than that needed for the proposed well in Unit 6.

Implementation of this alternative would increase the influence of unnatural features in the unit by 1.6 percent (182 acres). While naturalness would be influenced by the proposed developments, most acres affected would still be dominated by shrubs and some grasses.

Types of effects to naturalness associated with reconstruction and maintenance of the existing gap fencing in this unit is expected to be the same as those described for Unit 6. While the amount of gap fencing to be reconstructed is higher than Unit 6, effects to naturalness are still expected to be minimal once the disturbance associated with construction has rehabilitated (3 to 5 years), given the existing gap fencing is already an unnatural feature.

Types of effects to solitude and recreation are expected to be similar to those described Unit 6; however, overall disturbance to solitude and recreation would be expected to be less given the proposed development is located along the edge of the unit.

Given the limited area affected by the proposed developments, wilderness characteristics would still be present in the unit. Effects of these developments would also be offset by the benefits to the ecological values associated with wilderness characteristics that the proposed grazing system changes would provide.

Changes to supplemental values associated with cultural resources or wildlife are described in their respective sections of this chapter. No changes to geological supplemental values are expected. There are no other known reasonably foreseeable actions that would contribute effects to wilderness characteristics in this unit.

Unit 25: This unit falls within Big Stick Use Area. Changes to the grazing system and benefits to wilderness characteristics associated with the change in grazing system for the allotment and this unit are similar to those described for Unit 6, except this unit does not contain riparian areas.

Successful implementation of the grazing system in Big Stick Use Area, including Unit 25, would require reconstruction of an existing well (Fries Well) and construction of a new trough and overflow pond in this unit.

Types of effects to naturalness associated with reconstruction construction, operation, maintenance, and future replacement of the existing well are the same as those described for the new well in Unit 6, given the existing well in Unit 25 has not been used for many years.

Implementation of this alternative would increase the influence of unnatural features in the unit by 1.6 percent (182 acres). While naturalness would be influenced by the proposed developments, most acres affected would still be dominated by shrubs and some grasses.

Types of effects to solitude and recreation are expected to be similar to those described for the new well in Unit 6; however, overall disturbance to solitude and recreation would be expected to be less given the well reconstruction location is along the unit's edge.

Given the limited area affected by the proposed developments, wilderness characteristics would still be present in the unit. Effects of these developments would also be offset by the benefits to ecological values associated with wilderness characteristics that the proposed grazing system changes would provide.

Changes to supplemental values associated with cultural resources or wildlife are described in their respective sections of this chapter. There are no other known reasonably foreseeable actions that would contribute effects to wilderness characteristics in this unit.

Alternative C: Proposed Action plus Additional Range Improvement - Effects would be similar to Alternative B except a 4-mile exclosure fence would be constructed around Buzzard Creek in Unit 11. The proposed fence would influence naturalness on an estimated additional 3.4 percent (388 acres) of Unit 11. Most effects would be associated with visual presence of the fence.

Disturbance to vegetation and soils is expected to be minimal given no blading or scraping would occur along fencelines and only limited use of ATVs would be needed and evidence of this use would likely not be observable within 3 to 5 years. Establishment of new routes on these tracks is not expected given off-road use by the public on motorized vehicles is generally limited in this area.

While naturalness would be influenced by new fencing, affected acres would still be dominated by shrubs and some grasses. Visitors wishing to access the portion of Buzzard Creek within the exclosure would need to climb through the fence. This may slightly decrease their recreation experience; however, overall their recreation experience would likely be enhanced by the lack of livestock presence within the exclosure. There are no other known reasonably foreseeable actions that would contribute to effects to wilderness characteristics in this unit.

Alternative D: Removal of Livestock Grazing - Naturalness would be enhanced in all three units as evidence of livestock use declines, to the extent any unneeded range developments are removed, and recovery to a natural appearance returns. For some visitors, absence of livestock would enhance their recreation experience and feelings of solitude. There are no other known reasonably foreseeable actions that would contribute to effects to wilderness characteristics in this unit.

C. Discussion on Cumulative Effects

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

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

CHAPTER IV: PERSONS, GROUPS, AND AGENCIES CONSULTED

A. Agencies and Individuals Consulted

Grazing Permittees
Harney County Court
Oregon Department of Fish and Wildlife

B. Interdisciplinary Team

Lindsay Davies - Fisheries/Riparian Specialist, (*Fisheries, Water Quality, Wetlands/Riparian Zones)*
Laura Dowlan - Outdoor Recreation Planner (*Wilderness Characteristics*)
Terri Geisler, District Geologist *(Hazardous Materials, Minerals)*
Doug Linn - Botanist *(Special Status Species - Flora, Soils, Biological Soil Crusts)*
Gary McFadden - Wild Horse and Burro Program Manager *(Wild Horses and Burros)*
Nick Miller - Wildlife Biologist *(Migratory Birds, Wildlife, Special Status Species – Fauna: Terrestrial)*
Brett Page – Recreation Planner *(Recreation, Visual Resources)*
Lesley Richman - District Weed Coordinator (*Noxious Weeds)*
Rob Sharp - Rangeland Management Specialist – Lead Preparer *(Livestock Grazing Management, Vegetation)*
Scott Thomas - District Archaeologist *(American Indian Traditional Practices, Cultural Heritage, Paleontology)*

C. Advisory

Bill Andersen, District Range Lead
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Rhonda Karges, District Planning/Environmental Coordinator
Joan Suther, Three Rivers Resource Area Field Manager

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Appendix A

Grazing Treatment Descriptions

Early – (approximately March 1 to April 30) – This treatment provides the plants an opportunity to recover after utilization of early plant growth. By removing livestock before all spring and summer precipitation occurs, the plants will be able to store carbohydrates, set seed, and maintain their vigor. This "Early" treatment can be used every year with little effect on the plant.

The dates of March 1 to April 30 are a guideline for the "Early" treatment. Early use must take place before grass plants are in the boot stage. There must also be enough soil moisture in the ground to provide for regrowth after grazing. Therefore, flexibility in the early treatment will allow for use prior to April1, but generally not after April 30 and will depend on climate.

Graze – (approximately May 1 to July 1-15) – This treatment allows for grazing during the critical growth period of most plants. Carbohydrate reserves are continually being utilized because the green parts of the plants are constantly being removed by livestock. The pastures that are under the "Graze" treatment will generally experience some other treatment the following year so as not to repeat graze treatments.

Defer – (approximately July 1 to October 15) – Grazing during this treatment will not begin until after most plants have reached seed ripe and have stored adequate carbohydrate reserves. This treatment will assist in meeting the objectives by providing all plants an opportunity to complete their life cycles and produce the maximum amount of cover and forage.

Winter – Grazing during this treatment will occur when most plant species are dormant. Most plans will have completed their life cycles and stored maximum carbohydrates for the next growing season.

Rest – This treatment provides the plants a full year of growth in the absence of grazing. They are allowed to store maximum carbohydrate reserves, set seed, and provide carryover herbage for the following year's turnout.

These dates are approximation based on general plant phenology. Year-to-year variation in phenology will occur based on climatological phenology.

Appendix B

Proposed Rangeland Seeding Locations

1. Trail Lake Seeding – T. 26 S., R. 26 E., Sections 19, 30, 31, and 32 and T. 27 S. R. 26 E., Sections 4-9, 15-22 and T. 27 S., R. 25 E., Sections 12, 13, and 14 (approximately 9,888 acres within Big Stick Use Area)

2. Hurlburt II Seeding – T. 27 S., R. 28 E., Sections 2, 11, 12, 13, 14, 24 and T. 27 S., R. 29 E., Sections 7, 8, 17, 18, 19, and 20 (approximately 3,391 acres within Buzzard Use Area)

3. Angie Canyon Seeding – T. 27 S., R. 28 E., Sections 3-16, 22 and T. 26 S., R. 28 E., Sections 33 and 34 (approximately 3,418 acres within Buzzard Use Area)

Appendix C

Proposed Fence Construction Locations

1. Hurlburt Pasture Division Fence - T. 26 S., R. 28 E., Section 34 and T. 27 S., R. 28 E., T. 27 S., R. 27 E., Sections 3, 10, 11, 13, and 14 (approximately 3 miles, Buzzard Use Area)
2. Hurlburt Water Gap Fence - T. 27 S., R. 28 E., Section 13 (approximately 1¼ miles Buzzard Use Area)
3. Buzzard Pasture Drift Fence - T. 27 S., R. 28 E., Sections 23, 26, 27, 33, 34 and T. 28 S., R. 28 E., Sections 2, 3 (approximately 4 miles Buzzard Use Area)
4. Buckaroo Well Water Gap Fence - T. 28 S., R. 28 E., Section 10 (approximately one-quarter mile Buzzard Use Area)
5. Buzzard Creek Rimrock gap fences - T. 27 S., R. 27 E., Sections 26, 25, 36 (approximately ½ miles Buzzard Use Area)
6. Ross Springs Fence - T. 26 S., R. 28 E., Section 34 (approximately 1¼ miles Buzzard Use Area)
7. East Hurlburt Division Fence - T. 27 S., R. 29 E., Section 20 (i.e., approximately 1.33 miles Buzzard Use Area)
8. Buzzard Creek Exclosure North Fence – T. 28 S., R. 28 E., Section 13, and T. 28 S., R. 29 E., Sections 17, 18, 19, and 20 (approximately 4 miles Buzzard Use Area)
9. Basque Flat Fence - T. 27 S., R. 29.5 E., Sections 23, 26 (relocate approximately three-quarter mile from existing fence corner to rimrock and across three rimrock breaks Basque Wells Use Area)
10. Throne Springs Exclosure Fence - T. 26 S., R. 28 E., Sections 28 and 29 (approximately 1-mile, Silver Lake Use Area)
11. Wilson Creek Drift Fence - T. 27 S., R. 25 E, Sections 13, 14; T. 27 S., R. 26 E., Sections 3, 10, 16, 17, and 18, T. 26 S., R. 26 E, Sections 34, 35 (approximately 6 miles Big Stick Use Area)
12. Section 24 Fence Relocation – T. 27 S., R. 27 E., Section 24 (approximately one-quarter mile Rimrock Lake Use Area)
13. Section 6 Fence Relocation – T. 27 S., R. 28 E., Section 6 (approximately one-quarter mile Rimrock Lake Use Area)

Appendix D

Proposed Fence Removal Locations

1. Existing Flybee Seeding Fence - T. 28 S., R., 28 E., Sections 28, 29, 32 (approximately 5.3 miles, Buzzard Use Area)

2. Portion of existing Hulbert Seeding Fence - T. 27 S., R. 28 E., Section 23 (approximately 4.3 miles Buzzard Use Area)

3. Portion of existing 1986 Buzzard Fence - T. 27 S., R. 28 E., Sections 18, 19, 22, 27, 28, 29, 30, 33, 34 (approximately 7 miles, Buzzard Use Area)

4. Existing Upper portion of the Basque Flat Fence - T. 27 S., R. 29.5 E., Sections 25, 35 (approximately three-quarter mile Basque Wells Use Area)

Appendix E

Proposed Water Development Locations

1. Syrup Can Well and Pipeline - T. 28 S., R. 26 E., Section 2 NENW¼ (new well and approximately one-quarter mile of pipeline and troughs, Big Stick Use Area)

2. Goose Egg Well - T. 27 S., R. 25 E., Section 13 SWNW¼ (new well, trough, and overflow pond, Big Stick Use Area)

3. South Big Stick Pipeline and Trough – T. 26 S., R. 26 E., Section 36 E½E½ (one-quarter mile pipeline and trough, Big Stick Use Area)

4. Buckaroo Well Pipeline and Trough - T. 28 S., R. 28 E., Section 12 NENE¼ (one-half mile pipeline and trough, Buzzard Use Area)

5. Deep Well - T. 28 S., R. 28 E, Section 16 NWNW¼, or Section 17 NENE¼ (new well, trough, and overflow pond, Buzzard Use Area)

6. Native Well – T. 27 S., R. 28 E., Section 36 SW¼SE¼ (new well, trough, and overflow pond, Buzzard Use Area)

7. O'Leary Well - T. 29 S., R. 29 E., Sections 11, 12 (new well, trough, and overflow pond, Basque Wells Use Area)

8. Basque Well pipeline/trough to adjacent reseed, approximately one-quarter mile - T. 28 S., R. 29.5 E., Section 6 (Basque Wells Use Area)

9. Buzzard Reseed Well - T. 27 S., R. 28 E., Sections 17, 18 (new well, trough, and overflow pond, Rimrock Lake Use Area)

10. Fries Well – T. 27 S., R. 27 E., Section 5 (power source and trough, Big Stick Use Area)

11. Yellow Spot Well – T. 28 S., R. 29 E., Section 26 (storage tank, trough, and overflow pond, Buzzard Use Area)