1020 (B050) P

Dear Interested Party:

The Bureau of Land Management (BLM), Burns District Office, has prepared the Trout Creek Environmental Assessment (EA) DOI-BLM-OR-B050-2009-0065-EA and an unsigned Finding of No Significant Impact (FONSI). The EA, unsigned FONSI, and EA maps are enclosed for your review and are also available at http://www.blm.gov/or/districts/burns/plans/index.php.

The Trout Creek AMP / EA analyzes issues emerging from the 2007 Trout Creek Allotment Evaluation process to aid in accomplishing resource objectives and achieving Standards for Rangeland Health and Guidelines for Livestock Grazing Management (S&Gs) in the Trout Creek Allotment. The proposed action is to change the grazing season for lease #3602095, reconstruction of two springs, and issuance of two ten year grazing leases for Trout Creek Allotment. The purpose of the proposed AMP is to change the livestock grazing system to help assist in achieving multiple use objectives, achieve S&Gs, and promote an upward trend in rangeland condition.

If you have comments on the EA or FONSI, submit them *postmarked* by March 4, 2010, to Autumn Toelle, Burns District Office at the address above. E-mail comments should be sent to Autumn_Toelle@blm.gov. After consideration of your substantive[1] comments, a Decision outlining the action to be taken within the scope of the EA will be developed and issued. If you submit comments to this EA or FONSI, you will receive a copy of the Decision. If you do not have comments but wish to receive a copy of the Decision, please submit a written request, otherwise you will not receive a copy. The Decision will also be posted to http://www.blm.gov/or/districts/burns/plans/index.php.

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[1] Comments are considered substantive if they question the accuracy of information; question the adequacy, methodology or assumptions used; present new information relevant for analysis; present reasonable alternatives other than those analyzed; or cause changes or revisions in one or more of the alternatives. Comments are not considered substantive if the comments are in favor of or against the proposed action or alternative without reasoning that meet the substantive criteria listed above; agree or disagree with BLM policy or resource decisions without justification or supporting data that meet the substantive criteria listed above; do not pertain to the project area; or comments that form vague, open-ended questions.

Comments, including the names and addresses of respondents, will be available for public review at the Burns District Office during regular business hours 7:45 a.m. to 4:30 p.m., Monday through Friday, except holidays, and may be published as part of the Decision. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Anonymous comments will not be considered. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

If you need further information or to receive additional copies, please contact Autumn Toelle of the Three Rivers Resource Area, Burns District Office, at (541) 573-4400 or visit the Burns District Web site listed above.

Sincerely,

/signature on file/

Richard Roy
Three Rivers Resource Area Manager

Enclosures:
Trout Creek AMP / EA
Maps A, B, C, D, E, F, and G
FONSI

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

Trout Creek Allotment Management Plan
Environmental Assessment
DOI-BLM-OR-B050-2009-0065-EA

INTRODUCTION

Three Rivers Resource Area, Burns District, has prepared an Environmental Assessment (EA) to analyze recommended management actions developed through an Interdisciplinary Team (IDT) and the 2006 evaluation process for Trout Creek Allotment to aid in accomplishing resource objectives and achieve Guidelines for Livestock Grazing Management and land use plan objectives for Trout Creek Allotment set forth in the 1992 Three Rivers Resource Management Plan/Record of Decision (RMP/ROD)/Rangeland Program Summary.

During the 2007 Trout Creek Allotment Evaluation an IDT of Burns District Bureau of Land Management (BLM) staff determined that Standard 2 - Watershed Function – Riparian/Wetland Areas is not being achieved along Lost Creek in the Lost Creek Pasture due to a channel headcut that likely developed prior to 1991, from past livestock grazing management, unauthorized late season grazing, and heavy elk use. Current livestock grazing management, which has allowed for an upward trend in riparian habitat along Lost Creek, was not identified as a causal factor for failing to achieve this standard. The evaluation also determined that the Guidelines for Livestock Management by not being achieved due to current grazing management not providing periodic growing season rest to forage plant species within the Camp Creek Pasture. While four of the five standards are being achieved, they are at risk for not being achieved in the future due to the downward trend in range condition among upland plant communities in the Camp Creek Pasture. This downward trend is due to the pasture being grazed during the active plant growth period that does not (usually) allow grazed plants an opportunity for regrowth and recovery due to the lack of sufficient moisture late in the season. See Table 1 in the attached EA for more information on Standards for Rangeland Health Determinations.

Trout Creek Allotment #04097 is located approximately 24 air miles northeast of Burns, Oregon (Map A – Vicinity Map). There are 2,800 acres of BLM-managed land plus 403 acres of private land within the allotment, for a total of 3,203 acres.

SUMMARY OF THE PROPOSED ACTION

The following would be the result of the Proposed Action.

a. Livestock Grazing Management

(1) Livestock grazing management would provide periodic growing season rest for upland plant species, and grazing in riparian areas would be designed to 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 May 31 to April 1 through September 15 for lease #3602095.

Adaptive management and monitoring would be used to provide flexibility in grazing management, and changes in rotations may occur in order to achieve resource objectives.

b. Lease Renewal

Two 10-year term livestock grazing leases (#3602095 and #3600066) in Trout Creek Allotment would be renewed with no changes in the number of active use AUMs of livestock grazing.

c. Range Improvement Projects

Refer to attached Allotment Management Plan (AMP)/EA Map G: Proposed Rangeland Improvements.

(1) Spring Reconstruction

Two of the developed springs within the Maitland Spring Pasture would be reconstructed, with a slightly different footprint than the prior spring developments, due to the fences, pipelines, collection boxes, and troughs being in disrepair.

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

d. Monitoring

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

FINDING OF NO SIGNIFICANT IMPACT

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

Context

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

Intensity

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

1. Impacts that may be both beneficial and adverse. The EA considered potential beneficial and adverse effects. Project Design Features were incorporated to reduce impacts. None of the effects are beyond the range of effects analyzed in the Three Rivers PRMP/FEIS, to which the EA is tiered.

   Biological Soil Crusts: Grazing management practices would likely reduce loss of Biological Soil Crust (BSC) cover due to periodic growing season rest to forage plant species. The proposed spring reconstruction would increase distribution of livestock, reducing compaction and other impacts by herbivory in some current high use areas; it would also reduce soil compaction and damage to BSCs by providing functioning fences around spring sources.

   Cultural Heritage: Grazing would not likely affect cultural resources to a greater extent than historic grazing effects. While surface impacts can cause artifact breakage and vertical and horizontal displacement of artifacts, generalized grazing is not anticipated to result in greater impacts than those already evident at cultural sites.

   Livestock congregation areas would continue to exist, and may increase due to the spring developments. A cycle of trampling and subsequent erosion can result in complete loss of several feet of soil and cultural materials. Site integrity could then be totally lost where this cycle occurs within a site boundary.

Grazing Management/Rangelands: Grazing management would be adjusted to conform to Guidelines by periodically providing critical growing season rest and move toward achieving all Standards. Grazing in the Lost Creek Pasture would allow for hydric herbaceous forage regrowth stabilizing streambanks and capturing sediment during high flow periods along Lost Creek. Grazing management within the Camp Creek Pasture would be a graze/defer treatment allowing periodic growing season rest on the upland forage vegetation; this would increase key species vigor and cover, decrease bare ground, and result in decreased soil erosion.

Migratory Birds: Migratory bird habitat is expected to improve. Implementing a defer/graze treatment is expected to allow vegetation enough rest to complete the growth cycle, put reserves into the root system, and improve in abundance and vigor, providing more structural diversity and denser cover for birds. This would provide more quality insect habitat and improves forage potential for migratory birds. Reconstruction of two developed springs in Maitland Spring Pasture should protect the water sources and adjacent riparian vegetation, improving insect habitat in and forage potential around the springs.

Noxious Weeds: The grazing prescriptions would promote and encourage vigorous, diverse, productive plant communities which would be more resistant to noxious weed introduction and spread.

Recreation: Changes in livestock grazing management would improve overall land health for wildlife, enhancing recreational opportunities for big game hunting and wildlife viewing by providing suitable habitat. The spring reconstruction would benefit recreation opportunities by providing an improved water source to wildlife throughout the year.

Riparian Zones, Wetlands, and Water Quality: Riparian condition along Lost Creek would either be maintained or continue to improve. The riparian areas surrounding a headwater spring of North Fork Trout Creek (MP Spring #3) and of MP Spring #2 should improve due to reconstruction which would allow for the improvement/growth of riparian vegetation and eliminate the trampling and shearing effects of livestock.

Social and Economic Values: Providing for sustainable grazing management that improves habitat conditions for wildlife would in turn increase economic opportunities for the livestock operation, help to sustain livelihoods for the people employed by the ranching operations, and foster desirable social opportunities, such as hunting.

Soils: Rangeland health would be expected to become upward as the Guidelines are met by providing periodic growing season rest in all pastures. Growing season rest would increase abundance, vigor, and resilience of upland vegetative species; these conditions would improve soils by providing increased structure, cover, and litter accumulation, and by reducing raindrop impact, breakup flow patterns, and allow for more water absorption and less runoff.

Special Status Species: Periodic growing season rest would occur across the allotment, sustaining rangeland vegetation. These plants would improve in vigor and productivity, provide better insect habitat, and improve foraging opportunities for bats. Reconstructing two springs in the southern half of Maitland Spring Pasture would benefit bats and other Special Status Species by protecting the water sources and adjacent vegetation from trampling and grazing by livestock. Potential affects to sage-grouse would be negligible, habitat preferred by white-headed and Lewis' woodpeckers would remain in stable condition. No measurable impacts are expected for Columbia spotted frogs if they are present.

Upland Vegetation: Grazing management would improve watershed stability and function. Key forage species would be provided with periodic growing season rest from livestock use, allowing plants to store carbohydrates, complete a reproduction cycle, maintain or improve vigor, and become better established on the site. The spring reconstruction would provide protection to the spring and a reliable water source for livestock and wildlife, and improve livestock distribution within the pasture.

Wildlife: Wildlife habitat would improve or stabilize due to periodic growing season rest, in all pastures, which would allow vegetation to store more carbohydrates, promote quick recovery, and improve in quality and vigor, resulting in healthier herbaceous forage and cover for wildlife. Improved cover would provide more productive insect habitat and forage for small mammals, and improve nesting cover for dark-eyed juncos (Junco hyemalis) and other ground-nesting species. Reconstruction of the springs would protect the water sources and adjacent riparian vegetation important to wildlife.

2. Degree to which the Proposed Action affects public health and safety. No aspect of the Proposed Action or alternatives would have an effect on public health and safety.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. There are no unique characteristics within or around the Trout Creek Allotment.

4. The degree to which effects on the quality of the human environment are likely to be highly controversial. Controversy in this context means disagreement about the nature of the effects, not expressions of opposition to the Proposed Action or preference among the alternatives. No unique or appreciable scientific controversy has been identified regarding the effects of the Proposed Action or alternatives.

5. Degree to which possible effects on the human environment are highly uncertain or involve unique or unknown risks. The analysis has not shown there would be any unique or unknown risks to the human environment nor were any identified in the Three Rivers PRMP/FEIS to which this proposal is tiered.

6. Degree to which the action may establish a precedent for future actions with significant impacts or represents a decision in principle about a future consideration. This project neither establishes a precedent nor represents a decision in principle about future actions. No long-term commitment of resources causing significant impacts was noted in the EA or RMP.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. The environmental analysis did not reveal any cumulative effects beyond those already analyzed in the Three Rivers PRMP/FEIS which encompasses the Trout Creek Allotment. The EA described the current state of the environment (Affected Environment by Resource, Chapter III) which included the effects of past actions. Continued livestock grazing, recreation activities including hunting, weed treatments, and road maintenance are known Reasonably Foreseeable Future Actions and were also addressed under Chapter III of the EA by resource.

8. Degree to which the action may adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places. There are no features within the project area listed or eligible for listing in the National Register of Historic Places.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat. There are no known threatened or endangered species or their habitat affected by the Proposed Action or alternatives.

10. Whether an action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The Proposed Action and alternatives do not threaten to violate any law. The Proposed Action is in compliance with the Three Rivers RMP, which provides direction for the protection of the environment on public lands.

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

1. The implementation of the Proposed Action or alternatives will not have significant environmental impacts beyond those already addressed in the Three Rivers PRMP/FEIS (September 1991);

2. The Proposed Action and alternatives are in conformance with the Three Rivers RMP/ROD;

3. There would be no adverse societal or regional impacts and no adverse impacts to affected interests; and

4. The environmental effects, together with the proposed Project Design Features, against the tests of significance found at 40 CFR 1508.27 do not constitute a major Federal action having a significant effect on the human environment.

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

Three Rivers Resource Area Field Manager	Date

TROUT CREEK ALLOTMENT MANAGEMENT PLAN

ENVIRONMENTAL ASSESSMENT
DOI-BLM-OR-B050-2009-0065-EA

Three Rivers Resource Area
Bureau of Land Management
Burns District Office
28910 Hwy 20 West
Hines, Oregon 97738

Date of Preparation
January 28, 2010

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TROUT CREEK ALLOTMENT MANAGEMENT PLAN
ENVIRONMENTAL ASSESSMENT
DOI-BLM-OR-B050-2009-0065-EA

CHAPTER I: INTRODUCTION: PURPOSE OF AND NEED FOR ACTION

A. Background

Trout Creek Allotment #04097 is located approximately 24 air miles northeast of Burns, Oregon (Map A – Vicinity Map). There are 2,800 acres of Bureau of Land Management (BLM)-managed land plus 403 acres of private land within the allotment, for a total of 3,203 acres. Trout Creek Allotment is an "Improve" category allotment, which means that is has the highest priority for monitoring and investment in improvements. The allotment is divided into four pastures, Lost Creek, Camp Creek, Maitland Spring, and an unallotted pasture (which only has 18 percent BLM-managed land) (Map B – Land Status for visual representation). Previously, the Camp Creek Pasture had included an additional 829 acres of private land (located north and west of the current pasture boundary); however, this area was fenced out of the pasture by the landowner and the allotment and pasture boundaries have since been adjusted. Two grazing leases (#3602095 and #3600066) exist for this allotment. Under the grazing lease #3602095, the season of use for the allotment is from April 1 through May 31 with 50 cattle, which is the equivalent of 100 Animal Unit Months (AUMs) of active use. The second grazing lease has a season of use of April 1 through September 30 with 100 cattle, which is the equivalent of 321 AUMs of active use. The two grazing leases authorize a total of 421 AUMs of active use on the Trout Creek Allotment.

In 2007, grazing management within Trout Creek Allotment from 1999 to 2006 was analyzed through a formal interdisciplinary evaluation process. This evaluation identified a downward trend in Camp Creek Pasture, which means that the resource objective to "maintain the late and mid-seral ecological conditions throughout the allotment" was not being met. The allotment is meeting the objective to "continue to improve riparian habitat condition in the Lost Creek Pasture." The evaluation also included an analysis of the allotment to determine if current management was in conformance with Oregon and Washington Standards for Rangeland Health (further referred to as Standards) and Guidelines for Livestock Grazing Management (August 12, 1997) (further referred to as Guidelines; Standards and Guidelines together are referred to as S&Gs).

Watershed Function – Riparian/Wetland Areas (Standard 2) is not being achieved along Lost Creek in the Lost Creek Pasture due to a channel headcut that likely developed prior to 1991, from past livestock grazing management, unauthorized late season grazing, and heavy elk use. Current livestock grazing management, which has allowed for an upward trend in riparian habitat along Lost Creek, was not identified as a causal factor for failing to achieve this Standard. The evaluation also describes that while the other Standards are being achieved, they are at risk for not being achieved in the future due to the downward trend in range condition among upland plant communities in the Camp Creek Pasture.

This downward trend is due to the pasture being grazed during the active plant growth period that does not (usually) allow grazed plants an opportunity for regrowth and recovery due to the lack of sufficient moisture late in the season. The growing period use in the Camp Creek Pasture also results in the nonconformance to the Guidelines by not providing periodic growing season rest to forage plant species. Standards achieved include Watershed Function – Uplands, Ecological Processes, Water Quality, and Native, Threatened or Endangered (T/E), and Locally Important Species. See Table 1 below for further detail on the Determination of Standards for Rangeland Health from the 2007 Allotment Evaluation.

This Allotment Management Plan/Environmental Assessment (AMP/EA) analyzes the recommended management actions developed through the 2007 Trout Creek Allotment Evaluation process, subsequent Interdisciplinary Team (IDT) recommendations, public comments, and through coordination with the livestock permittees to aid in accomplishing allotment resource objectives and achieving all S&Gs.

The AMP/EA is tiered to the September 1991 Three Rivers Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS).

Table 1: 2007 Allotment Evaluation Standards for Rangeland Health Determinations

Standard	Achieved	Not Achieved	Causal Factors	Comments
1. Watershed Function - Uplands	Yes	---	---	Plant composition, community structure, and distribution of bare ground are within the range of variability expected for the ecological sites found on the allotment. Organic matter is accumulating and the site was determined to be in a stable erosion condition class.
2. Watershed Function - Riparian/Wetland Areas	No	Lost Creek	Channel Headcut	Proper Functioning Condition (PFC) Assessments indicate Lost Creek has an upward trend due to the increase in cover and density of deep rooted, hydric herbaceous vegetation. Within the allotment, 0.7-mile of the creek was listed as PFC. A 0.5-mile section was determined to be Functioning at Risk (FAR) due to the presence of a headcut that developed prior to management changes in 1991.
3. Ecological Processes	Yes	---	---	Monitoring studies suggest an upward trend in upland plant communities in the Maitland Spring Pasture and in riparian plant communities in the Lost Creek Pasture. However, they suggest a downward trend in the Camp Creek Pasture due to a decline in key species vigor and population. All pastures are still functioning to the extent of sustaining plant communities appropriate to soil, climate, and landform.
4. Water Quality	Yes	---	---	Monitoring studies suggest there is an upward trend in riparian vegetation in the Lost Creek riparian zone. There is low width to depth ratios and high densities of herbaceous vegetation shading a portion of the creek, reducing insolate exposure and heat loading.
5. Native, T/E, and Locally Important Species	Yes	---	---	Native perennial grasses and forbs are represented by a diversity of species, and mature stands of mountain big sagebrush with moderate seedling recruitment present. The upward trend of upland and riparian vegetation in the Maitland Spring and Lost Creek Pastures is indicative of improved habitat for wildlife. Despite a downward trend in the Camp Creek Pasture, the relative frequency of occurrence of key plant species indicates the plant communities are still providing critical habitat elements for wildlife.

B. Purpose and Need

During the 2007 Trout Creek Allotment Evaluation an IDT of Burns BLM staff determined Guidelines were not met due to the Camp Creek Pasture being grazed consecutive years with an early-graze treatment. This lack of growing season rest has resulted in a downward trend within this pasture. Only one of the five Standards (Watershed Function – Riparian/Wetland Areas) was not achieved in the allotment. However, current livestock grazing management was not a causal factor (Table 1).

The purpose of the Proposed Action is to 1) modify current grazing management by adjusting the timing of livestock grazing within the Camp Creek Pasture to conform to all Guidelines and ensure continued achievement of Standards; 2) issue two 10-year term grazing leases (#3602095 and #3600066) under 43 CFR 4130; and 3) reconstruct two spring developments in the Maitland Spring Pasture to protect the spring source while providing water for livestock and wildlife. The need is 1) Camp Creek Pasture is not currently conforming to Guidelines as the pasture receives continuous growing season use. Currently grazing management has lead to a downward trend in rangeland condition in Camp Creek Pasture; 2) to protect and restore two spring sources. The facilities (fences, spring boxes, and pipelines) are currently in a nonfunctional state (fences down with wires on ground, head box and pipeline broken, and damaged troughs) and need to be replaced. The spring sources are currently functioning; however, riparian vegetation around the springs is being overgrazed and diversity is decreasing; and 3) BLM's responsibility to respond to a request to issue new grazing leases.

This AMP/EA analyzes the recommended management actions, developed through an evaluation process for Trout Creek Allotment, to aid in accomplishing resource objectives and to achieve S&Gs and land use plan objectives for Trout Creek Allotment set forth in the 1992 Three Rivers Resource Management Plan/Record of Decision/Rangeland Program Summary (RMP/ROD/RPS) (Appendix 9, Appendices 24).

C. Resource Objectives

The following resource objectives are from the 2007 Trout Creek Allotment Evaluation:

1. Maintain or increase the relative frequency of occurrence and ground cover of key perennial grass, perennial forb, and shrub species at key areas of Trout Creek Allotment over the next 5 years. The key species within this allotment are Idaho fescue and bluebunch wheatgrass. Progress toward meeting this objective would be measured by the change in relative frequency of occurrence of key plant species as compared with total ground cover at established Pace 180˚ trend plots in key areas in the allotment. Upland trend data collected in 2006 from key areas of Trout Creek Allotment would serve as a baseline for determining progress toward achieving this objective. This is a grazing management objective; therefore, determinations of success or failure in achieving the objective should not be dependent on phenomena outside of management's control (i.e., drought, fire, conifer encroachment, etc.).

2. Increase desirable and stabilizing hydric herbaceous and/or deciduous woody species in riparian areas, which would result in an upward trend in riparian condition on Lost Creek (Lost Creek Pasture) and North Fork Trout Creek (Maitland Spring Pasture) over the next 5 years. This would be measured by taking photographs at the permanent photo points on Lost Creek, establishing a new reference photo point at the Lost Creek headcut to monitor progress toward stabilization, and establishing a permanent photo point on North Fork Trout Creek.

The following management objectives are from the 1992 Three Rivers RMP/ROD/RPS:

1. Maintain or improve rangeland condition and productivity through a change in management practices and/or reduction in active use (Three Rivers RMP/ROD/RPS Appendix 9, p. Appendices 25).

D. Decision Factors

Decision factors are additional questions or statements used by the decision maker to choose between alternatives that best meet project goals and resource objectives. These factors generally do not include satisfying legal mandates, including requirements under the National Environmental Policy Act (NEPA), which must occur under all alternatives. Rather, decision factors assess, for example, the comparative cost, applicability, or adaptability of the alternatives considered. Would the alternative:

1. Provide for multiple-use of public lands as outlined in the Three Rivers RMP/ROD/RPS?
2. Improve livestock distribution across the allotment and encourage more uniform utilization patterns?
3. Provide for the establishment and growth of habitat components needed by sensitive species?
4. Maintain adequate cover and plant community structure to promote streambank stability, debris and sediment capture, and floodwater energy dissipation in riparian areas?
5. Maintain adequate cover (live plants, plant litter, and residue) to promote infiltration, conserve soil moisture, and maintain soil stability in upland areas?
6. Promote economic stability for the local and rural economy dependent upon public land grazing and public lands uses?

E. Decision to be Made

The BLM will decide whether or not to modify grazing management and issue two new grazing leases, and if issued, under what terms and conditions. In addition, the authorized officer will determine whether or not to reconstruct two spring developments.

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

The Proposed Action has been designed to conform to the following documents, which direct and provide the framework for management of BLM lands within Burns District:

- Taylor Grazing Act (43 U.S.C. 315), 1934
- The National Environmental Policy Act (42 U.S.C. 4320-4347), 1970
- Federal Land Policy and Management Act (43 U.S.C. 1701), 1976
- Public Rangelands Improvement Act (43 U.S.C. 1901), 1978
- 1992 Three Rivers RMP/ROD/RPS
- 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
- 1998 Burns District Noxious Weed Management Program EA (OR-020-98-05)
- Greater Sage-grouse and Sagebrush-Steppe Ecosystems Management Guidelines (BLM-2000)
- BLM National Sage-grouse Habitat Conservation Strategy (2004)
- Greater Sage-grouse Conservation Assessment and Strategy for Oregon, August 2005
- State, local, and Tribal laws, regulations, and land use plans

G. Issues Considered but not Analyzed in Detail

The BLM's 1979 wilderness inventory decision found wilderness character not present on BLM-administered lands within the Trout Creek Allotment. The allotment does not occur in a citizens' proposed Wilderness Study Area (WSA). The Proposed Action is to change grazing dates and rotation in the Trout Creek AMP. No new facilities or motorized access are being proposed. Therefore, changes to existing on-the-ground conditions are not expected as a result of authorizing the Proposed Action.

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

1. Adaptive Management and Flexibility

Adaptive management is a system of management practices based on clearly identified outcomes and monitoring to determine if management actions are meeting desired outcomes; and, if not, facilitating management changes that would best ensure outcomes are met or reevaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain and, in this context, adaptive management affords an opportunity for improved understanding.

Knowing uncertainties exist in managing for sustainable ecosystems, changes to the proposal may be authorized for reasons such as, but not limited to:

- Adjust the rotation/timing of grazing based on previous year's monitoring and current year's climatic conditions.
- Drought causing lack of available water in certain areas originally scheduled to be used.
- 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 lessee. 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 lessees.

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. Pace 180˚ methodology (Technical Reference (TR) 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 riparian habitat condition along Lost Creek and North Fork Trout Creek. Upland trend and riparian data would be collected and analyzed on 5-year intervals.

Annual utilization studies for each pasture grazed by livestock along with multiple-use supervision reports would be collected by BLM staff. The Key Forage Plant Method would be used to measure utilization in each pasture. Target utilization levels for key forage plant species are shown in Table 2 below.

Table 2: Key Species and Target Utilization Levels for Pastures Comprising Trout Creek Allotment

Pasture	BLM Acres	Key Species	Utilization Target
Lost Creek	767	Idaho fescue/bluebunch wheatgrass Herbaceous riparian	50% 50%
Maitland Spring	1,409	Idaho fescue	50%
Camp Creek	599	Idaho fescue/bluebunch wheatgrass	50%

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 meeting resource objectives may be implemented based on this annual data.

a. New Monitoring:

(1) Establish an additional upland trend plot in the Lost Creek Pasture.
(2) Establish an additional upland trend plot in the Camp Creek Pasture.
(3) Establish a riparian photo plot along the North Fork of Trout Creek in the Maitland Spring Pasture.
(4) Monitor the photo point at the headcut on Lost Creek to assess progress toward stabilization.

B. Alternative A: No Action

The No Action Alternative would renew the existing livestock grazing leases (#3602095 and #3600066) in Trout Creek Allotment for 10 years, continuing the current grazing management, for the permitted season of use from April 1 through May 31 (#3602095) and April 1 through September 30 (#3600066). Permitted use would remain at 421 AUMs on public land. The leases would be issued with the same terms and conditions as the expiring leases. See Table 3 below for the current grazing management. No range improvements would be reconstructed under this alternative.

Table 3: Current Livestock Grazing Management (2-Year Rotation)

Year	Pasture Number	Pasture Name	Approximate Use Dates	Active AUMs	Season of Use (Grazing Treatment Description)
EVEN	1	Lost Creek	05/04 – 06/08	100	Early/Graze
EVEN	2	Camp Creek	04/18 – 05/31	100	Early/Graze
EVEN	3	Maitland Spring	07/15 – 09/16	219	Defer
ODD	1	Lost Creek	05/04 – 06/08	100	Early/Graze
ODD	2	Camp Creek	04/18 – 05/31	100	Early/Graze
ODD	3	Maitland Spring	06/15 – 08/09	219	Graze

C. Alternative B: Proposed Action - Management Changes, Season of Use Change

The Proposed Action was developed to conform to all Guidelines and ensure continued achievement of Standards. It was also designed to meet Trout Creek Allotment resource objectives brought forth and revised from the 2007 Trout Creek Allotment Evaluation (Chapter IV, Section B).

1. Proposed Management

a. Livestock Grazing Management:

(1) Livestock grazing management is designed to provide periodic growing season rest for upland plant species. Grazing management in riparian areas would be designed to limit grazing intensity and support adequate vegetation to maintain channel and bank stability. Early grazing in the Lost Creek Pasture would allow for adequate regrowth of riparian species. Use periods per pasture may vary annually in order to provide for recommended rest periods described in Table 4 below.

Table 4: Proposed - General Livestock Grazing Management (2-Year Rotation)

Year	Pasture Number	Pasture Name	Approximate Use Dates	Approximate AUMs	Season of Use (Grazing Treatment Description)
EVEN	1	Lost Creek	04/15 – 05/15	100	Early[1]
EVEN	2	Camp Creek	04/15 – 05/31	100	Graze
EVEN	3	Maitland Spring	07/15 – 09/30	219	Defer
ODD	1	Lost Creek	04/15 – 05/15	100	Early
ODD	2	Camp Creek	07/15 – 08/31	100	Defer
ODD	3	Maitland Spring	05/15 – 07/31	219	Graze

(2) Current permitted season of use would be changed from April 1 through May 31 to April 1 through September 15 for lease #3602095. This extension in permitted season of use is necessary to carry out proposed grazing management to provide growing season rest specifically to Camp Creek Pasture every other year. The current permitted season of use for lease #3600066 would remain the same. Refer to Maps C and D for a Proposed Grazing Schematic and Appendix A for Grazing Treatment Descriptions. Extending the permitted season of use would not increase the 421 AUMs of active use on public land. The extension would allow for increased flexibility in the timing of livestock grazing.

[1] While an early graze treatment typically occurs April 1 to April 30, the location of this allotment at a higher elevation and next to the forest results in a cooler climate that allows for delayed maturation of vegetation. Therefore, grasses within this allotment are generally not in the boot stage prior to May 15, and livestock are removed with ample soil moisture remaining to allow for regrowth in most years.

Camp Creek Pasture would receive growing season rest (in the form of a deferment grazing treatment) every other year (which is lacking under current management). Maitland Spring Pasture would continue to receive growing season rest every other year, and Lost Creek would have an early-spring use period annually. Since the livestock tend to congregate in the Lost Creek riparian zone, resulting in more use on riparian vegetation than in the upland areas, an early grazing treatment would allow grazing to occur in a less critical time in the riparian plant growth cycle and afford riparian plants adequate time during the growing season for regrowth and life cycle completion following grazing.

2. Lease Renewal

The Proposed Action also includes renewal of the existing livestock grazing leases (#3602095 and #3600066) in Trout Creek Allotment for the current lessees. Two 10-year term livestock grazing lease would be issued to continue 421 active use AUMs of livestock grazing on public land as outlined in Table 4: Proposed - General Livestock Grazing Management (2-Year Rotation). No changes to AUM numbers would occur. The lease #3600066 would be issued with the same terms and conditions as the expiring lease; the lease #3602095 would be issued with changes to the terms and conditions, encompassing the change in season of use from April 1 through May 31 to April 1 through September 15 for lease #3602095, and all other changes within this AMP.

3. Proposed Range Improvements

a. Spring Reconstruction:

Two of the developed springs within this allotment, MP #2 and MP #3, would be reconstructed with a slightly different footprint than the prior spring developments.

MP Spring #2 is located within the Maitland Spring Pasture in T. 19 S., R. 32 E., Section 22, SWSE¼. This spring was originally developed in 1975; however, the grazing exclosure around the spring and the pipeline that supplies water to the trough need to be replaced. The original exclosure was small and did not encompass the entire spring area. The proposed exclosure would encompass the entire spring and reduce heavy livestock pressure on the exclosure fence. A water trough would be installed outside of the exclosure to provide livestock and wildlife with water.

MP Spring #3 is also located within the Maitland Spring Pasture in T. 19 S., R. 32 E., Section 22, SWSW¼. This spring was originally developed in 1975 and is in need of complete reconstruction including a new exclosure and trough. The original exclosure did not encompass the entire spring area. This proposed spring reconstruction would realign the exclosure to encompass the entire spring area and install a water trough outside the exclosure.

Reconstruction for both springs would be for a typical spring development with a collection box at the spring source and water piped to a trough within 100 feet of the spring. The spring source would be dug out using a backhoe to make a hole large enough for a collection box. From the collection box, a trench will be dug to bury a plastic pipe that will transport water to the new trough. A ripper tooth mounted to a dozer would most likely be used for digging a trench approximately 30 to 36 inches deep where 2-inch black PVC pipe will be buried. The disturbed ground along the pipeline would be seeded with an aggressive germinator, such as crested wheatgrass or western wheatgrass, to help prevent the establishment of noxious weeds.

Refer to Map G for the Proposed Range Improvement Locations.

b. General Project Design Elements for Proposed Range Improvements:

(1) Proposed rangeland improvement sites would be surveyed for cultural values prior to implementation. Where cultural sites are found, their condition and National Register eligibility would be evaluated. If determined National Register eligible and under threat of continued trampling, mitigation measures to protect the remaining cultural materials would be determined. Mitigation plans would be developed in consultation with the State Historic Preservation Office if necessary. Mitigation measures can include protective fencing, surface collection and mapping of artifacts, subsurface testing and complete data recovery (full-scale excavation).

(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) No range improvement projects would be constructed within 0.6-mile of known sage-grouse lek sites.

(5) 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 EA/Decision Record (DR) OR-020-98-05.

(6) 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.

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

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

(9) 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 aggressive germination characteristics, therefore reducing the chance of noxious weed establishment.

D. Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Livestock grazing would no longer occur on the public land portions of the Camp Creek Pasture. This pasture contains approximately 4 percent private land (22 acres). The current lessee would be required to construct approximately 0.38-mile of fence to continue grazing adjacent private lands. Only wildlife would graze within the public portions of the Camp Creek Pasture under this alternative. Maintenance, improvement, or removal of range improvements and water sources within the pasture would become the responsibility of the BLM and occur as needed, only to achieve resource objectives other than livestock management, and as funding is available. Perimeter fences would be maintained by the grazing lessees within the remaining Trout Creek Allotment Pastures and the lessees adjacent to Trout Creek Allotment, or the adjacent private landowner.

Under this alternative, the existing grazing lease #3602095 (which allows grazing within the Camp Creek Pasture of the Trout Creek Allotment only) would be cancelled. The 100 AUMs of permitted active use associated with this lease would be removed from Trout Creek Allotment. This alternative would not affect permitted active use authorized under grazing lease #3600066 for the remaining pastures in Trout Creek Allotment (this lease does not use the Camp Creek Pasture). Spring reconstruction would occur under this alternative, as described under Alternative B – Proposed Action.

E. Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, livestock grazing would be graze/rest on a 2-year rotation in Camp Creek Pasture. On years when grazing occurs the season of use would be changed to April 15 to June 15 for 100 AUMs of active use. On subsequent years, Camp Creek Pasture would be completely rested from livestock grazing. This would equate to a 50 percent reduction in permitted active use AUMs authorized under grazing lease #3602095. This alternative would not affect permitted active use authorized under grazing lease #3600066 for the remaining pastures in Trout Creek Allotment. Livestock grazing management within Lost Creek and Maitland Spring Pastures would remain the same as the No Action Alternative. Spring reconstruction would occur under this alternative, as described under Alternative B – Proposed Action.

F. Alternatives Considered but not Fully Analyzed

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 areas and around reliable water sources, therefore improving rangeland condition without the construction of riparian exclosures. However, this alternative was eliminated from detailed analysis for the following reasons:

a. No Demand for Domestic Sheep Grazing:

Trout Creek Allotment has historically been a cattle grazing allotment. The two lessees who hold grazing leases 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, making this alternative economically infeasible. There has been no demand by the affected permittees to switch to sheep production on this allotment. The implementation of this alternative is remote due to the factors mentioned above.

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

2. Complete Removal of Livestock Grazing

Complete removal of livestock within the Trout Creek Allotment was eliminated for the following reasons: 1) It does not meet the purpose of and need to issue two 10-year term grazing leases; 2) Two of three pastures are achieving all Standards. Only Lost Creek Pasture is not achieving Watershed Function – Riparian/Wetland Areas (Standard 2) due to a channel headcut that developed prior to 1991 from past livestock grazing management, unauthorized late season grazing, and heavy elk use (Table 1); 3) Camp Creek Pasture, the only pasture not meeting Guidelines, is being considered for removal of livestock grazing under other alternatives; 4) Removing livestock would not create conditions under which Standard 2 could be achieved in Lost Creek Pasture of Trout Creek Allotment. Current livestock grazing is not a causal factor of Standard 2 not being met, and it has allowed the headcut on Lost Creek to stabilize and it has not migrated upstream; and 8) It is unlikely it would be economically viable as the lessees would have to provide replacement forage for 421 AUMs Fair Market Value (FMV) for AUMs is between $17 and $25 for private AUMs includes full care of livestock while on private lands, (the lessees must provide complete care of livestock while grazing on BLM-administered lands including fence maintenance and salting). When the FMV is compared to the BLM cost of $1.35/AUM, it would cost approximately $6,588.65 more (at $17/AUM) to replace the existing BLM AUMs with private AUMs on an annual basis. Hay to replace the 421 AUMs would require approximately 105 tons (one-quarter ton of hay per cow per months). Current cost of hay is averaging $140 to $225/ton. The cost to feed hay to replace the AUMs would be approximately $14,700 to $23,625, plus labor, on an annual basis.

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 other alternatives. The results are summarized in Table 5 below.

This environmental consequences section presents the potential changes to the environment resulting from implementation of the alternatives. This chapter describes all expected effects including direct, indirect, and cumulative on resources from enacting the proposed alternatives.

Direct and indirect effects plus past actions become part of the cumulative effects analysis; therefore, use of these words may not appear. The only Reasonably Foreseeable Future Actions (RFFAs) for this site are continued livestock grazing, weed treatments, road maintenance, and recreation activities; these are also relevant to cumulative effects and are discussed under each resource as applicable.

Table 5: Elements Affecting the Human Environment

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 (ACECs)	Not Present	No	There are no ACECs within this allotment.
Air Quality (Clean Air Act)	Not Affected	No	The Proposed Action would require the reconstruction of two springs; however, this would not have a measurable effect on air quality.
American Indian Traditional Practices	Not Affected	No	Though practices may occur within this allotment, it is not likely any alternative would have an affect beyond what has occurred in the past.
Biological Crusts	**Affected**	No	See Chapter III, Part A.1
Cultural Heritage	**Affected**	No	See Chapter III, Part A.2
Environmental Justice (Executive Order 12898)	Not Affected	No	The Proposed Action and alternatives would not 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.
Grazing Management/ Rangelands	**Affected**	Yes	See Chapter III, Part A.3
Fisheries	Not Present	No	There are no fish bearing streams within this allotment.
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 Chapter III, Part A.4
Noxious Weeds (Executive Order 13112)	**Affected**	No	See Chapter III, Part A.5
Paleontology	Not Present	No	No paleontological resources found within the allotment.
Recreation	**Affected**	No	See Chapter III, Part A.6
Riparian Zones/Wetlands and Water Quality (Executive Order 11990)	**Affected**	Yes	See Chapter III, Part A.7

Elements of Human Environment		Status	Projects Contribute to Cumulative Effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
Social and Economic Values		**Affected**	No	See Chapter III, Part A.8
Soils		**Affected**	No	See Chapter III, Part A.9
Special Status Species (SSS) and Habitat	Wildlife	**Affected**	No	See Chapter III, Part A.10
	Plants	Not Present	No	No known SSS within this allotment.
	Fish	Not Present	No	There are no fish bearing streams within the allotment.
T/E Species or Habitat	Wildlife	Not Present	No	There are no known T/E species found within the allotment.
	Plants	Not Present	No	No known T/E species found within the allotment.
	Fish	Not Present	No	There are no fish bearing streams within the allotment.
Upland Vegetation		**Affected**	No	See Chapter III, Part A.11
Visual Resources		Not Affected	No	Visual resources are not affected by any of the alternatives. There is no new range improvements proposed and livestock would still be present under all alternatives.
Wild and Scenic Rivers		Not Present	No	There are no Wild and Scenic Rivers within the allotment.
Wilderness/WSAs		Not Present	No	There is no designated wilderness or WSAs within the allotment.
Wilderness Characteristics		Not Present	No	Due to the small size of the allotment, and the fact that it is interspersed with private land, and divided by Hwy 395, no areas within this allotment meet the minimum criteria for containing wilderness characteristics.
Wildlife/Locally Important Species and Habitat		**Affected**	No	See Chapter III, Part A.12

A. Elements Affecting the Human Environment

1. Biological Soil Crusts

Affected Environment: Biological Soil Crusts

The Biological Soil Crusts (BSCs) are also known as cryptogamic, microbiotic, cryptobiotic, and microphytic crusts, which could lead to some confusion during discussions of them. "The names are meant to indicate common features of the organisms that compose the crusts. The most inclusive term is probably biological soil crust, as this distinguishes them from physical crusts while not limiting crust components to plants.

Whatever name used, there remains an important distinction between these formations and physical or chemical crusts" (Belnap 2003).

The BSC data specific to the northern Great Basin have been lacking in the past. Therefore, there is little research that specifically relates to vegetative communities within Three Rivers Resource Area of Burns District BLM.

However, research conducted by Ponzetti and McCune in 2001 may provide insight concerning BSC communities in the area. Also, a 2001 TR was published discussing how BSCs contribute to the functional, structural, and compositional parts of a functioning ecosystem (TR-1730-2 Biological Soil Crusts: Ecology and management). TR-1730-2, states that in "… a given eco-region, ecological roles of biological soil crusts can vary widely in their importance and would depend on crust composition and biomass, as well as characteristics of the specific ecosystem being considered."

Soil surface micro-topography and aggregate stability are important contributions from BSCs as they increase the residence time of moisture and reduce erosional processes. The influence of BSCs on infiltration rates and hydraulic conductivity varies greatly. Generally speaking, infiltration rates increase in pinnacled crusts and decrease in flat crust micro-topographies. The northern Great Basin has rolling BSC micro-topography and infiltration rates are probably intermediate compared to flat or pinnacled crust systems.

Factors influencing distribution of BSCs (TR-1730-2) include, but are not limited to, elevation, soils and topography, percent rock cover, timing of precipitation, and disturbance.

Possible disturbances that have occurred in the allotment include, but are not limited to; effects from livestock grazing, vehicles, human footprints, fires, and juniper expansion, which can all modify BSC communities. Specific contribution of these activities to current BSC condition and cover are not discernable from other historic disturbances.

BSCs occur in the Trout Creek Allotment and have been documented on trend transects and observations; however, no BSC specific inventories have been conducted within this allotment. The Ecological Site Descriptions (ESDs) for soils that occur on the allotment identify potential BSC cover as ±1 percent basal cover for sagebrush ESDs. No biological crust estimates are given for the forested areas. It is likely that damage to BSC from livestock use is mostly historic and was caused by large numbers of livestock and less intensive levels of management. Because Trout Creek Allotment is high in elevation and receives more moisture, the role of biological crusts at providing ground cover, capturing moisture, fixing nitrogen, and preventing establishment of annual grasses is probably less important than on lower and dryer parts of Burns District.

Environmental Consequences: Biological Soil Crusts

Effects Common to All Alternatives:

There is no known future or ongoing projects (other than those discussed in the Environmental Consequences section) which could contribute to cumulative effects to BSCs.

Alternative A: No Action

Livestock grazing could continue to increase soil compaction and possibly damage BSCs, particularly along trails and at waterholes. Current livestock grazing management practices lack periodic critical growing season rest from livestock grazing in Camp Creek Pasture. By not providing periodic growing season rest, uplands and riparian areas that are in a downward trend in condition would likely continue this pattern and could lead to erosion in that pasture; therefore, decreasing BSC cover. In the other pastures current management practices have reduced erosion and have likely reduced loss of BSC cover and would continue to do so under this alternative.

Current soil productivity and BSC cover reflects site potential and past management practices. However, the future condition of soil and BSC resources would be dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that affect condition of the vegetation would also affect BSCs.

Alternative B: Proposed Action

Proposed grazing management practices would reduce erosion and likely reduce loss of BSC cover by providing periodic growing season rest to forage plant species in all pastures. Future condition of BSC resources would be dependent on the condition of other resources, primarily upland and riparian vegetation. Management actions that affect condition of the vegetation would also affect BSCs.

Livestock grazing could increase soil compaction and damage BSCs, particularly along trails and at waterholes. The proposed spring reconstruction and maintenance would increase distribution of livestock to reduce concentration and heavy utilization in particular areas. These proposed spring reconstruction would also reduce soil compactions and damage to BSCs by providing functioning fences around spring sources.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Under this alternative livestock grazing would no longer occur within the Camp Creek Pasture. This would stop soil compaction and damage to BSCs by livestock, and would only be caused by wildlife. Since there would be no livestock within this pasture, the lessee would have no reason to visit the pasture, which would further reduce damage to the BSCs by vehicles and footprints. However, since wildlife would still be present within the pasture, it is likely there would still be some human caused disturbance to the BSCs by hunters and wildlife viewers.

Since livestock would not be removed from other pastures and grazing management for the other pastures would fall under the No Action Alternative, then effects to those pastures under this alternative would be the same as under the No Action Alternative. Spring reconstruction would occur under this alternative; the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, effects to BSCs would be equivalent to the No Action Alternative, with the exception of the Camp Creek Pasture being limited to every other year livestock grazing. Since grazing would still occur, livestock would likely increase soil compaction and damage BSCs, particularly along trails and at waterholes. However, this damage would effectively be cut in half in the long run, within the Camp Creek Pasture, due to grazing only occurring once every 2 years. This grazing management alternative would result in increased vegetation vigor and abundance within the Camp Creek Pasture, which would further reduce the potential for localized soil compaction and reduce loss of BSC cover. Damage to the BSCs from wildlife and recreators would still occur.

Current BSC cover reflects site-specific natural conditions and past management practices. Overall, current management practices have reduced erosion and have likely reduced loss of BSC cover. By providing a full year of rest in the Camp Creek Pasture, the uplands and riparian areas would likely improve in rangeland condition, while the rest of the allotment remains in its current trend patterns. The future condition of soil and BSC 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 BSCs. Spring reconstruction would occur under this alternative; the effects would be the same as analyzed under Alternative B – Proposed Action.

2. 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(Three Rivers).

Affected Environment: Cultural Heritage

Over 446 acres of cultural resource inventory has occurred within the Trout Creek Allotment. Inventories have been completed for precommercial thinning, land exchange, and fuel break projects. This acreage is about 16 percent of the allotment.

A total of two archaeological sites have been recorded on the northern boundary of the Trout Creek Allotment. One is a simple scatter of flint-knapping lithic debris. The other, located near a spring, is a much more complex prehistoric/historic campsite containing a number of different artifact classes and historic spring development remains. The potential for finding additional cultural sites in this allotment is present, especially associated with water sources and waterways.

One of the two sites has been impacted by livestock grazing, according to observations of the site recorders. Other impacts listed at the sites include road building and maintenance, and rodent burrowing.

Environmental Consequences: Cultural Heritage

Effects Common to All Alternatives:

For the purposes of this analysis, the cumulative effects analysis area for cultural resources is at the allotment scale. All alternatives and other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to cultural resources, because impacts of proposed projects would be localized or completely avoided. Potential direct and cumulative effects to cultural resources would be mitigated through project specific cultural resource inventory and clearances prior to any project implementation.

<u>Alternative A: No Action</u>

Under this alternative generalized (noncongregation area) grazing would not likely affect cultural resources to a greater extent than historic grazing effects.

Generalized grazing under dry soil conditions usually amounts to light (4 to 6 inches) scuffing of the soil surface. Because all pastures are grazed beginning in mid-April, generalized grazing could result in deeper hoof shear, up to 10 inches deep. Such surface impacts can cause artifact breakage and vertical and horizontal displacement of artifacts. However, generalized grazing is not anticipated to result in greater impacts than those already evident at cultural sites.

Livestock congregation areas are of most concern in relation to grazing effects on cultural sites. These locations can result in overall loss of vegetation and soil stability especially in a zone around pre-existing, functional livestock water developments. Livestock trampling at these developments can cause soil erosion which can, in turn, mean erosion of cultural sites. A cycle of trampling and subsequent erosion over many seasons of use can result in complete loss of several feet of soil and cultural materials. Site integrity could then be totally lost.

Alternative B: Proposed Action

Under this alternative, the effects to cultural resources would be the same as in the No Action Alternative (Alternative A) with the exception of the areas of spring reconstruction.

Livestock congregation areas would continue to exist under the Proposed Action, and may increase in size due to the spring developments, which would increase livestock attraction to those sites. Livestock trampling at these developments can cause soil erosion which can, in turn, mean erosion of cultural sites. A cycle of trampling and subsequent erosion over many seasons of use can result in complete loss of several feet of soil and cultural materials. Site integrity could then be totally lost where this cycle occurs within a site boundary.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Under this alternative, the effects to cultural resources would be the same as in the No Action Alternative (Alternative A) with the exception of the below paragraphs.

In the Camp Creek Pasture, where no grazing would occur, the effects of generalized past grazing would be similar to the remainder of allotment. However, the effect of permanently resting the pasture would cause the appearance of surface scuffing to be reduced over time.

Future trampling effects in livestock congregation areas would be eliminated within the Camp Creek Pasture. Livestock congregation areas in the other pastures would continue to exist under this alternative. Spring reconstruction would occur under this alternative, the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, the effects to cultural resources would be the same as in the No Action Alternative (Alternative A) with the exception of the below paragraphs.

In the Camp Creek Pasture, where grazing would occur every other year, the effects of generalized past grazing would be similar to the remainder of allotment. However, the effect of periodically resting the pasture would slightly reduce the appearance of surface scuffing over time as compared to the No Action Alternative.

Future trampling effects in livestock congregation areas would be less within the Camp Creek Pasture due to grazing occurring every other year. Livestock congregation areas in the other pastures would continue under this alternative. Spring reconstruction would occur under this alternative, the effects would be the same as analyzed under Alternative B – Proposed Action.

3. 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: Three Rivers – Chapter 2, p. 2-33 and Chapter 3, p. 3-4.

Affected Environment: Livestock Grazing Management

Authorized use consists of two cattle grazing leases (#3602095 and #3600066) in this allotment. The permitted active use for lease #3602095 is for 50 cattle from April 1 through May 31 equaling 100 AUMs of active use. For lease #3600066, the season of use is from April 1 through September 30 with 50 cattle equaling 321 AUMs of active use. Cattle numbers can fluctuate annually as long as the 421 AUMs of total active use on the allotment are not exceeded. In this allotment there are intermixed private lands within BLM-managed pastures (Table 6).

Calculated carrying capacity on public lands (within the three allotted pastures) is 491 AUMs of forage available for livestock and 87 AUMs of forage for wildlife. These numbers were based upon calculations completed in 2006 from data collected between 1991 and 2005. This data can be found in the Trout Creek Allotment file, evaluation section. Refer to Map F: Key Forage Species, Target Percent Utilization, and Calculated Livestock Carrying Capacity by Pasture.

Table 6: Percent Public and Private Land per Pasture

Pasture	% Public	% Private
1 Lost Creek	94	6
2 Camp Creek	96	4
3 Maitland Spring	90	10
99 Unallotted	18	82

The previous AMP was written in 1999 which planned for grazing management providing periodic growing season rest of riparian species in the Lost Creek Pasture by using an early graze treatment. It also provided periodic growing season rest for the Maitland Spring Pasture by changing grazing to a graze/defer treatment. The Camp Creek Pasture was not provided with periodic growing season rest on its upland species due to grazing management using an early treatment in consecutive years. This plan is not adequate because use in the Camp Creek Pasture has not provided growing season rest for the upland vegetation. The grazing management in the Camp Creek Pasture is not conforming to the Guidelines, and because the rangeland condition within this pasture is currently in a downward trend due to continuous early season grazing during the critical growth period of desirable forbs and grasses.

Native upland plant communities within Maitland Spring and Lost Creek Pasture remain in stable to upward trend in condition, with the grazing management that has been authorized, and despite juniper encroachment. The 2007 Allotment Evaluation stated the Camp Creek Pasture's uplands were "at risk for undesirable compositional changes as key species decline in vigor and population" if the current trends are maintained and no periodic grazing season rest occurs. Currently this pasture is in the same condition as assessed in the 2007 evaluation.

Current management is allowing for significant progress[2] to be made toward achievement of Standard 2 – Watershed Function – Riparian areas along Lost Creek within the allotment.

Riparian photo monitoring has shown an upward trend in deep rooted herbaceous vegetation and a decrease in streambank alteration over the last evaluation cycle. Livestock use periods are early enough to allow for regrowth of riparian forage species following grazing.

Environmental Consequences: Livestock Grazing Management

[2] **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 (CEQ) definition of the word.

Effects Common to All Alternatives:

For the purpose of this analysis, the cumulative effects analysis area for grazing management encompasses Trout Creek Allotment. Reasonably foreseeable future projects potentially effecting grazing management include wildfire and noxious weeds. All alternatives and other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to grazing management, because impacts would be localized or speculative in nature. The effects of wildfire on livestock grazing management would be analyzed in rehabilitation plans. Noxious weeds are analyzed later in this document.

Alternative A: No Action

Livestock grazing management would remain the same as current management. Livestock would continue to graze Camp Creek Pasture in consecutive years from April 18 through May 31. The downward trend in upland vegetation cover composition would be expected, possibly causing accelerated soil erosion by wind and water. The two grazing leases would be reissued under the current terms and conditions; the current season of use for lease #3602095 would remain April 1 through May 31. No new monitoring plots would be established in the uplands or riparian areas.

Alternative B: Proposed Action

Under this action, grazing management would be adjusted to achieve Standards and conform to Guidelines by periodically providing critical growing season rest to key forage plants from livestock grazing in Camp Creek Pasture, and allowing the headcut on Lost Creek an opportunity to continue healing. With the proposed grazing management, upland and riparian health would be improved. Native plant communities would have enhanced weed resistance due to their vigor and productivity. The two grazing leases would be issued, and lease #3602095 would be issued with a new season of use.

The Lost Creek Pasture would continue to have an early graze treatment; however, the season of use in this pasture would be changed from May 4 to June 8 to April 15 to May 15. This would allow for hydric herbaceous forage regrowth to stabilize streambanks and capture sediment during high flow periods along Lost Creek. The gather date is early enough that cattle are expected to make no to slight (6 to 20 percent) utilization of deciduous woody riparian species within the pasture. This would continue to move the allotment toward meeting Standard 2 – Watershed Function – Riparian. This grazing management would allow cattle to forage along the creek (without causing resource damage) and keep the utilization in the uplands slight, which would allow for the majority (94 to 80 percent) of the upland plants to complete their reproductive cycle, and increase in density and vigor.

Livestock grazing management within the Camp Creek Pasture would be changed from an early treatment in consecutive years to a graze/defer treatment on a 2-year rotation. This would allow growing season rest on the upland forage vegetation (where most use occurs during the early treatment). Periodic growing season rest would increase key species vigor and cover, and decrease bare ground. This would also result in a lower risk of soil erosion by both wind and water.

The Maitland Spring Pasture would continue to follow current grazing management since it meets all S&Gs and is shown to be in an upward trend in rangeland health.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Livestock grazing would no longer occur on the public land portions of the Camp Creek Pasture. Under this alternative, grazing lease #3602095 would be cancelled. The 100 AUMs of permitted active use associated with this lease would be removed from Trout Creek Allotment.

The BLM would implement changes in active use through a documented agreement or by this decision. According to the 43 CFR 411.3-3, published in August 1995, 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." 4110.3-2, Decreasing Active Use, "When monitoring or documented field observations show grazing use is causing an unacceptable level or pattern of utilization…the authorized officer will reduce active use, otherwise modify management practices, or both."

The lessee on the cancelled lease would have to find another source of forage or reduce livestock numbers to make up for the loss of 100 AUMs of active use they would lose when the lease is cancelled. Only wildlife would graze within the public portions of the Camp Creek Pasture under this alternative.

This alternative would not affect Permitted Use authorized under grazing lease #3600066 for the remaining pastures in Trout Creek Allotment. Livestock grazing management within Lost Creek and Maitland Spring Pastures would remain the same as the No Action Alternative.

Existing range improvements (i.e., fences, water developments, etc.) in place for livestock grazing management in the Camp Creek Pasture would no longer be maintained by the lessee and may be removed depending on available funding (Map E). Adjacent livestock grazing permit/lease holders, and adjacent private landowners, would be responsible for maintaining exterior fences.

The water developments within the Camp Creek Pasture (MP Spring #4 and Camp Creek Reservoir) would either be abandoned or maintenance responsibility would have to be done by another BLM activity (such as wildlife management) to achieve resource objectives other than livestock management. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, livestock grazing would follow a graze/rest treatment on an every other year rotation in the Camp Creek Pasture. On years when grazing occurs the season of use would be changed to April 15 to June 15 for 100 AUMs of active use. On subsequent years, Camp Creek Pasture would be completely rested from livestock grazing. This would equate to a 50 percent reduction in permitted active use AUMs authorized under grazing lease #3602095 over 2 years. During the rested years the lessee would have to find an alternative source of forage to replace all 100 AUMs of active use, or reduce their livestock numbers for that year.

This alternative would not affect Permitted Use authorized under grazing lease #3600066 for the remaining pastures in Trout Creek Allotment. Livestock grazing management within Lost Creek and Maitland Spring Pastures would remain the same as the No Action Alternative. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

4. Migratory Birds

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: Three Rivers – Chapter 2, p. 2-66 and Chapter 3, p. 3-9.

Affected Environment: Migratory Birds

Migratory birds are known to use the Trout Creek Allotment for nesting, foraging, and resting as they pass through on their yearly migrations; however, no formal monitoring for migratory birds has been conducted on this allotment. All habitat types in the allotment are used by both specialist and generalist migratory birds.

Vegetation available within the allotment is dominated by ponderosa pine (*Pinus ponderosa*) with some juniper and small to moderately sized (~100-acre) sagebrush openings. U.S. Fish and Wildlife Service Birds of Conservation Concern for the Great Basin Region that may inhabit the allotment include green-tailed towhee (*Pipilo chlorurus*), flammulated owl (*Otus flammeolus*), and loggerhead shrike (*Lanius ludovicianus*). Other migratory species that may occur in the allotment or surrounding area include chipping sparrow (*Spizella passerina*), vesper sparrow (*Pooecetes gramineus*), hermit thrush (*Catharus guttatus*), American robin (*Turdus migratorius*), brown-headed cowbird (*Molothrus ater*), Lincoln's sparrow (*Melospiza lincolnii*), and Cassin's sparrow (*Aimophila cassinii*). Nest locations vary by species with some species being ground nesters, while others prefer to nest in shrubs or trees. A flammulated owl (*Otus flammeolus*) nest has been documented in the ponderosa pine forested area in the Maitland Spring Pasture.

Key herbaceous vegetation in the uplands in Camp Creek Pasture is low in vigor and productivity as a result of consecutive years of grazing during the early period of the potential growing season. Plants have not responded well to this grazing strategy, failing to adequately take up nutrients, grow leaves, produce seed, or replenish root reserves after livestock are removed from the pasture. This has resulted in a lower than expected density of key forage plants, more bare ground, and decreased structural diversity. Maitland Spring and Lost Creek Pastures are currently providing adequate habitat, including healthy riparian and wetland areas, for migratory birds.

Several thinning and prescribed fire treatments have been applied within 2 miles of the allotment. Forest thinning to decrease fuels and improve forest health has been completed on over 310 acres, including 84 acres within the allotment. Additionally, over 2,000 acres of broadcast burning has been completed in this area over the last 10 years, including approximately 1,500 acres of forested habitat in the allotment. The Newell Forest Health project is located approximately 2 miles to the north of the allotment. Treatments, completed in 2008, included selective thinning and juniper removal in ponderosa pine forest on 667 acres. Other RFFAs in the area include livestock grazing, hunting, firewood collection, and recreational camping.

Environmental Consequences: Migratory Birds

Effects Common to All Alternatives:

For the purposes of this analysis, the cumulative effects analysis area for migratory birds encompasses the Trout Creek Allotment. All alternatives and other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to migratory birds.

Alternative A: No Action

Current livestock grazing management has resulted in nonconformance with the Guidelines by not providing periodic growing season rest in the Camp Creek Pasture, causing this pasture to be in a downward trend. Grazing management that does not allow for adequate periodic growing season rest in this pasture would continue to result in lower quality habitat for migratory birds. Ground nesting species would likely be the most impacted, due to the loss of both hiding and nesting cover and reduced foraging opportunities in the uplands. If continuous growing season grazing continues a downward trend in rangeland condition due to lack of adequate rest, migratory birds would likely be displaced from this area of the allotment. Forest dwelling species, such as the flammulated owl, would be less affected by livestock grazing unless the continued grazing strategy impacts shrubs or herbaceous cover for prey species in the forest understory.

Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat to support migratory birds, although two spring areas in Maitland Spring Pasture would continue to be trampled and overutilized due to concentrated livestock use.

Alternative B: Proposed Action

Migratory bird habitat is expected to improve with selection of the Proposed Action. Changing the repeat early growing season grazing in Camp Creek Pasture and implementing a defer/graze treatment is expected to allow vegetation enough rest to complete the growth cycle and produce seed. Plants would have a full growing season to photosynthesize and put reserves into the root system. Vegetation should improve in abundance and vigor, providing more structural diversity and denser cover for birds. Healthier herbaceous cover provides quality insect habitat and improves forage potential for migratory birds during the breeding and summer season. At least one pasture each year would be deferred from grazing, providing some undisturbed habitat during the breeding season. Livestock grazing under the Proposed Action is designed to maintain the presence and distribution of key forage species across the allotment. Forest dwelling species would be less affected by livestock grazing unless the proposed grazing strategy impacts shrubs or herbaceous cover for prey species in the forested areas.

Due to the later plant phenology in this area, shifting the current early turn on dates for Camp Creek and Lost Creek Pastures to a couple of weeks later is not expected to negatively affect range conditions. Reconstruction of two developed springs in Maitland Spring Pasture should protect the water sources and adjacent riparian vegetation. Past and future restoration projects in the area may disturb or displace migratory birds present during treatments, but would enhance the ability of the habitat to support birds as the vegetative community returns toward potential natural community.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

The complete rest of Camp Creek Pasture under this alternative would allow more of the allotment to complete the growing season without livestock use compared to other alternatives. Habitat conditions for migratory birds would improve as vegetation would likely become denser across the landscape, providing more hiding and nesting cover for migratory birds and prey species. There would be no disturbance from livestock and livestock management activities in Camp Creek Pasture, especially for ground nesting birds. Litter would accumulate over time, which may increase the potential spread of fires.

Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat for migratory birds. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

This alternative would allow vegetation a complete growing season of rest plus leave standing vegetation through the winter into early spring within the Camp Creek Pasture. Plants are expected to respond by increased vigor and density across the pasture, and litter would increase helping to conserve soil moisture and reduce erosion. This grazing strategy would leave more standing residual (live and dead) cover than Alternatives A and B, due to the complete rest every other year. Healthier, more robust plants would provide quality hiding and nesting cover for migratory birds and prey species. Litter accumulation over time may increase the potential spread of fires, however, the permitted grazing every other year would help remove some of this accumulation and decrease the risk of this hazard.

During the nongrazed years there would be no disturbance from livestock or livestock management activities, which would benefit migratory birds, especially ground nesting species. Flammulated owls and other forest dependent species may also benefit as the forest understory would likely provide better cover for prey species under this alternative. Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat for migratory birds. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

5. Noxious Weeds

Current discussion and analysis of potential effects of 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: Three Rivers – Chapter 2, p. 2-53, V1.6 and Chapter 3, p. 3-7.

Affected Environment: Noxious Weeds

The Burns District database currently lists 55 noxious weed sites totaling 33.9 acres in the Trout Creek Allotment. Table 7 below shows the noxious weeds within the allotment.

The potential for weed spread along roadways has been well documented. The distribution of noxious weeds in the Trout Creek Allotment primarily occurs along its 17.4-mile network of roads. Weed treatments currently conducted in the allotment include manual treatments of Canada and bull thistle, and herbicide treatments for all weed species.

Table 7: Noxious Weed Distribution

Pasture	Noxious Weed Species	Number of Sites	Acres
Lost Creek	Canada Thistle	8	1.76
Lost Creek	Bull Thistle	17	14.18
Maitland Spring	Russian Knapweed	1	0.02
Maitland Spring	Canada Thistle	8	1.48
Maitland Spring	Bull Thistle	19	16.44
Maitland Spring	Dalmatian Toadflax	1	<0.01
Maitland Spring	Tansy Ragwort	1	<0.01

Environmental Consequences: Noxious Weeds

Effects Common to All Alternatives:

For the purposes of this analysis, the cumulative effects analysis area for noxious weeds is at the allotment scale. Reasonably foreseeable future projects which could potentially affect noxious weeds within the allotment include wildfire (and suppression activities), routine road maintenance, and continued Off-Highway Vehicle use. All alternatives and other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to noxious weeds, because monitoring and treatment of noxious weeds would continue on the allotment and potential new weed sites occurring around proposed projects would be localized. Predicting the effects of potential wildfire on noxious weeds would be speculative; however, analysis of post fire rehabilitation plans would address noxious weeds and other affected resources, including livestock grazing management.

Alternative A: No Action

Selection of the No Action Alternative could lead to a downward trend in ecological conditions due to annual growing season use in the Camp Creek Pasture, which could lead to increased opportunities for noxious weed invasion and spread.

Where current grazing management is causing stable or upward trend in upland plant communities, these communities would continue to maintain the competitive plant community base to resist noxious weed invasions in those areas.

Alternative B: Proposed Action

The Proposed Action incorporates a change in livestock grazing seasons of use to provide periodic growing season rest for upland plant species. Grazing in Lost Creek Pasture would be designed to limit grazing intensity and support adequate vegetation to maintain channel and bank stability on Lost Creek. The Camp Creek Pasture would not be grazed in consecutive years with an early graze treatment. These grazing prescriptions would promote and encourage vigorous, diverse, productive plant communities which would be more resistant to noxious weed introduction and spread.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Removal of livestock grazing from public land could help enhance desirable plant community diversity, productivity, and vigor which could reduce opportunities for noxious weed introduction and spread.

However, with no livestock in the public land portions of the allotment, frequency of trained staff visits and lessees' inspections would be reduced compromising opportunities to discover new weed populations. 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. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Switching to every other year grazing in Camp Creek Pasture would allow vegetation to complete a reproductive cycle at least once every 2 years. This could lead to increased vigor and abundance of desirable species, decreasing the risk of noxious weed invasion and spread. By changing to every other year grazing in Camp Creek Pasture, the use in riparian areas within this pasture would be limited, which would allow the growth of adequate vegetation to maintain channel and bank stability.

Grazing on a 2-year rotation would require trained staff visits and lessees' inspections of the pasture, which would allow new noxious weed infestations to be identified and treated in a timely manner. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

6. Recreation

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: Three Rivers - Chapter 2, p. 2-107 and Chapter 3, p. 3-15.

Affected Environment: Recreation

The primary recreation activities in the allotment are dispersed camping and hiking. These activities are usually associated with hunting big game such as mule deer, Rocky Mountain elk, and pronghorn antelope. Other recreation activities are rock-hounding, photography, wildlife viewing, and driving for pleasure.

Environmental Consequences: Recreation

Effects Common to All Alternatives:

For the purposes of this document, the cumulative effects analysis area for recreation encompasses the Trout Creek Allotment. All alternatives and other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to recreation because impacts of proposed range improvements would be localized.

<u>Alternative A: No Action</u>

Under the No Action Alternative no changes are made in livestock grazing management, a reduction in available forage for big game could eventually occur. This may result in big game moving out of the allotment, diminishing recreational hunting opportunities. The effects of repeat grazing in Camp Creek Pasture may also begin to inhibit the understory and negatively affect habitat of other wildlife species which would reduce the opportunities for wildlife viewing.

Alternative B: Proposed Action

The Proposed Action is designed to improve livestock grazing management. In turn, the Proposed Action would improve overall land health for wildlife enhancing recreational opportunities for big game hunting and wildlife viewing by providing suitable habitat. The spring reconstruction would also benefit recreation opportunities related to wildlife by providing an improved water source to wildlife throughout the year.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Total removal of livestock grazing from the Camp Creek Pasture may reduce recreation opportunity (such as camping) access available within the pasture. However, the reduction of vehicle traffic related to grazing in this pasture may improve the recreation opportunities in the pasture since wildlife-vehicle conflicts would be reduced. This alternative may also improve the recreation opportunities associated with wildlife since removing livestock would reduce the competition for resources on public land in the Camp Creek Pasture of this allotment. This alternative may also reduce the possibility of conflict between the recreators and livestock producers within the Camp Creek Pasture. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

This alternative may provide better wildlife viewing in the nongrazed years due to the removal of the wildlife-livestock interaction from the Camp Creek Pasture. The removal of livestock every other year would allow wildlife access to the AUMs the livestock currently use. This would possibly attract more wildlife to the area; therefore, improving wildlife related recreation opportunities. There would also be a reduced possibility of conflict between recreators and lessee in the nongrazed years. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

7. Riparian Zones/Wetlands 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: Three Rivers – Chapter 2, p. 2-4 and Chapter 3, p. 3-2.
- Riparian: Three Rivers – Chapter 2, 2-96 and Chapter 3, p. 3-12 (Aquatic Habitat).

Affected Environment: Water Quality and Wetland/Riparian Zones

The Trout Creek Allotment is within the Silvies Subbasin. Riparian conditions were analyzed at the 6th field Hydrologic Unit Code (HUC)[3] or 6th level subwatershed. There are portions of four, 6th field HUCs within the allotment.

Analyses of stream conditions and water quality were based on a variety of assessments, including PFC),[4] photo monitoring, Streambank Stability Monitoring (Pace-Plot Method), and site visits.

There are no fish bearing streams within the allotment; however, Lost Creek is a tributary of Trout Creek, where redband trout are known to occur. Temperature data has not been collected on Lost Creek.

Below are brief descriptions of the current conditions of 6th level subwatersheds within the allotment.

Lower Trout Creek 6th Field HUC

The 1.2 miles of Lost Creek are on public land within the Trout Creek Allotment. This creek is depicted as intermittent on USGS 7.5-minute topographic map (Trout Creek). It is a second-order, headwater stream. A 2006 PFC Assessment rated 0.5-mile of Lost Creek at PFC and 0.7-mile as FAR with an upward trend. The presence of a headcut just above Lost Creek Meadow was the primary reason for the FAR classification. Most of the FAR reach had the attributes needed to be considered PFC; however, the presence of the headcut (approximately 3 feet elevation change) automatically placed the reach at FAR. This headcut has been present since the early 1990s but has not migrated upstream. This may be an indicator that the headcut has stabilized. Additional data on the headcut is lacking. Further evaluation of site characteristics is needed to determine if active restoration is warranted.

The 2007 Trout Creek Allotment Evaluation documented that the FAR reach on Lost Creek did not meet Standard 2 (Watershed Function in Riparian and Wetland Areas) of the Standards due to the presence of the headcut. Current livestock management was not a factor for nonattainment of the Standard.

Approximately 0.5-mile of Camp Creek falls within the allotment in the Camp Creek Pasture. This 0.5-mile segment is ephemeral. No data has been collected along this drainage.

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[3] ***HUC - Hydrologic Unit Code:*** A hydrologic unit is a drainage area delineated to nest in a multi-level, hierarchical drainage system. Its boundaries are defined by hydrographic and topographic criteria that delineate an area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area.

[4] ***Proper Functioning Condition Assessment:*** A methodology for assessing the physical function of riparian and wetland areas. There are three main ratings: Proper Functioning Condition (PFC), Functioning at Risk (FAR) upward or downward trend, and nonfunctioning.

North Fork Trout Creek 6th Field HUC

The North Fork Trout Creek, on public land within this allotment, is ephemeral. Riparian vegetation begins at the perennial spring (MP 3) adjacent to the drainage, near the BLM/private boundary. Formal monitoring has not occurred on this spring; however, site visits indicate heavy (61 to 80 percent) utilization.

Mountain Creek 6th Field HUC

In this allotment, streams on public land in this subwatershed are intermittent or ephemeral. No data have been collected along these drainages.

Dog Creek – Silvies River 6th Field HUC

In this allotment, streams on public land in this subwatershed are intermittent or ephemeral. No data have been collected along these drainages.

Environmental Consequences: Water Quality and Wetland/Riparian Zones

Effects Common to All Alternatives:

For the purposes of this document, the cumulative effects analysis area for riparian/water quality encompasses the Upper Silvies River Watershed. Reasonably foreseeable future projects potentially affecting water quality and riparian/wetland areas in the Upper Silvies River Watershed include weed treatments along riparian corridors and potential active restoration activities to the Lost Creek headcut. If, following monitoring, active restoration (vs. continued passive restoration) of the Lost Creek headcut is determined necessary, an IDT effort would be applied at the watershed scale, to ensure the causes of riparian problems are corrected while their impacts are being treated. Design features of any active restoration efforts would attempt to mimic natural conditions. In addition, weed treatment Best Management Practices would be followed to minimize/negate impacts from weed treatments, the effects of wildfire on riparian/wetlands and water quality would be analyzed in rehabilitation plans at the time of the fire, and all alternatives analyzed in this EA would allow for upward trend in riparian condition and water quality. Because of this, all alternatives combined with other ongoing and reasonably foreseeable future projects would not lead to cumulative effects to riparian/wetland areas and water quality.

Alternative A: No Action

The No Action Alternative would not change use along the portion of Lost Creek in this allotment. This alternative would either maintain or continue to improve riparian conditions along these reaches as monitoring shows has happened under the current grazing system.

The spring development and exclosure at the headwaters of North Fork Trout Creek would remain dysfunctional under this alternative. The current season of use concentrates livestock use on this spring late into the summer. Heavy utilization patterns would continue on this spring and would likely result in downward riparian/water quality trend.

Alternative B: Proposed Action

The Proposed Action would not change use along the portion of Lost Creek in this Allotment. Riparian condition would either be maintained or continue to improve under this alternative as monitoring shows has happened under the current grazing system.

The riparian areas surrounding a headwater spring of North Fork Trout Creek (MP Spring #3) and of MP Spring #2 should improve under the Proposed Action, which calls to maintain or reconstruct these spring developments. These spring developments are no longer functional, and the spring sources and overflow areas are currently unprotected from livestock impacts due to failing fences. Reconstruction and maintenance at the spring sources would allow for the improvement/growth of riparian vegetation and eliminate the trampling and shearing effects of livestock around the spring sources.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Removing livestock grazing would reduce grazing impacts in unfenced riparian/wetland areas within the Camp Creek Pasture near the developed spring. Over time, removal of livestock grazing may result in late seral riparian vegetation and increased deciduous woody species recruitment around unfenced riparian areas.

However, long-term removal of livestock grazing may not always be the best management for overall watershed health. Recent research from the Eastern Oregon Agriculture Research Center (EOARC) indicates that complete exclusion of livestock grazing weakens the ability of *A. tridentata* plant communities to tolerate fire and allows *B. tectorum* (cheatgrass) invasion (Davies et al. 2009). This change in vegetation can affect waterflow on the site (i.e., increased runoff). Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

This alternative would remove livestock grazing from Camp Creek Pasture every other year, which would reduce the grazing impacts in unfenced riparian/wetland areas on rest years. Removing livestock from this pasture every other year would provide an opportunity for an upward trend in riparian function around unfenced riparian areas outside of fenced springs. However, livestock use would still be concentrated at these sites every other year. This use would limit riparian recovery. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

8. Social and Economic Values

Affected Environment: Social and Economic Values

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, 2005-06). In addition, nearly half of the County taxes are realized from the ranching community. 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 the County are a tourist attraction and contribute to a share of revenue for local business.

Environmental Consequences: Social and Economic Values

Effects Common to All Alternatives:

There are no known RFFAs leading to any measurable cumulative effects to Social/Economic Values.

Alternative A: No Action

The value of livestock in the allotment would remain at current levels or decrease under the No Action Alternative as condition of upland and riparian plant communities would follow current trends, with the Camp Creek Pasture continuing in a downward trend in rangeland health. No changes in grazing management would occur. If productivity of these rangelands declines, this could lead to lower weaning weights or a reduction in overall cattle numbers. A reduction in cattle numbers could affect owners and employees that make a living from this ranch. A visitor's experience could also be affected as rangeland health declines with decreased wildlife viewing and hunting opportunities in the Camp Creek Pasture.

Renewing the current 10-year term leases under the No Action Alternative would result in Guidelines remaining unachieved. The viability of the ranching operations would most likely decline as livestock grazing management goes unchanged and as rangeland health continues to decline.

A decline in rangeland health could have a negative economic and social affect to the ranch operation if livestock numbers are decreased and a negative social affect by reducing opportunities such as wildlife viewing and hunting.

Alternative B: Proposed Action

The proposed grazing management is designed to improve conditions for uplands and riparian areas, which could maintain or increase forage production for livestock and wildlife. The reconstruction of the two springs would improve spring health and provide an improved water source for wildlife and livestock. Providing for sustainable grazing management that improves habitat conditions for wildlife would in turn increase economic opportunities for the livestock operation, help to sustain livelihoods for the people which are employed by the ranching operation, and foster more desirable social opportunities. Continuing viable ranching operations would also enhance the economy of Harney County through taxes and goods and services purchased from the ranch and people employed by the ranch. By maintaining viable ranching operations and improving rangeland conditions in Trout Creek Allotment, the traditions associated with ranching communities of Harney County would be maintained.

Renewing the current 10-year term leases with the Proposed Action of this AMP as a term and condition of the leases would provide for a continued viable ranching livelihood for the livestock operators and employees of these ranches.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

With removal of livestock grazing from the Camp Creek Pasture, adjacent lessees and private landowners would be responsible for maintaining the boundary fences of this pasture. Water developments within the Camp Creek Pasture would be abandoned, or maintenance would have to be done by another program in the BLM (i.e., wildlife). The two springs in the Maitland Spring Pasture would not be reconstructed and these springs would remain unprotected from livestock and wildlife.

Collection of grazing fees would be reduced by approximately $135 annually (based on the legal minimum cost per AUM) depending on the grazing year; a reduction of 100 AUMs would also occur. Based on current rates reported by lessees, 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/equipment for hauling livestock if only distant pasture is available. Cost of providing hay is variable (currently approximately $100 per ton for grass hay in the area), based upon annual supply and demand, but is likely to be much higher than pasture costs. The ranch would likely be unable to employ the current number of people, which would have a negative effect on the rural economy of Harney County. The viability and sustainability of the ranch that hold the effected grazing lease in Trout Creek Allotment could decline as a portion of the lands they rely on become unavailable; therefore, potentially affecting their way of life. This alternative could result in negative economic cumulative effects. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, the lessee under authorization #3602095 would have a reduction of 50 percent in permitted active use AUMs over 2 years in the Camp Creek Pasture. This would result in the lessee having to find forage for 100 AUMs during the years the pasture is rested, or reduce their livestock numbers substantially, both of which may cause the lessee economic hardship. In addition, this rotation would result in a loss of the $135 grazing fee collected by the BLM, in the rested years. This alternative could result in negative economic cumulative effects. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

9. Soils

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: Three Rivers - Chapter 2, p. 2-15 and Chapter 3, p. 3-3.

Affected Environment: Soils

Trout Creek Allotment contains two general soils groups. Gaib-Anatone-Royst is the major soil complex in the allotment covering approximately 65 percent of the allotment. These soils generally have an overstory of ponderosa pine. These soils are generally shallow, well-drained, gravelly loams in the 16 to 18-inch precipitation zone. These soils have a high potential for water erosion and a low potential for wind erosion. The other soil complex in this allotment is the Merlin-Observation-Lambring complex which covers approximately 35 percent of the allotment. The vegetation covering this type is primarily mountain big sagebrush with some areas of ponderosa pine. These soils are shallow to moderately deep, well-drained, cobbly loams or very cobbly loams in the 14 to 16-inch precipitation zone. The erosion potential for this type is low for both wind and water erosion.

Environmental Consequences: Soils

Effects Common to All Alternatives:

There is no known future or ongoing projects which could contribute to cumulative effects to soils. Soil 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. Activities other than livestock grazing, such as off-road recreation, that disturb soils, could deplete soil productivity and increase potential for noxious weeds and other invasive species.

<u>Alternative A: No Action</u>

Monitoring studies suggest an upward trend in upland plant communities in the Maitland Spring Pasture and in riparian plant communities in the Lost Creek Pasture. However, they suggest a downward trend in the Camp Creek Pasture due to a decline in key species vigor and population. Under this alternative, impacts to soil may occur as vegetation within the Camp Creek Pasture becomes less abundant and less resilient, which would impact soil condition, increase the chances of erosion, and decrease site stability over time. Under this alternative, the two springs in Maitland Spring Pasture would not be reconstructed. The springs and surrounding area would not be protected from livestock use. This use would continue to damage soil structure and stability around the springs and increase trampling at the spring source.

Alternative B: Proposed Action

Rangeland health trends in the Camp Creek Pasture would be expected to change from a downward to an upward trend over time as management changes address issues identified in the Allotment Evaluation, and the Guidelines are met by providing periodic growing season rest in all pastures. Growing season rest would improve upland conditions by improving the abundance, vigor, and resilience of key upland vegetative species. These improved conditions would improve soils by providing increased structure, cover, and litter accumulation. This would reduce raindrop impact, breakup flow patterns, and allow for more water absorption and less runoff.

Upward trends in other pastures would be expected to continue and would improve soil condition allotmentwide with the exception of congregation areas that would continue to see impacts to soils, especially water and salt areas. The two spring reconstructions in the Maitland Spring Pasture would allow for the protection of the soil structure and stability around the spring, and minimize livestock impact at the spring.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Removing livestock from the public land portions of the Camp Creek Pasture would lessen trampling of soils near known watering sources within the pasture. The possibility of erosion would decline as vegetation is left in place to aid in stabilization. However, trampling effects on soils would still occur from wildlife use near watering sources and along established trails by livestock; although to a lesser degree.

Under this alternative, the effects to soils in the Maitland Spring and Lost Creek Pastures would be the same as in the No Action Alternative (Alternative A). Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, livestock would only graze the Camp Creek Pasture every other year. This would allow vegetation to be left in place during these years, which would result in an increase in residual herbage and nonpersistent litter inputs on these sites during rested years. This would aid in stabilization and decrease the possibility of erosion within the Camp Creek Pasture. Also, compaction and trampling of soils by livestock would not occur within the pasture during the rested years.

In grazed years, compaction and trampling by livestock would occur within the pasture, especially along established livestock trails and near water sources.

During these years, the removal of vegetation by grazing may increase the possibility of erosion within the pasture during that period.

By allowing the Camp Creek Pasture to be rested every other year, vegetation would remain in place and plants would become better developed which would help hold the soil on site and reduce erosion. This would likely result in an upward trend within the pasture and would improve soil conditions.

Under this alternative, the effects to soils in the Maitland Spring and Lost Creek Pastures would be the same as in the No Action Alternative (Alternative A). Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

10. Special Status Species – Fauna

Current discussion and analysis of potential effects to SSS – fauna are tiered to the 1991 Three Rivers PRMP/FEIS and relevant information contained in the following sections is incorporated by reference: Three Rivers – Chapter 2, p. 2-56 and Chapter 3, p. 3-9.

Affected Environment: Special Status Species – Fauna

There are no known Federally listed Threatened, Endangered, or Proposed wildlife species found within or near the allotment. SSS potentially inhabiting this allotment include Townsend's big-eared bat (*Corynorhinus townsendii*) and fringed myotis (*Myotis thysanodes*), although other more common bat species such as small footed bat (*Myotis ciliolabrum*) and little brown bat (*Myotis lucifigus*) are more likely to occur. Approximately 40 percent of the allotment contains mountain big sagebrush communities. However, most of the sagebrush communities in the allotment are considered marginal greater sage-grouse (*Centrocercus urophasianus*) habitat due to the extensive cover of ponderosa pine forest, juniper encroachment, presence of power lines, and highway transecting the area. Portions of the Trout Creek Allotment and surrounding area are bordered by an extensive ponderosa pine forest at the perimeter of sage-grouse habitat. The nearest known active lek is over 9 miles from the allotment boundary. The large stands of ponderosa pine within the allotment and surrounding area may support other SSS, such as the white-headed woodpecker (*Picoides albolarvatus*) and possibly Lewis' woodpecker (*Melanerpes lewis*). Small streams near the allotment may provide habitat for Columbia spotted frogs (*Rana luteiventris*), although there have been no documented observations within or near this allotment.

Key herbaceous vegetation in the uplands in Camp Creek Pasture is low in vigor and productivity as a result of consecutive years of grazing during the early period of the potential growing season. Plants have not responded well to this grazing strategy, failing to adequately recover during the growing season to take up nutrients, grow leaves, produce seed, or replenish root reserves after livestock are removed from the pasture. This has resulted in a lower than expected density of key forage plants, more bare ground, and decreased structural diversity. Maitland Spring and Lost Creek Pastures are currently providing adequate habitat for SSS, including healthy riparian and wetland areas.

Several thinning and prescribed fire treatments have been applied within 2 miles of the allotment. Forest thinning to decrease fuels and improve forest health has been completed on over 310 acres, including 84 acres within the allotment. Additionally, over 2,000 acres of broadcast burning was completed in this area over the last 10 years, including approximately 1,500 acres of forested habitat in the allotment. The Newell Forest Health project is located approximately 2 miles to the north of the allotment. Treatments, completed in 2008, included selective thinning and juniper removal in ponderosa pine forest on 667 acres. Other RFFAs in the area include livestock grazing, hunting, firewood collection, and recreational camping.

Environmental Consequences: Special Status Species – Fauna

Effects Common to All Alternatives:

The effects of the other projects in the area, primarily past thinning and prescribed burning done as part of the Newell Forest Health project (completed in 2008), are expected to benefit SSS as vegetation recovers within the first few years following treatments. Beneficial effects would diminish as the distance between the allotment and treatment areas increases.

<u>Alternative A: No Action</u>

Current livestock grazing management has a downward trend in rangeland health among upland plant communities in Camp Creek Pasture due to the existing management of not allowing for periodic growing season. Declining range conditions do not support robust insect populations, and may negatively affect bat species that forage over the sagebrush-bunchgrass clearings and forest openings. Foraging habitat for bat species would likely decline under this alternative. The two springs in disrepair in Maitland Spring Pasture would not be reconstructed, inhibiting their use by bats and other species.

Sage-grouse use of the allotment is likely limited to brief periods as they travel through to reach foraging areas near the Silvies River in the summer. Potential affects to sage-grouse would be negligible due to the small percentage of suitable habitat available in the area and the distance to known leks. Large, open ponderosa pine habitat preferred by white-headed and Lewis' woodpeckers would be largely unaffected. However, effects of repeat grazing in Camp Creek Pasture may begin to inhibit the forest understory and negatively affect insect productivity. Low insect production would reduce the quality of foraging habitat for woodpeckers. Current trends in riparian and wetland habitat are expected to continue, so no impacts are expected for Columbia spotted frogs if they are present.

Alternative B: Proposed Action

Habitat for sensitive species of bats would likely improve with selection of the Proposed Action. Changing the current grazing schedule from repeated growing season use in the Camp Creek Pasture to defer/graze, and maintaining a graze/defer treatment in the Maitland Spring Pasture would allow vegetation periodic rest during the growing season across the allotment. Grazing under the Proposed Action is designed to maintain or increase the presence and distribution of key forage species across the allotment, sustaining rangeland vegetation. Herbaceous plants are expected to improve in vigor and productivity. Healthier, more robust plant communities provide better insect habitat, and improve foraging opportunities for bats. Reconstructing two springs in the southern half of Maitland Spring Pasture would benefit bats and other SSS by protecting the water sources and adjacent vegetation from trampling and grazing by livestock.

Sage-grouse use of the allotment is likely limited to brief periods as they travel through to reach foraging areas near the Silvies River in the summer. Potential affects to sage-grouse would be negligible due to the small percentage of suitable habitat. Large, open ponderosa pine habitat preferred by white-headed and Lewis' woodpeckers would likely remain in stable condition. Current trends in riparian and wetland habitat are expected to continue, so no measurable impacts are expected for Columbia spotted frogs if they are present.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Resting the Camp Creek Pasture would allow plant communities time for regrowth and recovery. Vegetation would grow and produce seed over the complete growing season undisturbed by livestock. Residual plant material would remain intact and provide denser cover and greater structural diversity throughout the year. Healthier plant communities provide quality insect habitat, which enhances the foraging opportunities for bat species. Improvements to the plant community would likely increase insect productivity and result in more foraging opportunities for bats. The two springs in disrepair in Maitland Spring Pasture would not be reconstructed, inhibiting their use by bats and other species.

Sage-grouse use of the allotment is likely limited to brief periods as they travel through to reach foraging areas near the Silvies River in the summer. Potential affects to sage-grouse would be negligible due to the small percentage of suitable habitat. Large open ponderosa pine habitat preferred by white-headed and Lewis' woodpeckers may improve in Camp Creek Pasture as all livestock grazing is removed. Removal of all grazing would allow understory vegetation to grow denser and taller, providing more cover for insects and potentially enhancing the prey base for woodpeckers. Litter would accumulate over time, which may increase the potential spread of fires. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, habitat conditions for sensitive bat species would improve within this pasture as vegetation would likely become denser across the landscape due to a full year of rest every other year. This would provide more productive insect habitat, and in turn enhance foraging areas for bats. The two springs in disrepair in Maitland Spring Pasture would not be reconstructed, inhibiting their use by bats and other species.

Sage-grouse use of the allotment is likely limited to brief periods as they travel through to reach foraging areas near the Silvies River in the summer. Potential affects to sage-grouse would be negligible due to the small percentage of suitable habitat. Large, open ponderosa pine habitat preferred by white-headed and Lewis' woodpeckers may improve in Camp Creek Pasture as livestock grazing alternates in a graze-rest rotation. Litter would likely accumulate over time, which may increase the potential spread of fires. However, the permitted grazing every other year would help remove some of this vegetation, and litter which would decrease the risk of this hazard. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

11. 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: Three Rivers - Chapter 2, p. 2-51 and Chapter 3, p. 3-7.

Affected Environment: Upland Vegetation

The major vegetation types in the Trout Creek Allotment consist of ponderosa pine and mountain big sagebrush with various understory species. Some of the types include ponderosa pine (*Pinus ponderosa*)/bluebunch wheatgrass (*Pseudoroegneria spicata*), ponderosa pine/wax current (*Ribes cereum*)/Idaho fescue (*Festuca idahoensis*), ponderosa pine/mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*)/Idaho fescue, ponderosa pine/perennial grassland, mountain big sagebrush/Idaho fescue, and mountain big sagebrush/perennial grassland. The ecological condition for most of the ponderosa pine types is late seral and the condition for most of the mountain big sagebrush types is mid to late seral. A low sagebrush (*Artemisia arbuscula*)/Sandberg's bluegrass (*Poa secunda*) vegetation type occurs less frequently over the allotment on soils with a shallow depth to a restrictive layer. Elevation of the allotment ranges from 4,500 to 5,500 feet. Other perennial grass species found in this allotment include bottlebrush squirreltail (*Elymus elymoides*), Thurber's needlegrass (*Stipa thurberianum*), prairie junegrass (*Koeleria macrantha*), and Ross' sedge (*Carex rossii*). Numerous perennial and annual forbs can be found across the allotment. Species composition is closely linked to soils and ESDs. Perennial forbs found include Lupine (*Lupinus* sp.), western yarrow (*Achillea millefolium*), pussytoes (*Antennaria* sp.), buckwheat (*Eriogonum* sp.), Phlox (*Phlox* sp.), wild onion (*Allium* sp.), owl's clover (*Orthocarpus* sp.), and Indian paintbrush (*Castilleja* sp). Green rabbitbrush (*Chrysothamnus viscidiflorus*), a perennial shrub can also be found within the allotment.

The 2007 Trout Creek Allotment Evaluation analyzed the direction of trend in condition at two upland trend plots in the Maitland Spring Pasture. Both plots showed an upward trend in rangeland health. One plot was analyzed in the Camp Creek Pasture, which showed a downward trend in rangeland health.

Western juniper has increased on most of the community types within the allotment to the point where it is often the dominant plant species in a community. Encroachment of juniper has reduced cover and density of sagebrush and associated herbaceous plants while increasing the percent of soil surface exposed. This has reduced forage available for livestock and wildlife, mainly elk, as well as reducing habitat for wildlife dependent upon shrub and forb species. While juniper encroachment is an important issue at this point in time, livestock grazing has no effect on existing juniper or its ability to increase. Cutting, burning, and/or other practices would be needed to change the frequency of juniper in this allotment. This is outside of the scope of this analysis and will not be discussed further.

Environmental Consequences: Upland Vegetation

Effects Common to All Alternatives:

For the purpose of this analysis, the cumulative effects analysis area for upland vegetation encompasses Trout Creek Allotment. Reasonably foreseeable future projects potentially affecting upland vegetation include continued grazing and noxious weed treatment. Maintaining grazing management, which maintains healthy rangelands, along with ongoing noxious weed treatments would result in positive cumulative effects to upland vegetation such as improved hydrologic function and reduction of fine fuels.

Alternative A: No Action

Under the No Action Alternative grazing management would not change and the Camp Creek Pasture would not receive periodic critical growing season rest. Uplands in the Maitland Spring Pasture would continue to be in stable to upward trend in condition with diverse, productive plant communities. Upland condition in the Camp Creek Pasture would continue to be downward due to an early graze treatment in consecutive years. The overall watershed health would be maintained in good condition. However, the two springs in the Maitland Spring Pasture would not be reconstructed and the springs would remain unprotected from trampling. This pattern could degrade vegetative communities around the springs and affect the overall health of this allotment.

Alternative B: Proposed Action

Overall, changing grazing management to the Proposed Action would improve watershed stability and function. Overall health of rangelands within the allotment would be improved. Key forage species would be provided with periodic growing season rest from livestock use. This would allow plants to store carbohydrates, complete a reproduction cycle, maintain or improve vigor, and become better established on the site.

The Proposed Action would improve overall rangeland health by encouraging productivity, vigor, and diversity of plant communities within the allotment. The two springs in the Maitland Spring Pasture would be reconstructed, which would provide protection to the spring while providing a more reliable water source for livestock and wildlife, and improving livestock distribution within the pasture. Current carrying capacity for all demands (wildlife and livestock) would be maintained or improved as plant communities remain in stable to upward condition.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Under this alternative, the effects to upland vegetation would be the same as in the No Action Alternative (Alternative A) with the exception of the below paragraph.

Within the Camp Creek Allotment utilization on key forage species would occur by elk only. Key forage species would be allowed to complete their annual life cycles with the removal of livestock grazing. However, long-term removal of livestock grazing may not always be the best management for watershed health. Recent research from the EOARC indicates that complete exclusion of livestock grazing weakens the ability of *A. tridentata* plant communities to tolerate fire and allows *B. tectorum* (cheatgrass) invasion (Davies et al. 2009). Removal of livestock would also result in an increase in vegetative matter and litter. This accumulation of fine fuels may increase the risk of wildland fires, and result in larger more intense fires that would result in decreased vegetation levels. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

Under this alternative, the effects to upland vegetation would be the same as in the No Action Alternative (Alternative A) with the exception of the below paragraph.

This alternative would allow forage species to be rested for one full year, every other year. This would remove all utilization from livestock during the nongrazed years, allowing the vegetation to complete a reproductive cycle, increase species abundance, and increase in vigor and size. This would help improve watershed stability and function, and improve overall health within the Camp Creek Pasture. Current carrying capacity would at least be maintained as the plant communities should show a stable to upward trend in condition under this alternative. In nongrazed years, there would also be less competition between elk and livestock. Grazing by livestock every other year would also remove some of the accumulated fine fuels, which would help decrease the risk of severe damage from wildland fire, as well as the possibility of fire spreading. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

12. Wildlife

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: Three Rivers - Chapter 2, p. 2-66 and Chapter 3, p. 3-9.

Affected Environment: Wildlife

The Trout Creek Allotment supports a diversity of wildlife. Big game species common to the allotment include elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), and pronghorn antelope (*Antilocapra americana*). The allotment provides year-round elk habitat, and mule deer and pronghorn antelope summer range.

The allotment covers small portions of the Silvies and Malheur Hunt Units. Deer populations are below management objectives for both units, although the habitat for this species is generally in good condition. Elk populations are at or above management objectives in both hunt units. Distribution of deer and elk is uneven across the units and concentrated in higher quality habitat and private agricultural land.

Deer and antelope move out of the area as winter sets in, but there is a year-round use by elk, especially in fall and critical winter months. Currently, 64 AUMs are allocated for elk in this allotment. This number may need to be increased in the future as elk populations increase. Deer are currently allocated 19 AUMs. This number may also need to be increased if deer populations grow. The 3 AUMs allocated for antelope are likely sufficient at this time. Continued monitoring should indicate if the need for increased wildlife AUMs is present.

Other wildlife species known or expected to occur in the area include numerous small mammals, black bear (*Ursus americanus*), mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). A variety of resident birds, associated with forested and sagebrush ecosystems, are also expected to inhabit this allotment. No formal surveys for goshawks have been completed, but suitable nesting cover and prey species are present within and adjacent to the allotment boundaries.

Monitoring data from Camp Creek Pasture indicate a downward trend in upland range condition due to grazing management not providing periodic growing season rest of desirable forbs and grasses. Monitoring data also indicate that key forage species for wildlife have experienced reduced vigor and recruitment, and in some cases mortality. Despite the downward trend in rangeland condition in this pasture, the relative frequency of occurrence of key species indicates the plant community is still providing critical habitat elements for wildlife. Vegetation in Maitland Spring and Lost Creek Pastures is in stable to upward trend, including riparian and wetland areas.

Environmental Consequences: Wildlife

Effects Common to All Alternatives:

For the purpose of this document, the cumulative effects analysis area for Wildlife/Locally Important Species and Habitat encompasses the Upper Silvies River Watershed. This alternative combined with other ongoing and reasonably foreseeable future projects, such as weed treatments, may lead to beneficial cumulative effects to wildlife such as improved hydrological function and vegetation vigor. The effects of the other projects in the area, primarily past thinning and prescribed burning done as part of the Newell Forest Health project (completed in 2008), are expected to benefit wildlife as vegetation recovers within the first few years following treatments. Beneficial effects would diminish as the distance between the allotment and treatment areas increases.

Alternative A: No Action

Suitable foraging habitat for wildlife in the uplands of Camp Creek Pasture would continue to decrease under this alternative. Poor quality range conditions do not support robust vegetation necessary to provide quality forage and cover, and may negatively affect wildlife species dependent on the sagebrush-bunchgrass community. Key forage species could be lost over time and potentially be replaced by less desirable species or noxious weed species. The current downward trend in Camp Creek Pasture would continue, providing a less desirable environment for wildlife in general, and may cause some species to leave the area or only use the area on a limited basis.

In Maitland Spring and Lost Creek Pastures the present diversity of herbaceous plants and sagebrush recruitment would benefit elk, antelope, and other wildlife. Potential negative impacts to wildlife would be limited to areas around the sagebrush-grassland upland habitat in Camp Creek Pasture. Species dependent on forested areas for the majority of their needs would be less impacted under the No Action Alternative.

Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat to support wildlife populations, although two spring areas in Maitland Spring Pasture would continue to be trampled and overutilized due to concentrated livestock use.

Alternative B: Proposed Action

Wildlife habitat would likely improve or stabilize in all pastures with selection of the Proposed Action. Changing grazing management to allow periodic growing season rest would allow vegetation to store more carbohydrates and promote quicker recovery following grazing. Livestock grazing under the Proposed Action is designed to maintain the presence and distribution of key forage species across the allotment. Vegetation should improve in quality and vigor, providing healthier herbaceous forage and cover for wildlife, especially elk and pronghorn.

Healthier herbaceous cover provides more productive insect habitat and forage for small mammals, including big brown bats. Nesting cover would improve for dark-eyed juncos (*Junco hyemalis*) and other ground nesting species. Wildlife species are expected to benefit following implementation of the Proposed Action.

Due to the later plant phenology in this area, shifting the current early turn on dates for Camp Creek and Lost Creek Pastures to a couple of weeks later is not expected to negatively affect range conditions. Reconstruction of two developed springs in Maitland Spring Pasture would protect the water sources and adjacent riparian vegetation important to wildlife.

Alternative C: Removal of Livestock Grazing from Camp Creek Pasture

Under this alternative, habitat conditions for wildlife would improve. Vegetation in the uplands of Camp Creek Pasture would likely become denser and increase in quality, providing more forage for antelope and elk. Vegetation cover would increase and seed production would be higher, creating better hiding, foraging, and nesting cover for birds and small mammals. There would be no disturbance from livestock and livestock management activities, especially for ground nesting birds. Herbaceous vegetation and litter would accumulate over time, which may increase the potential spread of fires or result in hotter ground fires that may kill shrubs or herbaceous plants.

Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat to support wildlife populations. Under this alternative, these pastures would likely undergo affects similar to Alternative A. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

Alternative D: Switch to Every Other Year Grazing in Camp Creek Pasture

In the years of nonuse, vegetation would be allowed to complete the growth cycle and produce and drop seed uninterrupted by livestock grazing. Plants, especially herbaceous plants in the uplands of the Camp Creek Pasture, would grow more robust and fill in some of the bare ground. Nonuse every other year would allow vegetative cover to increase, which would provide better hiding, foraging, and nesting cover for birds and small mammals. In nongrazed years, there would be little disturbance from livestock grazing and livestock management, which would allow increased opportunities for ground nesting birds. Elk, deer, and antelope would also likely benefit from the reduced level of competition from livestock during nongrazed years. Since the pasture would continue to be grazed every other year, herbaceous vegetation and litter would accumulate at a slower rate, compared to Alternative C, which may decrease the potential spread of wildfires or result in lower intensity fires that are less damaging to wildlife habitat within this pasture.

Northern goshawks and other forest dependent species may also benefit as the forest understory may provide better cover for prey species under this alternative. Maitland Spring and Lost Creek Pastures would continue to provide adequate habitat for migratory birds. Spring reconstruction would occur under this alternative and the effects would be the same as analyzed under Alternative B – Proposed Action.

B. 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 past action may be useful in two ways according to the CEQ guidance. One is for consideration of the Proposed Action's cumulative effects, and secondly as a basis for identifying the Proposed Action's effects.

The CEQ stated in this guidance that "[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." This is because a description of the current state of the environment inherently includes the effects of past actions. The CEQ guidance specifies that the "CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions." Our information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in "illuminating or predicting the direct and indirect effects of a Proposed Action." The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects.

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

The environmental consequences discussion described all expected effects, including direct, indirect, and cumulative, on resources from enacting the proposed alternatives. Direct and indirect effects plus past actions become part of the cumulative effects analysis; therefore, use of these words may not appear. In addition, the Introduction Section of this EA, specifically the Purpose of and Need for Action, identifies past actions creating the current situation.

RFFAs, also relevant to cumulative effects, include those Federal and non-Federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These Federal and non-Federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. These RFFAs must fall within the geographic scope and timeframe of the analysis being prepared. Continued livestock grazing, weed treatments, road maintenance, and recreation activities are known RFFAs. The cumulative effects of these two actions were thoroughly addressed throughout Chapter III by resource.

CHAPTER IV: PERSONS, GROUPS, AND AGENCIES CONSULTED

A. Agencies and Individuals Consulted

Grazing Lessees
Harney County Court
Oregon Department of Fish and Wildlife

B. Interdisciplinary Team

Jason Brewer - Wildlife Biologist *(Migratory Birds, Wildlife, SSS – Fauna)*
Lindsay Davies - Fisheries/Riparian Specialist (*Water Quality, Wetlands/Riparian Zones)*
Terri Geisler - District Geologist *(Hazardous Materials, Minerals)*
Eric Haakenson - Wilderness Planner (*Wilderness and WSAs*)
Doug Linn - Botanist (*Soil Crust, Soils, Vegetation)*
Brett Page - Natural Resource Specialist *(Recreation)*
Lesley Richman - District Weed Coordinator (*Noxious Weeds)*
Rob Sharp – Rangeland Management Specialist (*Livestock Grazing Management*)
Scott Thomas - District Archaeologist *(Cultural Heritage)*
Autumn Toelle - Rangeland Management Specialist – Lead Preparer *(Upland Vegetation)*

C. Advisory

Bill Andersen, District Range Lead
Bill Dragt, Supervisory Natural Resource Specialist
Stacy Fenton, GIS Specialist
Rhonda Karges, District Planning/Environmental Coordinator
Richard Roy, 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 would 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 April 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 would allow for use prior to April 1 but generally not after April 30, and will depend on climate.

Graze – (Approximately May 1 to July 1 to 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 plant are continuously 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 15 to October 31) – 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 plants 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.

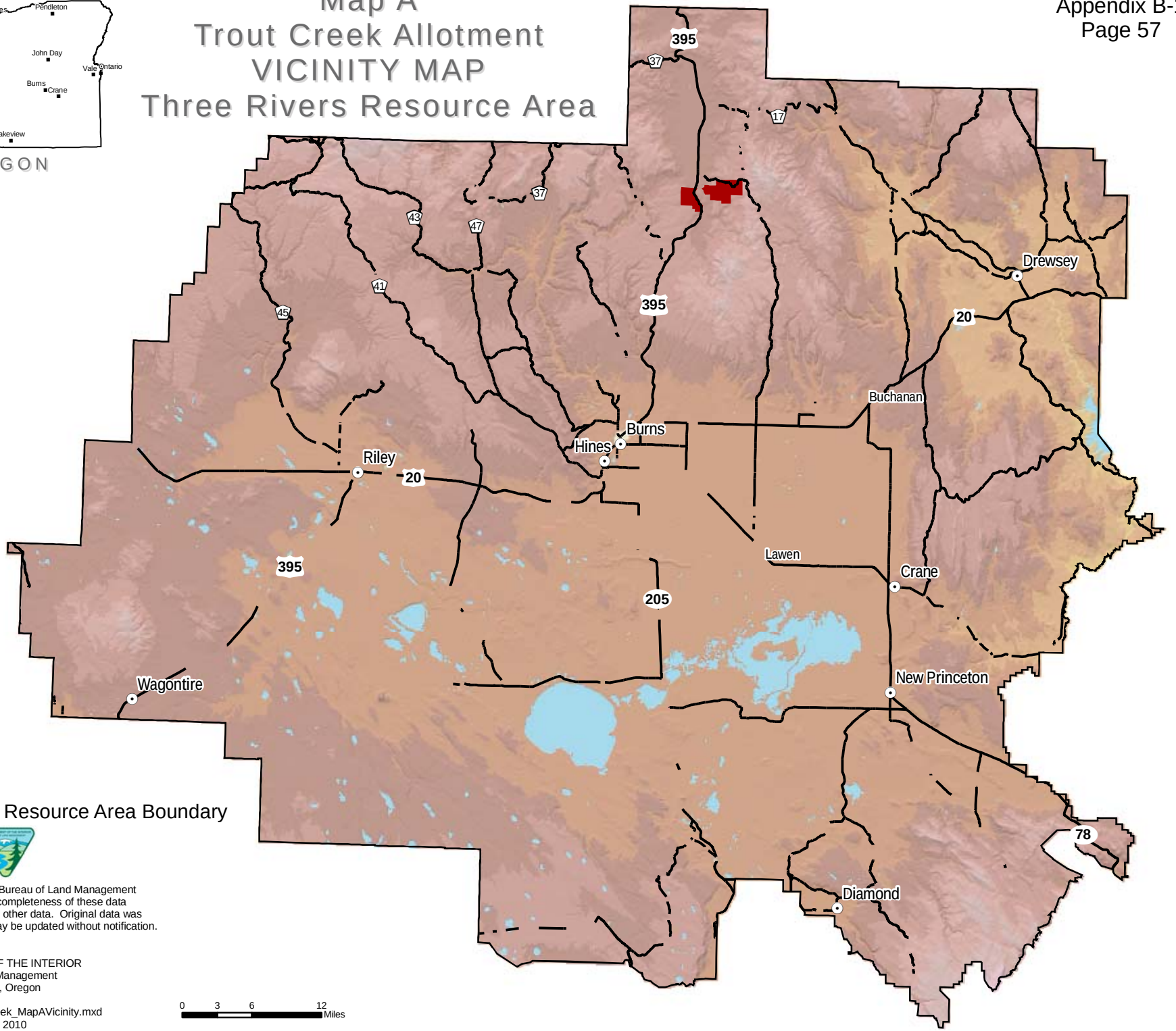
These dates are approximations based on general plant phenology. Year-to-year variation in phenology will occur based on climatological phenomena.

Appendix B

Maps

Map A – Vicinity
Map B – Land Status
Map C – Grazing Even Years
Map D – Grazing Odd Years
Map E – Rangeland Improvements
Map F – Key Species, Target Utilization, and Calculated Carrying Capacity
Map G – Proposed Rangeland Improvements

Map A
Trout Creek Allotment
VICINITY MAP
Three Rivers Resource Area



Legend

- Major Roads
- Allotment
- Three Rivers Resource Area Boundary

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

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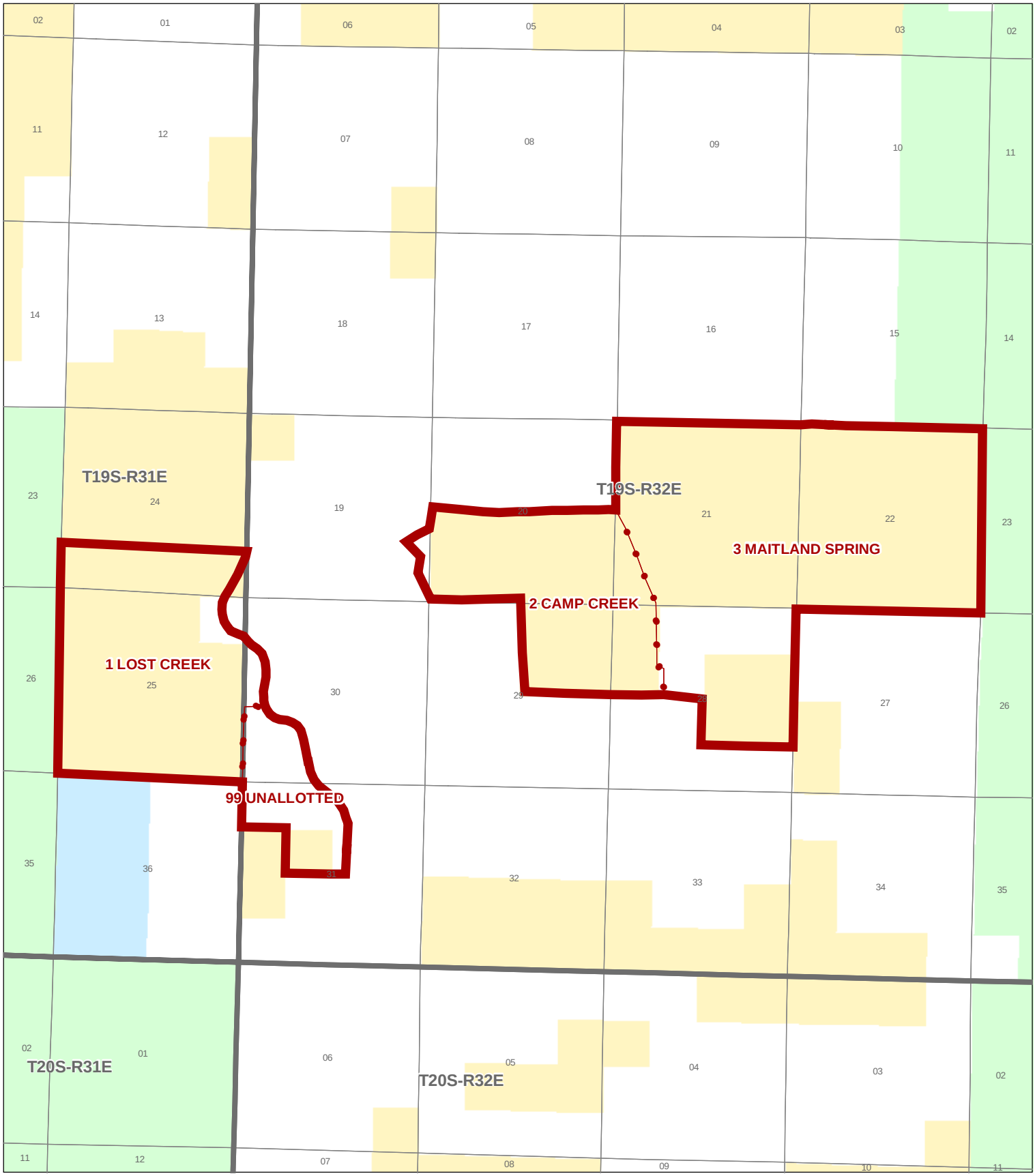
Burns District, Oregon

/workarea/atoelle/TroutCreek_MapAVicinity.mxd
January 4, 2010

0 3 6 12 Miles

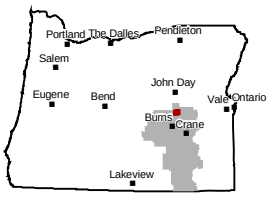
Trout Creek Allotment
LAND STATUS

Map B



Legend

- Bureau of Land Management
- State
- U. S. Forest Service
- Private
- Allotment Boundary
- Pasture Boundary
- Township and Range
- Section Lines



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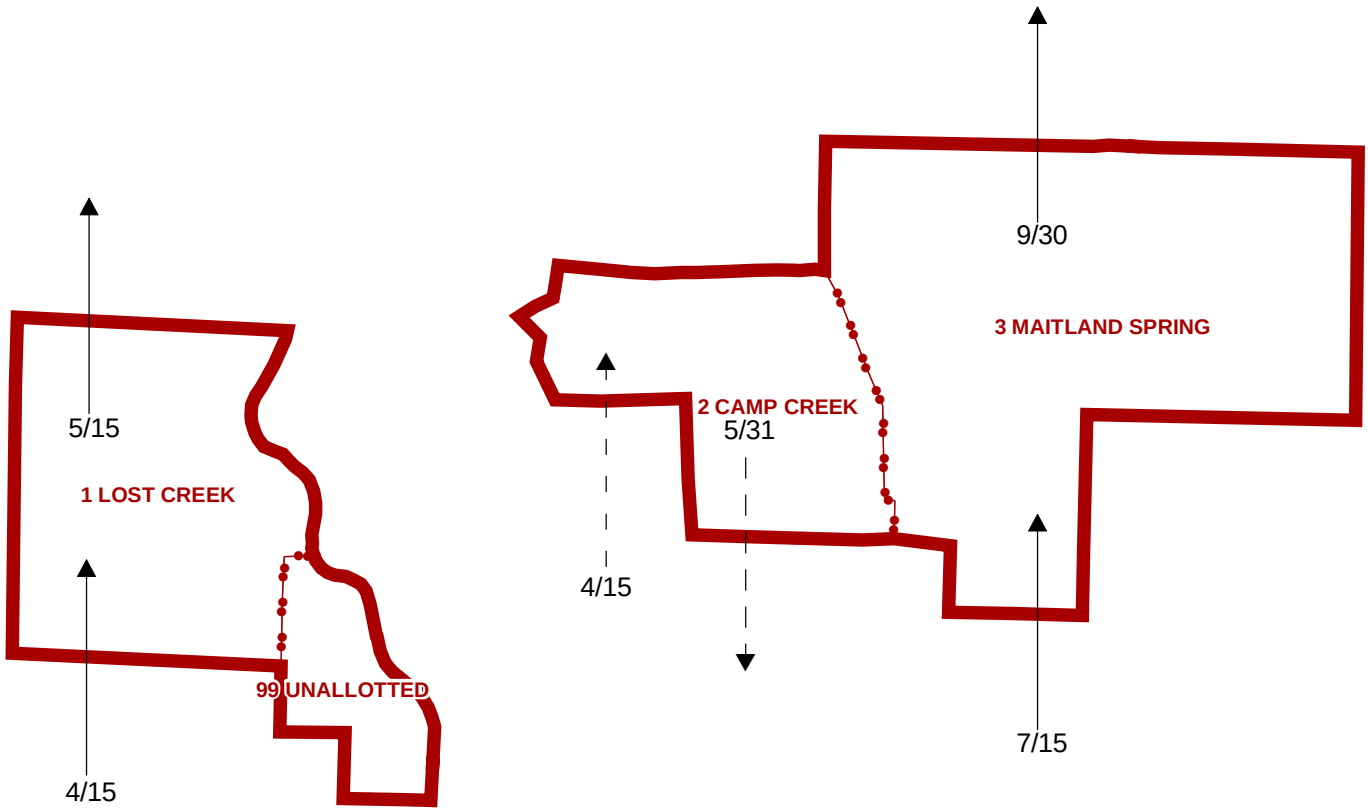
Burns District, Oregon

karea/atoelle/TroutCreek_MapBLandStatu
January 4, 2010

0 0.25 0.5 1 Miles

Trout Creek Allotment
PROPOSED GRAZING SCHEMATIC
EVEN YEAR

Map C



Legend

- Allotment Boundary
- Pasture Boundary
- Permit #3600066
- Permit #3602095

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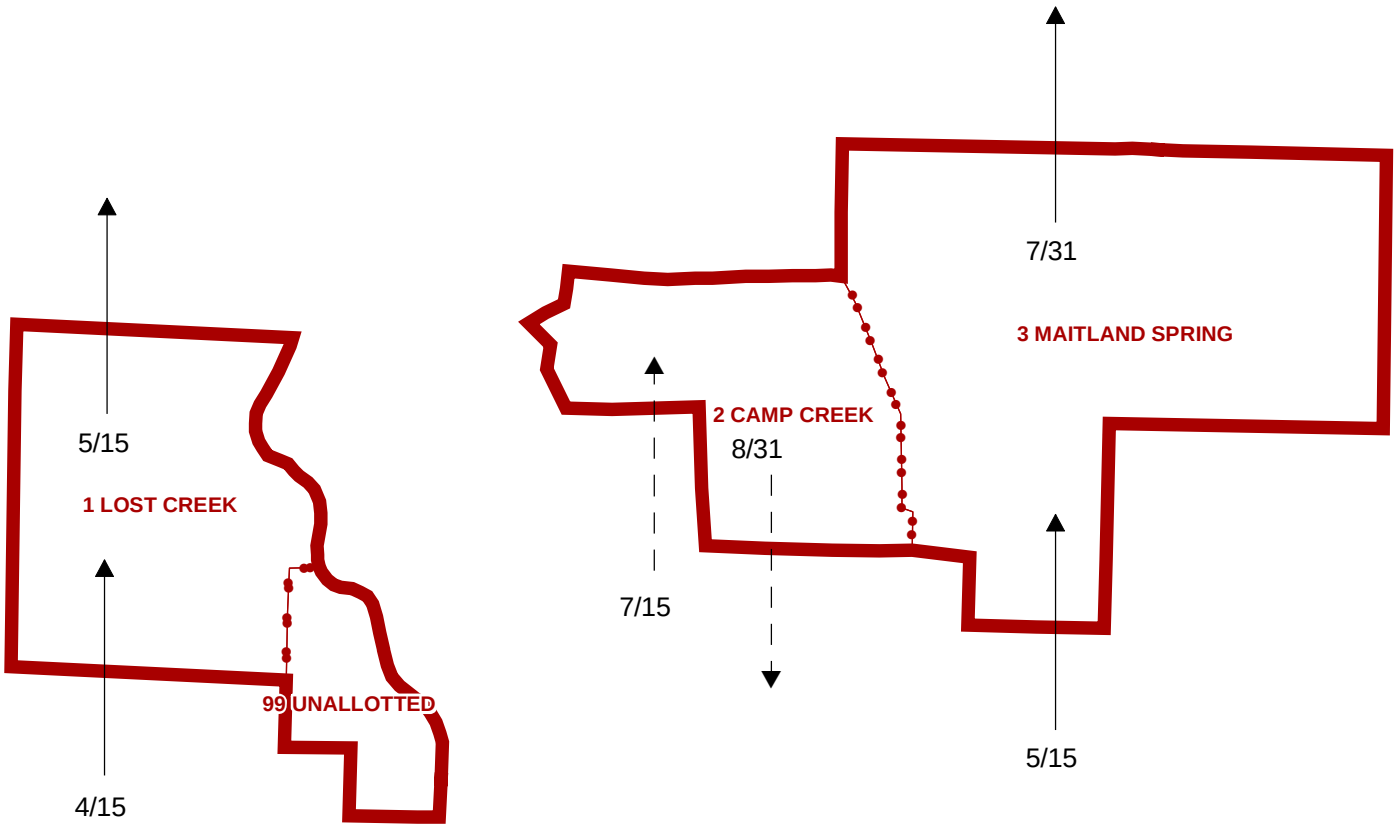
Bureau of Land Management
Burns District, Oregon

area/atoelle/TroutCreek_MapCGrazingEve
January 4, 2010

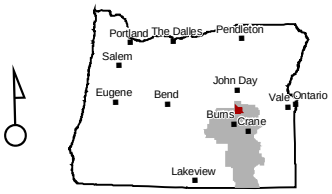
0 0.25 0.5 1 Miles

Trout Creek Allotment
PROPOSED GRAZING SCHEMATIC
ODD YEAR



Legend

- Allotment Boundary
- Pasture Boundary
- Permit #3600066
- Permit #3602095



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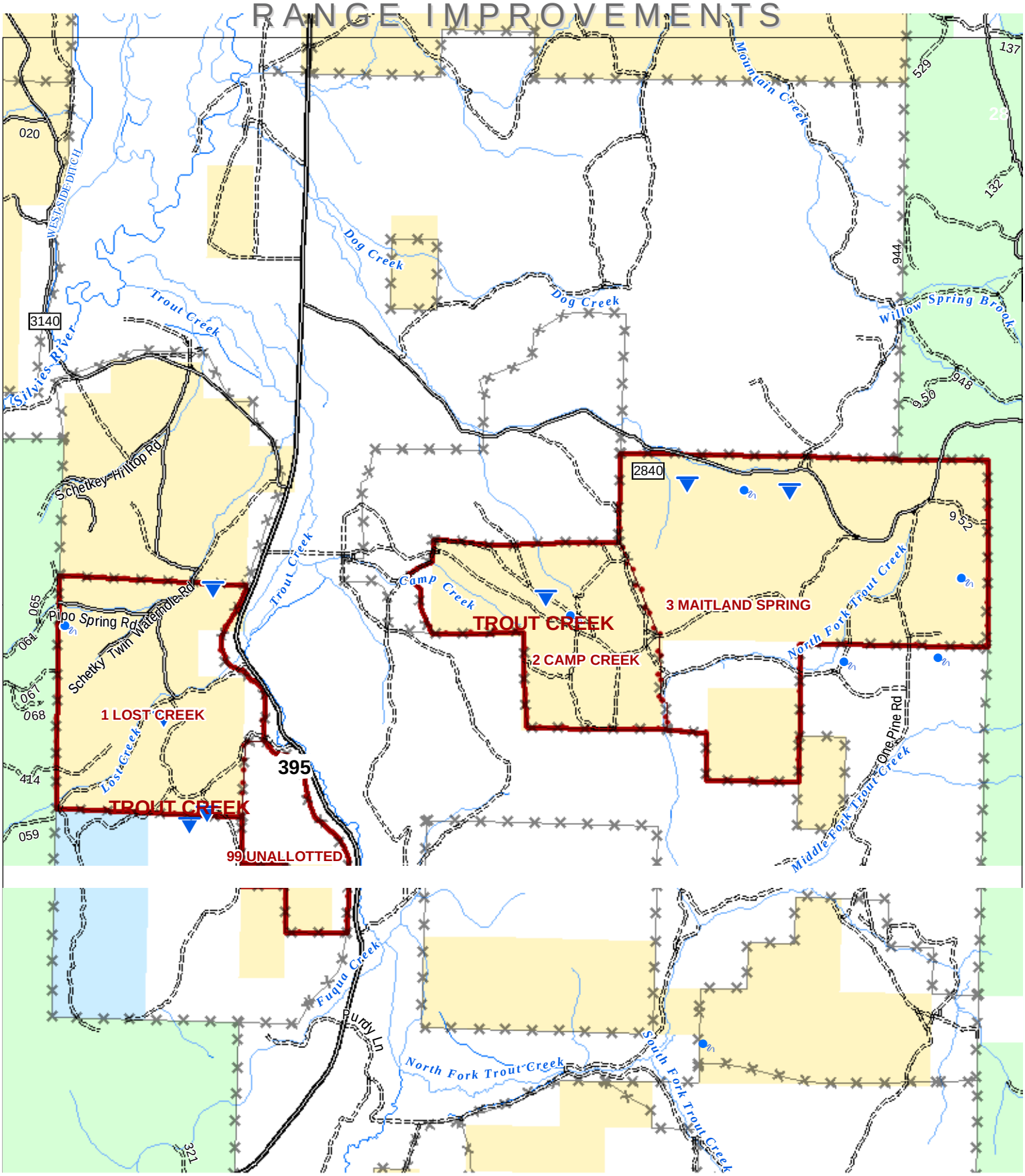
January 4, 2010

0 0.25 0.5 1 Miles

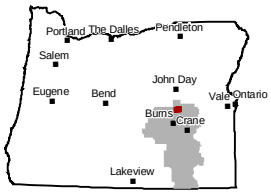
Trout Creek Allotment
RANGE IMPROVEMENTS

Map E



Legend

- Bureau of Land Management
- State
- U. S. Forest Service
- Private
- Allotments
- Pasture Boundary
- Perennial Streams
- Intermittent Streams
- Paved Road
- Non-Paved Improved Road
- Primitive or Unknown Road Surface
- FENCE
- POND
- RESERVOIR
- SPRING



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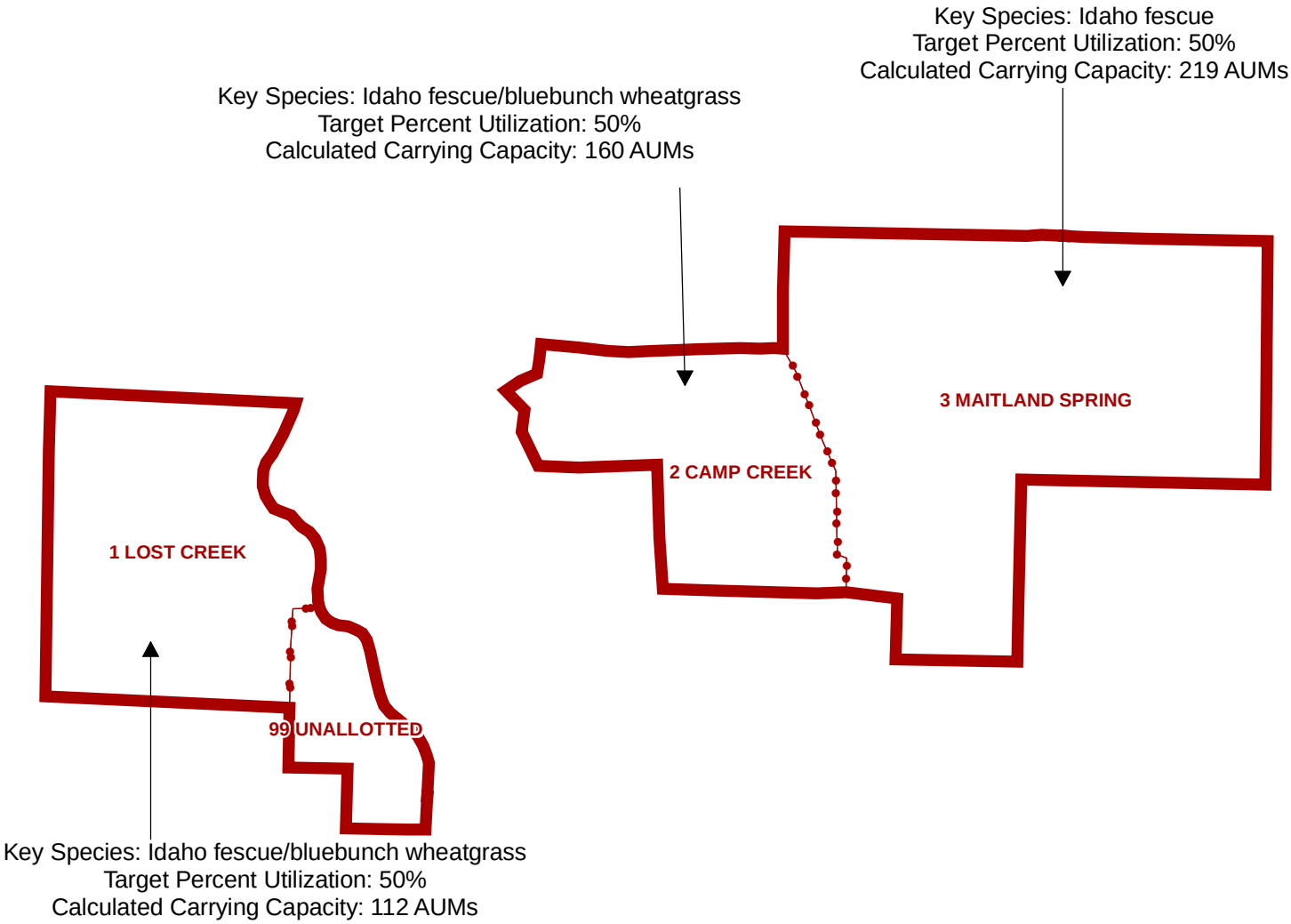
Burns District, Oregon

a/atoelle/TroutCreek_MapERangeImprover
January 4, 2010

0 0.2 0.4 0.8 Miles

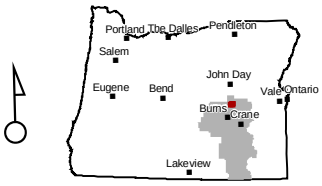
Trout Creek Allotment
KEY FORAGE SPECIES, TARGET PERCENT UTILIZATION, & CALCULATED CARRYING CAPACITY

Livestock Carrying Capacity calculations are derived from the calculations completed in 2006 using data collected from 1991 through 2005. This data can be found in the Trout Creek Allotment file, evaluations section.



Legend

- Allotment Boundary
- Pasture Boundary



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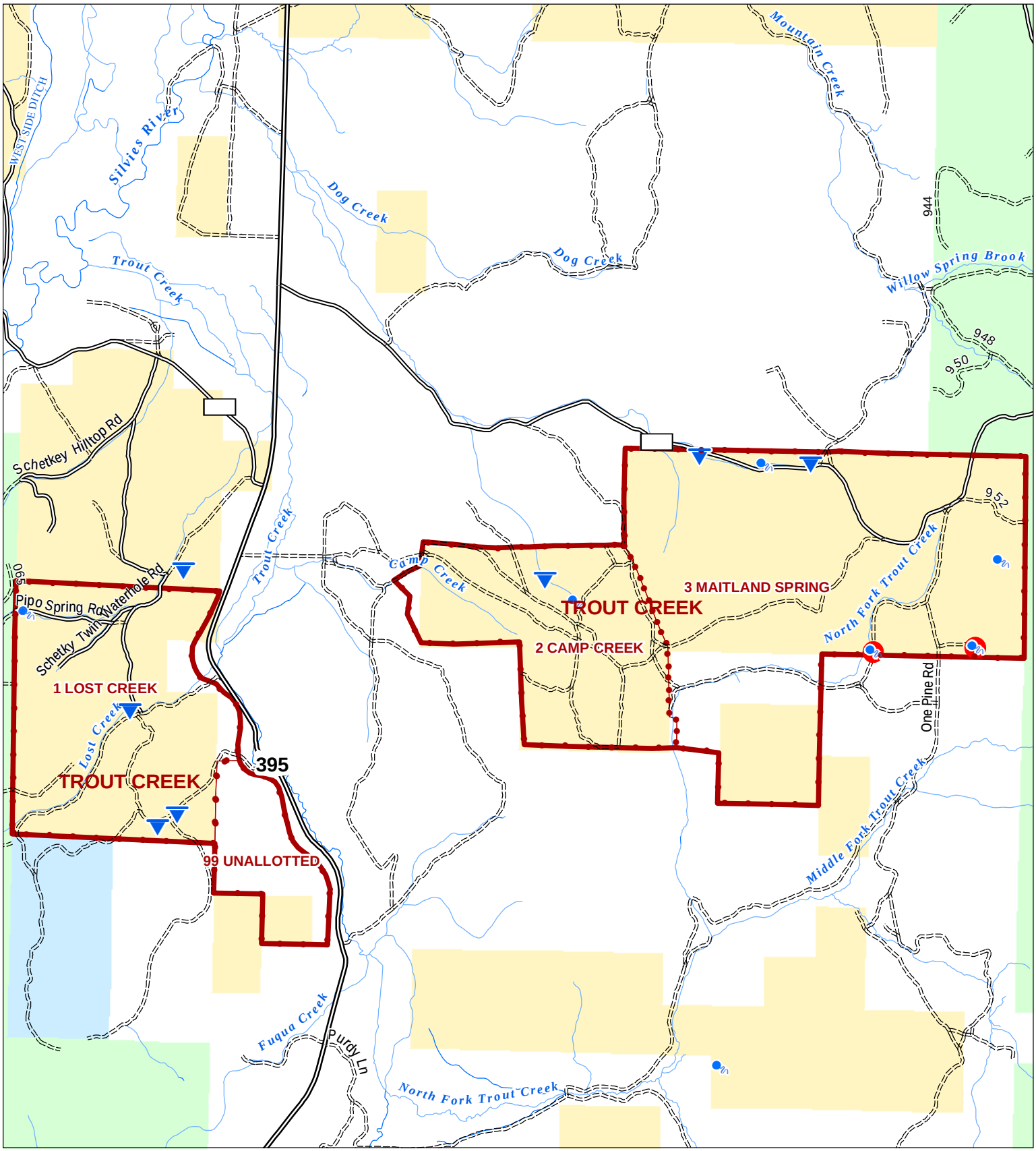
Burns District, Oregon

rea/atoelle/TroutCreek_MapFTargetUtilizat
January 4, 2010

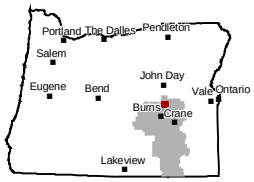
0 0.25 0.5 1 Miles

Trout Creek Allotment
PROPOSED RANGE IMPROVEMENTS



Legend

- Bureau of Land Management
- State
- U. S. Forest Service
- Private
- Allotments
- Pasture Boundary
- Perennial Streams
- Intermittent Streams
- Paved Road
- Non-Paved Improved Road
- Primitive or Unknown Road Surface
- RECONSTRUCT (proposed reconstruction)
- POND
- RESERVOIR
- SPRING (spring development)



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Burns District, Oregon

elle/TroutCreek_MapGProposedRangeImp
January 4, 2010

0 0.2 0.4 0.8 Miles