



United States
Department of
Agriculture

Forest
Service

Intermountain
Region

September 2009



Environmental Assessment

Wood Creek Cattle and Horse "On-Off" Allotment

**Mountain Home Ranger District
Boise National Forest**

Responsible Official: Thomas Whitford, Acting District Ranger
Mountain Home Ranger District
Boise National Forest
2180 American Legion Boulevard
Mountain Home, ID 83647
Phone: 208-587-7961
Fax: 208-587-9217

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Chapter 1 -- Purpose and Need for Action

1.1 INTRODUCTION

The Wood Creek Cattle and Horse “On-Off” Allotment (Wood Creek Allotment) encompasses about 20,690 acres, including about 5,590 acres of National Forest System (NFS) land, about 180 acres of land held in trust by the State of Idaho, and about 14,910 acres of private land. A small portion of the eastern side of the allotment is located within the proclaimed boundary of the Sawtooth National Forest, but is under the administrative authority of the District Ranger of the Mountain Home Ranger District of the Boise National Forest (Boise NF). The remainder of the allotment lies within the Boise NF.

The allotment is located in Elmore County, Idaho, about 46 miles east of Mountain Home. It is located in Township 1 South, Range 9 East, sections 1 to 3, 10 to 15, and 22 to 24; Township 1 South, Range 10 East, sections 2 to 10, and 15 to 21; Township 1 North, Range 9 East, sections 24 to 27 and 35 to 36; and Township 1 North, Range 10 East, sections 17 to 21 and 28 to 34; Boise Meridian (Figure 1).

Cattle graze the NFS portion of this allotment under permit from the USDA Forest Service. The Forest Service currently permits 43 cow/calf pairs to graze the “on” (NFS) portion of the Wood Creek Allotment for a grazing season of June 1 to November 15. The “off” portion of the Wood Creek Allotment, which is composed of state trust and private land, is grazed by 957 cow/calf pairs for the same season. This allotment is managed in a deferred rotation system.

This Environmental Assessment (EA) for the Wood Creek Cattle and Horse “On-Off” Allotment is tiered to the Final Environmental Impact Statement (FEIS) (USDA Forest Service 2003a) and planning record supporting the 2003 revised Land and Resource Management Plan for the Boise NF (Forest Plan) (USDA Forest Service 2003b), including documentation related to the Continuous Assessment and Planning (CAP) process described in Chapters III and IV of the Forest Plan. This documentation includes monitoring reports, implementation guides, and errata and corrections to the 2003 FEIS and Forest Plan. Documented analyses in the Forest Plan FEIS have been referenced rather than repeated in some instances. Analyses pertaining to the FEIS for the 2003 Forest Plan are contained in the Forest Planning Record located at the Boise NF Supervisor's Office in Boise, Idaho.

1.2 BACKGROUND

A grazing allotment is a designated area of land available for domestic livestock grazing. An individual allotment can be comprised of lands under several jurisdictions, including the U.S. Forest Service (NFS), private, state, or other federal agencies. When NFS land comprises only a portion of the total estimated grazing capacity of an allotment, the Forest Service administers that allotment with a “Term Grazing Permit with On-and-Off Provisions” (“on-off” permit). Allotments with this type of permit are characterized as “on-off” allotments. “On-off” allotments are often designated when small areas of NFS rangeland are isolated from other large blocks of NFS land. The isolated parcels of NFS rangeland (the “on” lands) cannot be effectively managed by themselves and must be included with lands of one or more other ownerships (the “off” lands) to make a logical grazing unit. The objective of this type of permit is to promote the efficient grazing use of lands under different ownerships, while at the same time achieving desired conditions on NFS lands.

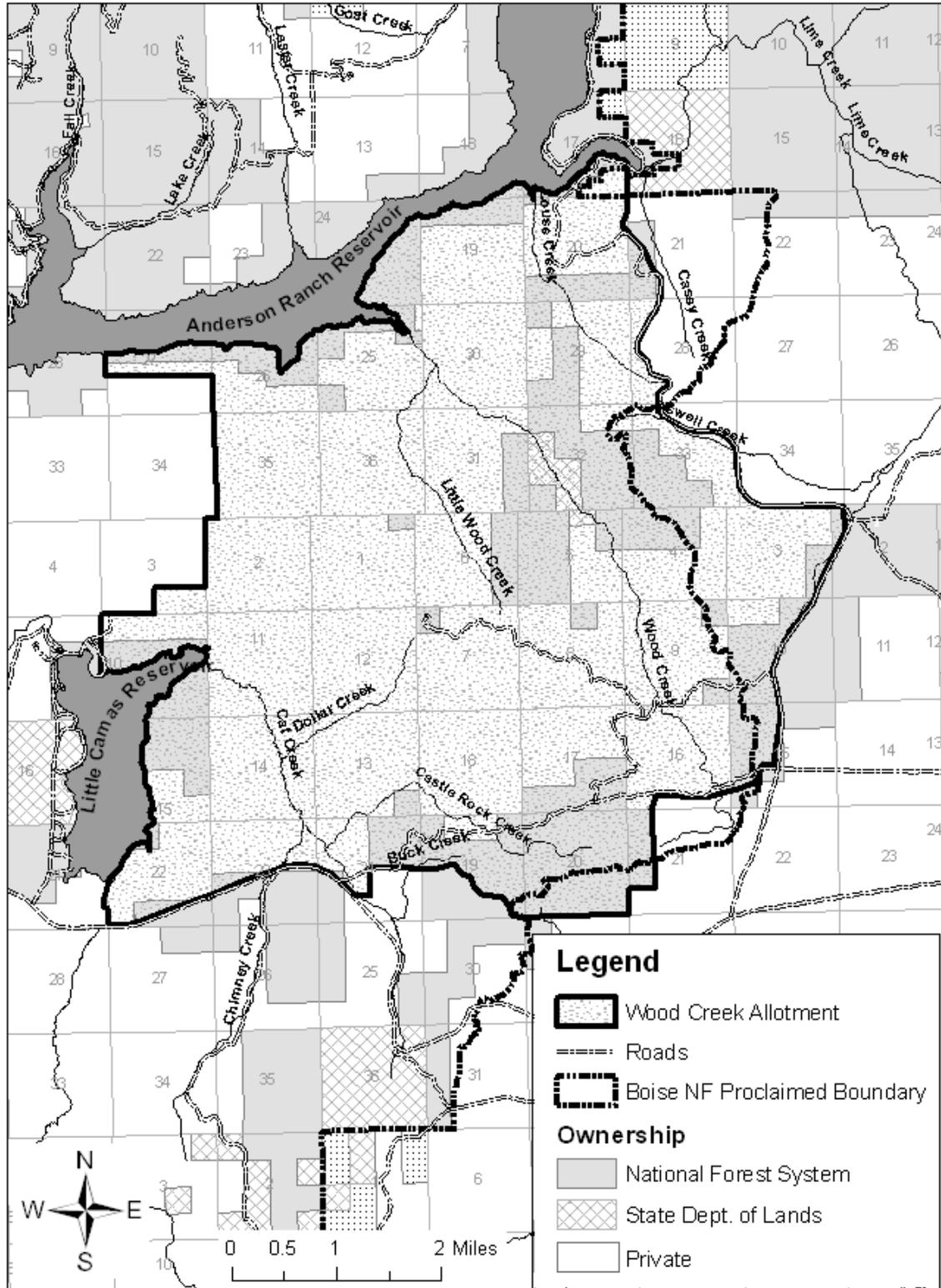


Figure 1. Map of the Wood Creek Allotment

Under this type of permit, the Forest Service administers livestock grazing only on NFS lands within the allotment. The grazing capacity of the NFS lands is determined by the Forest Service. The grazing capacity of the non-NFS lands is determined by the permittee, subject to concurrence by the authorized Forest Service officer. The Forest Service term grazing permit specifies the season of use, livestock numbers for both "on" and "off" lands, the grazing area of the combined "on" and "off" lands, and the standards for grazing management on "on" lands only. The Forest Service has no direct control of the intensity of grazing on the "off" lands during the permitted season of use, nor does it monitor the effects of grazing on the "off" lands.

A "Term Grazing Permit with On-and-Off Provisions" is generally issued for ten years. However, the grazing permittee must own or control the "off" lands and the term of the permit is subject to proof of lease renewal where the permittee's lease term on the non-NFS land is less than ten years. The Forest Service does not control management of improvements on "off" land but may cancel a permit if NFS lands or resources are adversely affected by the permittee's failure to develop or maintain improvements on "off" lands. The grazing permittee need not own livestock authorized for "off" lands but must own the livestock for "on" lands. "Off" livestock are run in conjunction with "on" livestock.

1.3 PROPOSED ACTION

The proposed action for the Wood Creek Allotment is "no action." This alternative proposes no changes to current management of the allotment. For this reason, the proposed action is the baseline for analysis and serves as the no action alternative relative to any other alternatives.

Specifically, the proposed action for the Wood Creek Allotment would continue to authorize 43 cow/calf pairs to graze the "on" (NFS) portion of the allotment for a grazing season of June 1 to November 15. The "off" portion of the allotment, which is composed of private land and land held in trust by the State of Idaho, would continue to be grazed by 957 cow/calf pairs for the same season. This allotment is divided into units that are grazed in a deferred rotation.

There would continue to be some flexibility in allotment administration allowed for weather conditions, range readiness, and livestock needs. If the forage is fully utilized or the Forest Service determines that further grazing would damage resources, the permittee may be required to remove livestock early.

Grazing would continue on the allotment consistent with standards, guides, terms, and conditions listed in the Term Grazing Permit, as supplemented by Annual Operating Instructions (AOIs), as well as with direction specified in the standards and guidelines of the Forest Plan. These standards may be modified by the Responsible Official to accelerate attainment of the desired conditions, and include:

- Maximum forage utilization of representative areas within each pasture containing National Forest System lands will not exceed the values shown below at the end of the growing season. Those utilization levels are as follows:
 - Riparian Areas: Maximum 45 percent use or retain a minimum 4-inch stubble height of hydric greenline species whichever occurs first (Forest Plan Standard RAST01, p.III-45).
 - Upland Vegetative Cover Types: Vegetative slow growth, after seed ripe conditions, or late season pastures – 50 percent use (Forest Plan Standard RAST01, p.III-45);
- Livestock salting is prohibited in Riparian Conservation Areas (RCAs) (Forest Plan Standard RAST04, III-45). Place salt no closer than ¼ mile from water and not within 100 feet of

designated roads. Move salt from areas where utilization standards have been met (Terms and Conditions).

- All water developments must provide access and escape to and from water for all types of wildlife (this requirement is a part of the Terms and Conditions for the allotment that exceeds the requirements of Forest Plan Standard RAST09, p. III-45).
- Only certified noxious weed-free hay, straw, or feed is allowed on National Forest System lands (Forest Plan Standard NPST01, p. III-36).
- On all lands outside of designated travelways, motorized use is prohibited, unless otherwise authorized (Forest Plan Standard REST04, p. III-64).
- Bulls must test negative for Trichomoniasis before entering National Forest System lands (this requirement is in the Annual Operating Instructions).

The proposed action includes continued monitoring of the allotment through grazing permit administration, which includes monitoring unit rotation and forage utilization and inspections of range improvements (water developments, fences, corrals, etc.) as needed.

All existing range improvements, such as fences and water developments, are required to be brought to properly functioning condition each grazing season prior to livestock entering the allotment (or unit within the allotment), as defined in the Term Grazing Permit (see Project Record). There are no additional improvements proposed for the Wood Creek Allotment.

As a result of the 2006 North Sheep decision (*Western Watersheds Project v. USFS*, Case No. CV-05-189-E-BLW, District Court of Idaho), Forest Plan Capability Analyses and Site-Specific Capability Analyses are required for all allotments. These analyses have been completed for the Wood Creek Allotment and the Rangeland Management Specialist has determined that there is sufficient capable rangeland to support permitted numbers on the allotment (refer to Section 3.2.2.1).

1.3.1 MITIGATION AND ADAPTIVE MANAGEMENT

Sage-grouse is a Region 4 Sensitive species known to occur on and near NFS portions of the Wood Creek Allotment. The Forest Plan contains wildlife standard WIST03:

Mitigate management actions within known nesting or denning sites of MIS [management indicator species] or Sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Sites, periods, and mitigation measures shall be determined during project planning (Forest Plan, p. III-27).

According to the Idaho Sage Grouse Advisory Committee (2006), the nesting period for sage-grouse runs from approximately April 1 to June 15. Sage grouse in Idaho typically nest within two to three miles of lek sites (Idaho Sage Grouse Advisory Committee 2006). A three-mile buffer has been applied to known leks on or near the Wood Creek Allotment. Livestock grazing will be excluded from NFS land within the three-mile buffer that are determined to be suitable nesting habitat (open sagebrush canopy with less than 30% slope) until after June 15th each year. This does not preclude livestock from using those portions of NFS land that are not identified as suitable nesting habitat or are outside of the three-mile buffer before June 15th. If monitoring confirms that there are additional sage-grouse lek sites on the NFS lands in the Wood Creek Allotment, livestock grazing will be excluded from those NFS lands that contain suitable nesting habitat within a three-mile buffer zone until after June 15th.

1.4 NEED FOR ACTION

The need for this action is to authorize the appropriate level of livestock use within the Wood Creek Allotment under updated management direction designed to achieve management objectives and to continue to move existing resource conditions toward desired conditions.

- Authorizing continued grazing would address the objectives of the range management program for the NFS and the goals and objectives in the Forest Plan.
 - The objectives of the range management program for the NFS are:
 - To manage the range vegetation to protect basic soil and water quality resources, provide for ecological diversity, improve or maintain environmental quality, and meet public need for interrelated resource use [FSM 2202.1(1)].
 - To integrate management of range vegetation with other resource programs to achieve multiple use objectives contained in forest plans [FSM 2202.1(2)].
 - To provide livestock forage, wildlife food and habitat, outdoor recreation, and other resource values dependent on range vegetation [FSM 2202.1(3)].
 - To contribute to the economic and social well-being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood [FSM 2202.1(4)].
 - To provide expertise on range ecology, botany, and management of grazing animals [FSM 2202.1(4)].

Authorization to graze specific areas is needed through project-level NEPA decisions (FSH 2209.13 Chapter 91). If the decision is made to authorize livestock grazing on an allotment, allotment management plans (AMPs) implement the applicable management direction from the NEPA decision.

The proposed action was designed to be consistent with the Forest Plan and the livestock grazing standards and guidelines that it promulgates as a means of eventually achieving the Forest Plan's goals on the allotment.

1.5 DECISION FRAMEWORK

This EA will serve to inform a decision that will stipulate:

1. Whether to authorize continued grazing on the allotment;
2. If grazing is allowed to continue, whether management changes would likely be necessary to address the Forest Plan's goals, objectives, and desired future conditions for the NFS land in the allotment; and
3. Whether the resulting action would likely result in significant impacts necessitating the preparation of an environmental impact statement (EIS) for the allotment.

1.6 CONSISTENCY WITH LAWS, REGULATIONS, AND POLICIES

This EA has been prepared pursuant to the requirements of the National Environmental Policy Act (NEPA, 40 CFR §§1500-1508, 2007), the National Forest Management Act (36 CFR Part 219, 2007), and the 2003 revised Forest Plan.

1.6.1 FOREST PLAN MANAGEMENT DIRECTION

The Forest Plan provides for the multiple-use and sustained yield of goods and services from the Forest. Forest plans determine the capability and suitability of the plan area and establish programmatic direction that includes goals, objectives, standards, guidelines, and monitoring requirements. The Forest Plan at the programmatic level identified the NFS lands within this allotment as suitable for livestock grazing.

The Forest Plan also contains direction for proper management of livestock within the allotment. The proposed action was designed to comply with the Forest Plan and the livestock grazing standards and guidelines that it promulgates as a means of eventually achieving the Forest Plan's goals. Forest Plan management direction for rangeland resources includes the following goals:

- Provide for livestock forage within existing open allotments, in a manner that is consistent with other resource management direction and uses (RAGO01).
- Manage rangelands using controlled livestock grazing, range structural and non-structural improvements, vegetative and ground rehabilitation, fire, and timber management in various combinations to meet desired conditions (RAGO02).
- Manage upland vegetation on suitable rangelands to maintain or restore hydrologic function and soil productivity of watersheds containing allotments (RAGO03).
- Manage herbaceous and shrub vegetation on suitable rangelands to meet resource objectives in an efficient manner (RAGO04).
- Manage livestock grazing within riparian areas to accommodate the maintenance or restoration of aquatic and riparian processes and functions (RAGO05).
- Coordinate livestock grazing to address conflicts with other resource uses in a manner that is consistent with Forest Plan management direction (RAGO06).

That direction provides desired conditions for rangeland resources, for which the long-term goals are

A sustainable level of forage, consistent with other resource management direction, is available for use through the Forest Service grazing permit system. Rangeland forage quality is maintained or improved in areas where vegetation management projects and range management actions occur. Riparian areas continue to be a focal point for providing vegetative diversity, landscape capability, soil productivity, wildlife habitat, proper stream channel function and water quality important to sustaining beneficial uses. Riparian areas are functioning properly and/or have improving trends in vegetative composition, age class structure and vigor. Upland range vegetation is contributing to proper hydrologic function. The composition and densities of shrubs, grasses and forbs are variable and dynamic across the landscape (Forest Plan, p. III-44).

The allotment lies in Forest Plan Management Area 1 - *Lower South Fork Boise River*, as designated by Forest Plan, and within management prescription categories (MPC) 4.2 - *Roaded Recreation Emphasis*

and 6.1 - *Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes* (Forest Plan, pp. III-92-105).

These MPCs do not include Forest Plan standards or guidelines specific to grazing activities (Forest Plan, pp. III-87-90). Management Area direction specific to rangeland resources include the following three objectives (Forest Plan, pp. III-99-105):

- Evaluate and incorporate methods to help prevent weed establishment and spread from livestock grazing activities in the Big Fiddler-Soap, Long Gulch, Black Canyon-Trail, Pierce-Mennecke, Upper Willow Creek, Lower Willow Creek, Wood Creek, Indian Creek, Long Tom Reservoir, Lower Lime Creek and Cayuse-Rough subwatersheds. Consider changes in the timing, intensity, duration or frequency of livestock use; the location of salting; and restoration of water sites. (Rangeland Resources Objective 0155)
- When constructing new fences or reconstructing existing fences, design or relocate to avoid potential sage-grouse mortality near leks (Rangeland Resources Guideline 0156).
- Whenever possible, modify developed springs and other water sources to restore free-flowing water and wet meadows in sage-grouse habitat (Rangeland Resources Guideline 0157).

The project record contains a checklist documenting each interdisciplinary team (IDT) resource specialist's consideration of the proposed action's consistency with Forest Plan standards and guidelines. The proposed action would maintain consistency with Forest Plan wildlife standard WIST03 through mitigation and an adaptive management measure described in the proposed action (see section 1.3.1 of this EA).

1.7 TRIBAL CONSULTATION

The Forest Service consulted local tribes about this analysis in 2004. A letter of consultation was sent to the Shoshone-Bannock Tribes. The Shoshone-Paiute Tribes of Duck Valley were consulted in a "Wings and Roots" meeting held between the Shoshone-Paiute Tribes of Duck Valley and the Forest Service. Neither tribe expressed concerns with the proposed action or the analysis.

1.8 PUBLIC INVOLVEMENT

As required by 36 CFR Part 215, the 30-day Notice and Comment period for the Wood Creek Allotment analysis occurred in 2004. A "Legal Notice of Proposed Action" was published in *The Idaho Statesman*, the newspaper of record, on November 5, 2004, and Proposed Action Reports were mailed to several interested agencies, groups, and individuals. Comments were received on both the Wood Creek and Moores Flat allotments because the Notice and Comment period for these allotments was conducted concurrently. The Forest Service's consideration of comments received that expressed opposition or concern with the proposed action is attached to this EA as the Appendix.

A vast majority of the comments received in 2004 expressed general concerns and recommended that the Forest Service analyze the effects of grazing on particular resource elements, without including a description of a site-specific, cause-effect relationship between an action and an effect that might have demonstrated the need for such an analysis.

The IDT considered each comment received but found no unresolved conflicts requiring resolution through the development of alternatives to the proposed action.

With no new issues or alternatives being raised during the scoping process, and to better focus this assessment, the Responsible Official determined that the scope (40 CFR §1508.25, 2007) of this project would be limited to the proposed action as described in Section 1.3 of this EA and a no grazing alternative (36 CFR §220.7(b)(2)(i), 73 FR 43084 *et seq.*, 7/24/08).

1.9 RESOURCE CONCERNS TO BE ANALYZED

The following resource concerns are important in the analysis area, but effects on them have been either effectively mitigated with the proposed action, or found through analysis to have no cause-effect relationship on the allotment. They were considered but will not drive formulation of alternatives to the proposed action. Disclosure of effects on these resources is either required by law, regulation and policy, or included in this analysis to address concerns introduced in scoping:

- Disclosure of whether the proposed action and no grazing alternative have the potential to affect native plant diversity, and if so, the context and intensity of the potential effect. This disclosure addresses comment 27 in the Appendix of this EA.
 - The Forest Service will describe the potential changes to vegetation and competitiveness of native plant species.
 - The Forest Service will describe the potential changes to ground cover, sagebrush canopy, aspen condition, riparian condition, and noxious weeds
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect browse utilization, and if so, the context and intensity of the potential effect. This disclosure addresses comment 16 in the Appendix of this EA.
 - Cattle prefer to graze grass and other herbaceous species and typically do not graze on browse species such as antelope bitterbrush. Therefore, there is minimal competition for browse between cattle and deer or pronghorn antelope or other wildlife species that browse. Livestock grazing will have no effect to browse utilization. Grazing or riparian browse species are discussed in sections 3.4, 3.6 and 3.7.
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect wildlife habitat and habitat connectivity, and if so, the context and intensity of the potential effect. This disclosure addresses comment 11 in the Appendix of this EA.
 - The Forest Service will identify sensitive, MIS, and big game species with habitat present in the allotment and describe the potential effects to their habitats.
 - The Forest Service will describe potential changes to aspen conditions and the species that could be affected by those changes.
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect Threatened, Endangered, or Sensitive species and management indicator species (wildlife, plants, and fish), and if so, the context and intensity of the potential effect. This disclosure addresses comment 12 in the Appendix of this EA.
 - The Forest Service will identify threatened, endangered, sensitive, and MIS species with the potential to occur within the project area and determine the effects to those likely to be present.

- Disclosure of whether the proposed action and no grazing alternative have the potential to affect sagebrush-obligate and riparian-dependent bird species habitat, and if so, the context and intensity of the potential effect. This disclosure addresses comments 14 and 17 in the Appendix of this EA.
 - The Forest Service will determine whether sagebrush-obligate and riparian-dependent bird species habitat is present on the project area and describe potential effects to these bird species with habitats present.
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect soils, wetlands, riparian habitats, and water quality, and if so, the context and intensity of the potential effect. This disclosure addresses comments 3, 21, and 27 in the Appendix of this EA.
 - The Forest Service will describe potential effects to soils resources in terms of detrimental disturbance, total soil resource commitment, and slope stability.
 - The Forest Service will describe potential effects to riparian vegetation.
 - The Forest Service will describe potential effects to watershed resources and water quality in terms of forest plan watershed condition indicators.
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect the amount of detrimental soil conditions that exist, including potential effect, if any, on microbotic crusts, and if so, the context and intensity of the potential effect. This disclosure addresses comment 28 in the Appendix of this EA.
 - The Forest Service's indicators for this analysis will be detrimental disturbance (DD), total soil resource commitment (TSRC), and slope stability.
 - The Forest Service will reference previous NEPA analyses to identify a low potential for the occurrence of BSCs.
- Disclosure of the consistency of the proposed action and no grazing alternative with the Clean Water Act. This disclosure addresses comments 3 and 21 in the Appendix of this EA.
 - This Forest Service's analysis will follow the checklist in the Forest Plan and include a conclusive statement on each alternative's consistency with the Clean Water Act.
- Disclosure of whether the proposed action and no grazing alternative have the potential to affect cultural resources, and if so, the context and intensity of the potential effect. This disclosure addresses comment 31 in the Appendix of this EA.
 - The Forest Service will describe the potential for adverse effects to cultural and historic resources within the project area.
 - The Forest Service will describe how potential effects are consistent or inconsistent with the Forest Plan and programmatic agreement with the SHPO.

1.10 DOCUMENT STRUCTURE

This EA incorporates by reference the project record (40 CFR §1502.21, 2007). The project record contains specialist reports and other technical documentation used to support the analysis and conclusions in this EA.

Detailed information that supports the analyses presented in this document, unless specifically noted otherwise, is contained in the project planning record located at the Mountain Home Ranger District Office.

This document consists of the following main chapters:

- Chapter 1 – Purpose and Need for Action: Describes the proposed action, purpose and need of the action, decisions to be made, Forest Plan consistency, regulatory requirements and required coordination, public involvement, and identification of resource concerns.
- Chapter 2 – Alternatives: Includes descriptions of the alternatives considered in detail and a comparative summary of the environmental consequences of each alternative analyzed in detail.
- Chapter 3 – Affected Environment and Environmental Consequences: Describes the existing conditions of the resources within affected areas and the environmental impacts of the alternatives on those resources.
- Chapter 4 – Consultation and Coordination: Provides a list of the primary preparers of this document and the tribes who were consulted.
- Appendix – Response to Comments: Lists the agencies, groups, and individuals who submitted concerns during scoping, and the Forest Service's responses to those concerns, follows the main chapters.
- A listing of references cited follows the Appendix.

Chapter 2 -- Alternatives

This chapter describes and compares the alternatives to the proposed action that was described in Chapter 1 and concludes with a comparative summary of the alternatives considered in detail (Section 2.2). This comparison, combined with the more detailed disclosure in Chapter 3, provides the information necessary for the Responsible Official to make an informed choice between alternatives.

2.1 ALTERNATIVES CONSIDERED

Based on public input, the IDT identified no unresolved conflicts to analyze in depth that would result in the need to develop and consider alternatives to the proposed action (36 CFR §220.7(b)(2)(i), 73 FR 43084 *et seq.*, 7/24/08). Based on its consideration of public input, the IDT recommended and the responsible official approved the proposed action and one alternative to the proposed action.

2.1.1 ALTERNATIVE A – CONTINUED GRAZING (NO ACTION)

The no action alternative is the continuation of current grazing management, which is the proposed action. The proposed action is described in detail on section 1.3 of this EA and includes the mitigation measure described in section 1.3.1.

2.1.2 ALTERNATIVE B – NO GRAZING ALTERNATIVE

The no grazing alternative would require a minimum of two years' notice to the permittee before being implemented. It would also require the removal of approximately five miles of fence and one water development on NFS land on the Wood Creek Allotment once livestock grazing on NFS land is phased out. The pond that exists on NFS land would remain in place, but would no longer be available to the permittee's livestock after two years. An additional 5.5 miles of fence on NFS land may also be removed along the Castle Rock Road if livestock can be effectively controlled while trailing through this area without the fence.

It is assumed the private landowner would continue to graze their private property at the same intensity and duration at which it is currently grazed. In order for the private landowner to effectively graze their private property and to prevent livestock trespass on NFS land, the landowner on the Wood Creek Allotment would need to construct approximately 43.5 miles of fence on their private land boundary.

2.2 COMPARISON OF ALTERNATIVES

Table 1. Summary of project alternatives in terms of objectives and direct and indirect effects for the Wood Creek Allotment

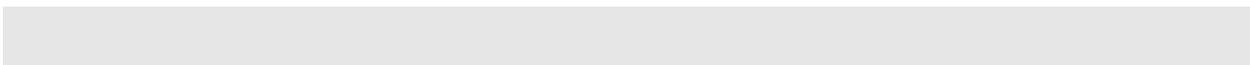
Indicator	Alternative	
	Continued Grazing	No Grazing
Grazing Opportunity and Allotment Management		
Head Months Grazing Forage Available on NFS land per Capacity Analysis	247	247
Head Months Grazing Authorized on NFS Land with Mitigation and Adaptive Management Measures	238	Reduced from current 238 to 0
Head Months Grazing on Private Land	5,286	5,286
Cow/Calf Pairs Authorized on NFS Land	43	0
Cow/Calf Pairs on Private Land	957	957
Soils		
Detrimental Disturbance	4.5%	0
Consistent with Standard SWST02? (Yes/No)	Yes	Yes
Total Soil Resource Commitment	1.2%	0.5%
Consistent with Standard SWST03? (Yes/No)	Yes	Yes
Effective Ground Cover	No Effect	Potential Slight Improvement
Consistent with Guideline SWGU05? (Yes/No)	Yes	Yes
Effects to Biological Soil Crusts	No Effect	No Effect
Vegetation		
Effects to Native Plant Diversity	No change from current condition expected	Proportional increase expected in areas where there is moderate to heavy livestock use
Effects to Browse Utilization	No Effect	No Effect
Effects to Ground Cover	No change from current satisfactory condition expected	Minor increase expected because no herbaceous overstory would be removed
Effects to Sagebrush Canopy	No change from current condition expected	No change from current condition expected

Indicator	Alternative	
	Continued Grazing	No Grazing
Effects to Riparian Vegetation	Incremental increase in riparian greenline vegetation expected if standards are consistently implemented	Significant increase in riparian vegetation expected if livestock grazing is excluded, esp. in herbaceous riparian vegetation and woody species
Effects to Aspen Condition	No change from current condition expected	No change in mid- and upper-slope stands, slight increase in regeneration in stands low in drainage expected; disturbance needed to improve regeneration to adequate levels to sustain stand
Effects to Bank Stability	Incremental increase in riparian greenline vegetation expected if standards are consistently implemented; consistent monitoring should accelerate improvement in bank stability and riparian vegetation	Significant increase in bank stability expected if livestock grazing is excluded
Effects to Noxious Weeds	No Effect	Increase in weeds due to less monitoring for infestations by permittee
Wildlife		
Effects to Wildlife Habitat and Habitat Connectivity	Grazing within management guidelines would not impact habitat connectivity for wildlife species	No effect on forage quantity and quality, hiding cover, nesting cover, or brood rearing cover. New fencing to prevent cattle grazing on NFS lands would restrict movement between ownerships by wildlife as well as cattle. Hazards associated with fencing include fence strikes by sage-grouse, raptors and other avian species. Entanglement by big game species can result in mortalities or cause injuries to animals
Effects to Big Game Species	Direct competition between elk and cattle will be limited due to duration and intensity. No competition with deer or pronghorn	Additional fence would restrict game movement. Entanglement by big game species can result in mortalities or cause injuries to animals

Indicator	Alternative	
	Continued Grazing	No Grazing
Effects to Sagebrush-obligate and Riparian-dependent Bird Species Habitat	Grazing in confirmed nesting habitat after June 15 would protect nesting cover and brood rearing cover for sage-grouse and other sagebrush obligate species	No Impact
Effects to Threatened, Endangered, Sensitive, and Management Indicator Species		
Bull Trout (Threatened)	No Effect	No Effect
Slickspot peppergrass (Proposed)	Not Likely to Jeopardize	No Impact
Canada lynx (Threatened)	No Effect	No Effect
Yellow-billed cuckoo (Proposed)	No Effect	No Effect
Slender-leaf moonwort (Sensitive)	May Impact Individuals	Beneficial Impacts
Beautiful bryum (Sensitive)	May Impact Individuals	Beneficial Impacts
Small (least) phacelia (Sensitive)	May Impact Individuals	Beneficial Impacts
Bugleg/wholeleaf goldenweed (Sensitive)	May Impact Individuals	Beneficial Impacts
Gray Wolf (Sensitive)	May Impact individuals but is not likely to cause a trend to federal listing or loss of viability	May Impact individuals but is not likely to cause a trend to federal listing or loss of viability
Greater Sage-grouse (Sensitive)	With mitigation: May Impact individuals but is not likely to cause a trend to federal listing or loss of viability	May Impact individuals but is not likely to cause a trend to federal listing or loss of viability
White-headed woodpecker (Sensitive and MIS)	No Impact	No Impact
Pileated woodpecker (MIS)	No Impact	No Impact
Watershed and Fisheries Resources		
Water Temperature	Negligible improvements in stream temperature as RCA conditions continue on an improving trend	Even with incremental improvements on NFS within the allotment under this alternative, water temperature conditions within the allotment at the subwatershed scale would not be expected to measurably improve

Indicator	Alternative	
	Continued Grazing	No Grazing
Sediment/Turbidity	Slight reductions in sediment should occur as vegetation conditions in the allotment continue to improve	Even with incremental improvements on NFS within the allotment under this alternative, sediment/turbidity conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Chemical Contaminants/Nutrients	No Effect	No Effect
Physical Barriers	No Effect	No Effect
Width/Max. Depth Ratio	As vegetation conditions in the allotment improve, reducing sediment inputs, width-to-depth ratio should show negligible improvements	Even with incremental improvements on NFS within the allotment under this alternative, width/max. depth conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Streambank Condition	As vegetative conditions within the allotment move towards desired conditions, streambank condition should show negligible improvements	Even with incremental improvements on NFS within the allotment under this alternative, streambank conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Change in Peak/Base Flows	Changes in peak/base flows are related to the amount of disturbance in a watershed, possible improvements as vegetative conditions improve	Even with incremental improvements on NFS within the allotment under this alternative, change in peak/base flow conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Drainage Network Increase	No Effect	No Effect

Indicator	Alternative	
	Continued Grazing	No Grazing
Riparian Conservation Areas (RCA)	At site specific and 6th HUC scales: While past grazing actions have likely had major influences to the condition of the RCA. Current Forest Plan Standards and guidelines are designed to improve the conditions of RCAs	Even with incremental improvements on NFS within the allotment under this alternative, RCA conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Integration of Species and Habitat Conditions	Integration of species and habitat conditions is not expected to be altered for aquatic species present within the allotment and may negligibly improve as vegetative conditions improve. No bull trout present within the allotment	Even with incremental improvements on NFS within the allotment under this alternative, integration of species and habitat conditions within the allotment at the subwatershed scale would not be expected to measurably improve
Consistent with Forest Plan Standards and Guidelines for Watershed and Fisheries? (Yes/No)	Yes	Yes
Effects to Wetlands and Floodplains	No Effect	No Effect
Consistent with Clean Water Act? (Yes/No)	Yes	Yes
Effects to Cultural Resources	No Effect	Potential effect due to fence construction



Chapter 3 -- Affected Environment and Environmental Consequences

3.1 INTRODUCTION

Incorporated by reference into this section of the EA are specialists' reports for range, vegetation, watershed, fisheries, wildlife, soils, and cultural resources; biological evaluations for wildlife and botanical resources; and biological assessments for fish and wildlife; all of which are included in the project record.

Forest Service resource specialists considered effects of the alternatives as described in sections 1.3 and 2.1.2 of this EA on the allotment. The effects disclosed in this EA are only for the NFS land within the allotment, unless otherwise specified.

The proposed action proposes no changes to the existing management of the allotment. This alternative proposes to continue livestock grazing in accordance with Forest Plan Standards and Guidelines, Management Area Goals and Objectives, and with terms and conditions defined in the Term Grazing Permit.

The no grazing alternative would end grazing on NFS lands within the allotment after two years and require removal of several range improvements once grazing is phased out on NFS lands. This alternative assumes the private landowners would continue to graze their private property at the same intensity and duration for which it is currently grazed. It also assumes that private boundaries would be fenced to ensure that livestock grazing does not occur on NFS lands once it has been phased out.

Chapter 3 is organized first by achievement of objectives, as described in the Purpose and Need (refer to Section 1.4 of this EA) in terms of the allotment's capability and capacity to support grazing. It then discloses the potential environmental effects in light of the resource concerns addressed during processes or analyses routinely conducted by the IDT, and the resource concerns that were identified in scoping (refer to Section 1.9 of this EA). Within each section, the affected environment is described first, followed by the potential effects of the continued grazing alternative and the potential effects of the no grazing alternative which provides a baseline for evaluation and comparison of effects.

3.2 ALLOTMENT CAPABILITY AND CAPACITY

The "Rangeland Management Specialist's Report" (Range Report) is hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). The Range Report contains the detailed data, methodologies, analyses, conclusions, maps, references and technical documentation that were relied upon by the specialist to reach the conclusions disclosed in the EA.

3.2.1 AFFECTED ENVIRONMENT

The Wood Creek Allotment encompasses about 20,690 acres, including about 5,590 acres of NFS land. The remaining acreage includes about 180 acres of land held in trust by the State of Idaho and about 14,910 acres of private land, both of which are owned and controlled by the current permittee.

The Forest Service currently permits 43 cow/calf pairs to graze the "on" (NFS) portion of the allotment for a grazing season of June 1 to November 15 in a deferred rotation for a total of 238 head months (HMs). The permittee grazes 957 cow/calf pairs on the "off" portion of the allotment for a total of 5,286 HMs.

3.2.1.1 RESOURCE CONDITION INDICATORS

The Rangeland Management Specialist considered the suitability, capability and capacity of the allotment, and the head months of grazing that would be allowed without exceeding capacity to evaluate effects to grazing opportunity and allotment management under each alternative. Suitability and capability indicators are measured in acres of suitable and acres of capable rangeland. Capacity is measured in HMs.

3.2.1.2 METHODS USED IN ANALYSIS

Capable rangelands are defined as those lands that have the potential to be grazed, given the physical constraints of grazing, such as distance from water, slope, and access. Suitable rangelands can only be determined after capable rangelands are identified and are rangelands within the capable land base where grazing is appropriate, given other uses, values, economics, and resource condition.

During the preparation of the Forest Plan, a large-scale capability model was used to determine lands capable of supporting grazing. The Rangeland Management Specialist applied the methods used for that model and identified 2,326 acres of capable range on the allotment. All lands determined as capable under the Forest Plan model have been identified as suitable for livestock grazing. However, the model used in that capability analysis did not attempt to define land that is capable of being grazed under all possible management intensities, prescriptions, or management scenarios.

Therefore, to determine capability and capacity for the Wood Creek Allotment, the Rangeland Management Specialist applied a site-specific capability analysis. This site-specific model provided more precise information about capable rangelands than the Forest Plan's capability model. The site-specific capability analysis used data from the Intermountain Region's Range Allotment Analysis (RAA) program to evaluate grazing use and carrying capacity on Forest Service allotments that was begun in 1962. The site-specific capability analysis was used to validate the acres that had been found as capable using the Forest Plan capability model and was used to identify any other acres that could be capable in light of the RAA data.

Some of the criteria for the parameters used to identify capable grazing lands in the RAA process are different than those used in the Forest Plan capability model and required by the Plan. For example, the original RAA process used a minimum of 50 pounds per acre of forage production as one capability criteria. The Forest Plan requires a minimum of 200 pounds per acre forage production to be considered capable rangeland. Allotment-specific direction for this type of analysis is found in the Forest Plan in Range Guideline RAGU01 (Forest Plan, p. III-46). The RAA data was modified based on this direction to conform to the criteria used in the Forest Plan capability model so it would be consistent with Forest Plan direction. Once the site-specific capability analysis was completed, the Rangeland Management Specialist determined the grazing capacity of the NFS lands in the allotment using a process detailed in Chapter 70 of the RAA Handbook (USDA Forest Service 1964-1983).

Detailed descriptions of the methods used for determining suitability, capability, and capacity of the allotment are described in detail in Appendix 1 of the Range Report in the Project Record.

3.2.1.3 EXISTING STATE OF RESOURCE CONDITION INDICATORS

The site-specific range capability and suitability analysis was completed for the NFS lands and a grazing capacity was calculated for the NFS lands within the allotment. A total of 1,362 acres of NFS land out of the total of 5,590 acres of NFS land are capable for grazing within the allotment. All of those acres lie within areas defined as suitable for grazing in the Forest Plan. This analysis and tentative grazing capacity

calculation indicates a total of about 247 HMs of available forage on the National Forest portion of the allotment.

3.2.2 DIRECT AND INDIRECT EFFECTS

3.2.2.1 CONTINUED GRAZING ALTERNATIVE

There is sufficient forage on NFS lands on the Wood Creek Allotment to sustain the continuation of current levels of grazing, as defined by the proposed action (Table 2). Grazing capacity exceeds current permitted use in the allotment.

Table 2. Capable range and capacity on NFS lands in the Wood Creek Allotment

Indicator	Amount
Capable Acres	1,362
Capacity (Available Head Months)	247
Current Permitted Head Months	238

Under this alternative, grazing on the allotment could continue at permitted head months without exceeding the estimated allotment capacity. The Forest Service would continue to permit 43 cow/calf pairs to graze the "on" (NFS) portion of the Wood Creek Allotment for a total of 238 HMs.

There would continue to be some flexibility in allotment administration allowed for weather conditions, range readiness, and livestock needs. If the forage is fully utilized or the Forest Service determines that further grazing would damage resources, the permittee may be required to remove livestock early.

The continued grazing alternative would also include continued monitoring of the allotments through grazing permit administration, monitoring unit rotation and forage utilization, and inspections of range improvements (water developments, fences, corrals, etc.) as needed.

3.2.2.2 NO GRAZING ALTERNATIVE

The no grazing alternative would eliminate livestock grazing on NFS portions of the allotment after two years. Grazing opportunities for the permittee within the current allotment area of the Wood Creek Allotment would be reduced by 4.3 percent from current levels (238 HMs).

The private land currently associated with the allotment could be managed as a grazing unit. The pond that exists on NFS land would remain in place, but would no longer be available to the permittee's livestock after two years. An additional 5.5 miles of fence on NFS land may also be removed along the Castle Rock Road if livestock can be effectively controlled while trailing through this area without the fence.

It is assumed the private landowner would continue to graze their private property at the same intensity and duration for which it is currently grazed. In order for the private landowner to effectively graze their private property and to prevent livestock trespass on NFS land, the landowner on the Wood Creek Allotment would need to construct approximately 43.5 miles of fence on their private land boundary.

3.3 SOILS RESOURCES

The "Soils Resource Specialist's Report" (Soils Report) is hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). The Soils Report contains the detailed data, methodologies,

analyses, conclusions, maps, references, and technical documentation that the Soils Scientist relied upon to reach the conclusions disclosed in the EA.

3.3.1 AFFECTED ENVIRONMENT

The Soils Report considered the likelihood of potential effects to soil productivity, landslide prone (LSP) areas, and biological soil crusts (BSC) from past, ongoing, and future livestock grazing and grazing-related activities. The alternative analysis concluded that short- and long-term measurable changes from livestock grazing would be observed only to soil productivity. Therefore, only livestock grazing effects to soil productivity will be disclosed in this document.

3.3.1.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

Changes in percentages for detrimental soil disturbance (DD), total soil resource commitment (TSRC), and effective ground cover (EGC) were used to describe effects to soil productivity. There are a low number of LSP acres and low potential for biological soil crusts (BSC) on the NFS lands within the allotment. Furthermore, there is a low likelihood for livestock grazing to affect either of these components. The analysis concluded neither alternative would influence or change the condition of these components (Project Record, Soils Report).

3.3.1.1.1 CAUSE-EFFECT RELATIONSHIPS CONSIDERED

Proper implementation of livestock grazing (forage utilization) across the landscape generally does not impact soil productivity. Over-utilization that permanently removes vegetation or ground cover in key areas can increase the potential for soil erosion. Related actions (trailing, watering, salting, bedding/loafing, collecting) results in soil compaction which directly impacts on-site soil productivity, and indirectly impacts productivity when increased overland water flow erodes soil from nearby areas.

Fundamentally, livestock grazing impacts on soil productivity move back and forth along a scale that ranges from no disturbance, to disturbance with no impact, to impacts having detrimental disturbance, to total soil resource commitment. Ground that is not impacted to the point of TSRC is evaluated to determine the extent and intensity of disturbance, to determine if the activity is resulting in detrimental soil disturbance (DD).

3.3.1.1.2 METHODS USED IN ANALYSIS

This analysis encompassed 5,591 acres of NFS lands managed under the Wood Creek Allotment grazing permit. The NFS lands within the allotment defined the "activity area" for evaluating changes in the indicators to estimate the direct, indirect, and cumulative effects of the alternatives. The rationale for delineating the "activity area" can be found in the Soils Report (Project Record).

Methods used to estimate the effects on the soils resource indicators included analysis of geographic information system (GIS) data, allotment monitoring and range analysis data, and field reviews (Project Record, Soils Report). The analysis tracked the "cause & effect relationships" of livestock grazing that compared the existing condition and the estimated environmental effects to a desired range for each of the indicators. The desired ranges for indicators were derived from applicable Forest Plan Standards and Guidelines, and from the inherent properties for soil types and vegetation communities that occur across the allotment.

3.3.1.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

The existing detrimental soil impacts are attributed to all past and current livestock grazing. Existing DD is about 4.5 percent and TSRC is slightly more than one percent (Table 3). Detrimental impacts are evident where livestock bed or loaf, mostly in the vicinity of water (springs/troughs), salting areas, and collection areas for moving livestock off the allotment (fence gates). Isolated, disconnected areas with detrimental soil puddling and hummocks were found in riparian valley bottoms adjacent to Wood Creek, Little Wood Creek, and Louse Creek. In areas where livestock trail along fence lines, there is a combination of detrimental disturbance and long term compaction (TSRC). Classified and unclassified roads, other livestock trails, and point areas for salting and watering also contribute to the existing TSRC value.

Table 3. Existing Conditions – Detrimental Soil Disturbance (DD) and Total Soil Resource Commitment (TSRC) on NFS land in the Wood Creek Allotment.

DD Impacts	# of Units	Acres	Percent
Fence Line Trailing (miles)	11.4	8.0	
Salting Areas (sites)	28	224.0	
Riparian/Wetland Impacts	2	2.0	
Water Developments – Springs/Troughs (sites)	2	16.0	
Total DD (for Activity Area):		250.0	4.5%
TSRC Impacts	# of Units	Acres	Percent
Fence Line Trailing (miles)	11.4	3.4	
Salting Areas (sites)	28	28.0	
Water Developments - Springs/Troughs (sites)	2	2.0	
Classified Roads (miles)	6.1	29.3	
Unclassified Roads (miles)	1.3	3.8	
Other Livestock Trails (unclassified - miles)	0.5	0.3	
Total TSRC (for Activity Area):		66.8	1.2%

Table 4 displays the existing conditions and trends for effective ground cover (EGC). The 2005 data values represent current livestock use patterns as this activity has been the primary disturbance mechanism within the activity area having the potential influence ground cover. The available data and recent field observations indicate ground cover is within the desired ranges for the soil and vegetation types within the activity area (Project Record, Soils Report).

With no substantial changes in livestock grazing strategies since 2005, these values best represent the current conditions for EGC. Field reviews and visual observations in July and August 2009 from locations where livestock grazing has had the greatest impacts in recent years confirm EFG is 50 to 70 percent, which is within or exceeds the desired ranges for the soil/vegetation types for the allotment as described in the Boise NF Soil Hydrologic Reconnaissance (Wendt 1973). Overall, the livestock grazing strategy under the current management plan appears to have resulted in a positive trend for indicator.

Table 4. Effective Ground Cover on NFS land in the Wood Creek Allotment

Site ID	Landtype	Effective Ground Cover (percent)		
		SHR* Range	1962 Data	2005 Data
GC-1	136-4	20-50	40	77
G2	136-4	20-50	57	87
G15	105-4	40-80	68	75
G16	120e-6	10-50	45	79
G19	120c-8	30-60	60	80
Aspen1	136-4	20-50	60	72
Aspen2	120e-6	10-50	60	72

3.3.2 ENVIRONMENTAL CONSEQUENCES

The existing conditions for DD and TSRC (Table 3) are meeting Forest Plan Standards SWST02 and SWST03. The existing conditions for EGC (Table 4) are consistent with Forest Plan Guideline SWGU05. Implementing either alternative would maintain or improve the conditions of the indicators, and, therefore, comply with the management direction for soil resources in the Forest Plan.

3.3.2.1 DIRECT AND INDIRECT EFFECTS

3.3.2.1.1 CONTINUED GRAZING ALTERNATIVE

With the exception of classified roads, past and current livestock grazing is the only activity impacting TSRC with the activity area. Therefore, the short- and long-term, direct and indirect effects of the continued grazing alternative on DD and TSRC are reflected in livestock-related impacts listed in Table 3. Implementing this alternative, using the current livestock numbers and allotment management practices, is not expected to measurably change DD. When subtracting 29.3 acres of TSRC attributed to the classified roads from the existing conditions, the direct effects of livestock grazing on TSRC is less than one percent.

Because livestock grazing is the primary disturbance mechanism within the activity area having the potential to influence EGC, and the existing ground cover conditions reflect current livestock numbers and allotment management practices, implementing the continued grazing alternative would not measurably change EGC in the short and long term.

3.3.2.1.2 NO GRAZING ALTERNATIVE

Implementing the no grazing alternative would require a minimum of two years' notice to the permittee and essentially allow continued livestock grazing for that time period. Effects under the no grazing alternative would mimic those for the continued grazing alternative in the short term, but fade out over the long term. TSRC impacts from livestock-related activities (salting areas, water points, fence line trailing) would gradually diminish to DD, and eventually approach near-natural conditions. The classified road system would remain as the single contributor to TSRC.

A minor increase in ground cover might occur in some areas where EGC is 70 percent or less because there would be no livestock grazing to remove the herbaceous overstory. In most areas across the allotment, EGC is at or above desired ranges, indicating EGC is achieving the inherent potential for the soils within the activity area.

Overall, the no grazing alternative would result in slight improvements to soil productivity. In key locations, such as riparian areas, an upward trend in soil productivity would contribute to improved water quality and aquatic habitat conditions.

3.3.2.2 CUMULATIVE EFFECTS

Because livestock grazing is the primary disturbance mechanism within the activity area having the potential to influence soil productivity, the cumulative effects for the soil productivity indicators are the same as the direct and indirect effects for both alternatives considered.

3.4 VEGETATION RESOURCES

The "Vegetation Specialist's Report" (Vegetation Report) is hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). The Vegetation Report contains the detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the District Rangeland Management Specialist relied upon to reach the conclusions disclosed in the EA.

3.4.1 AFFECTED ENVIRONMENT

3.4.1.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

The District Rangeland Management Specialist analyzed effects to vegetation resources. The analysis considered the likelihood of potential effects to upland and riparian vegetative condition. Noxious weeds were also evaluated, as they are also an indicator of watershed health.

The indicators used by the Rangeland Management Specialist to determine if upland vegetative conditions are meeting or moving toward desired conditions include sagebrush canopy (Project Record, Vegetation Report, p. 17), ground cover (Project Record, Vegetation Report, p. 20) and aspen regeneration (Project Record, Vegetation Report, p. 21). Riparian vegetation (Project Record, Vegetation Report, p. 25) and bank stability were used to determine riparian condition. Noxious weeds (Project Record, Vegetation Report, p. 28) are also evaluated on an allotment-wide context. All of these indicators were determined to have a cause-effect relationship and were analyzed in detail.

The Rangeland Management Specialist determined that timbered habitat types would not be considered in the analysis (Project Record, Vegetation Report, p. 16). Only 24 percent of the allotment is composed of this habitat type. Most is found on steep slopes that cattle rarely access. In addition, very little desirable forage is found in these types.

3.4.1.1.1 METHODS USED IN ANALYSIS

The Rangeland Management Specialist utilized range analysis (RAA) data collected in 1962 and re-read in 2004 to determine ground cover (see project record for copy of data). The 2004 data measured sagebrush canopy which was compared with GIS data obtained from the Forest Service's GIS database for the Boise NF. Field crews also collected data used to estimate stems per acre in aspen stands to determine aspen stand condition. Data collected from Designated Monitoring Areas (DMAs) using the Multiple Indicator Monitoring (MIM) protocol was used to evaluate riparian condition. Observations, notes and photos by the Rangeland Management Specialist and others during field reviews were also used for this analysis.

3.4.1.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

GIS analysis of forest sagebrush canopy data indicates that there are approximately 2,634 acres of the sagebrush (S4) type on NFS lands on the Wood Creek Allotment (see project record for RAA data). It is distributed in the canopy classes displayed in Table 5.

Table 5. Existing condition ranges for mountain big sagebrush and/or basin big sagebrush on the NFS portion of the Wood Creek Allotment based on GIS satellite imagery

Mt. Big Sagebrush Canopy Cover Classes	Acres	Canopy Cover Classes By Percent Of Area
0-10% canopy cover	172	Approx. 7% of area
11-20% canopy cover	717	Approx. 27% of area
21-30% canopy cover	1,745	Approx. 66% of area
>31% canopy cover		Data not indicated in GIS

Sagebrush canopy density was collected at nine sites across the allotment in 2004 that were originally measured in 1962 when range analysis (RAA) was completed on the Wood Creek Allotment. One site measured 20 percent canopy and the remaining eight sites exceeded 30 percent canopy cover, ranging from 33 to 65 percent sagebrush canopy cover. Average sagebrush canopy cover for all nine sites was 42 percent.

The Forest Plan provides direction on desired amounts of sagebrush canopy, which is displayed in Table 6.

Table 6. Desired condition ranges for mountain big sagebrush and/or basin big sagebrush

Mt. Big Sagebrush Canopy Cover Classes	Desired Amounts Of Canopy Cover Classes By Percent Of Area
0-10% canopy cover	30-40% of area
11-20% canopy cover	30-40% of area
21-30%, >31% canopy cover	20-30% of total area, with <= 5% in the >31% canopy cover class

Source: Table A-11, Forest Plan, Volume 2

Total shrub canopy cover data was collected in 1962 when range analysis (RAA) was completed on the Wood Creek Allotment. At that time, total canopy measurements ranged from eight to 65 percent with an average density of 29 percent. Total shrub canopy cover was also measured in 2004 when field crews collected data on several sites that were measured in 1962. Total shrub canopy measurements ranged from 31 to 67 percent, with an average shrub canopy cover of 50 percent. Sagebrush canopy across NFS lands on the allotment is outside of the desired conditions identified in the Forest Plan (Project Record, Vegetation Report, p. 17). This is predominantly attributed to lack of fire disturbance and not to current grazing practices. Fire or mechanical treatment of sagebrush stands would need to occur before the desired condition distribution of sagebrush canopy classes can be achieved.

Ground cover on the Wood Creek Allotment averaged 48 percent and ranged from 20 to 80 percent when the RAA was completed in 1962. In 2004, ground cover averaged 77 percent and ranged from 70 to 87 percent across the nine sites sampled. Ocular observations on sagebrush areas during a July 2009 field review estimated ground cover ranging between 60 and 80 percent. Statistical analysis of the data indicates that there is a 99 percent probability of significant upward trend in ground cover between

measurements taken in 1962 and 2004. Conversely, statistical analysis determined that there is a 99 percent probability of significant decrease in bare ground. See page 20 of the Vegetation Report (Project Record) for a complete discussion of ground cover. Ground cover on NFS lands is sufficient to provide for good overall condition within the project area and meets or exceeds levels recommended by Wendt, et al. (1973) for healthy and functional ecosystems (Project Record, Vegetation Report, p. 20).

Many of the aspen stands on the Wood Creek Allotment have become decadent, especially those lower in the first-order drainages. It should be noted that many of these stands occur on private property within the allotment, but some are located on NFS land. These stands have reached the age where they no longer produce root sprouts, and would require either mechanical treatment or burning to become vigorous growing stands. Following treatment, these stands may require protection from livestock grazing and browsing by wildlife to allow new saplings to become established. Aspen stands located mid-slope are in a healthier condition than those lower in the drainage with sufficient regeneration to support a healthy aspen stand (600 young stems per acre). There is a better distribution of age classes and a "fairy ring" can be seen around many of the stands. Stands located in the heads of first-order drainages are typically mixed aspen-mountain shrub stands that have a mixed age class of aspen throughout the stand. Page 21 of the Vegetation Report (Project Record) provides a complete discussion of aspen stand condition.

Riparian systems on NFS land on the Wood Creek Allotment range from mid- to late-seral condition. Castle Rock Creek and Louse Creek, both in the Wood Creek Allotment, have MIM sites established. Vegetation on Castle Rock Creek is composed of those species desired in healthy riparian systems and rates at a late-seral condition. Bank stability is less than desired, measuring 47 percent. Streams in this area typically average around 80 percent bank stability. Vegetative condition on Louse Creek rates at a mid-seral condition. Bank stability at this DMA is noticeably better than the site at Castle Rock Creek, measuring 70 percent. Desired condition for this channel is 87 percent stability, as defined in the Natural Conditions Database. Page 25 of the Vegetation Report (Project Record) provides a complete discussion of riparian vegetation.

Field reviews conducted on several riparian systems in the Wood Creek allotment in 2009 indicate that the desired species, such as carex, rush, willow and alder, were present on the greenline and in the riparian community. Data collected in 2004 and 2005 substantiate the 2009 findings of the ID team (see MIM monitoring data, Project Record). As data gathered in 2004 and 2005 indicate, woody species utilization is heavy in riparian systems on the Wood Creek Allotment. Stubble heights neared, but did not meet the four-inch standard when the data was collected, and heavy bank alteration has resulted in stream bank conditions that are not meeting Forest Plan standards (Project Record, Vegetation Report, p. 25). Because these results are based on only one set of data being collected at each site, additional data collection in future years should occur to accurately determine trend of riparian systems on the allotment. In the interim, consistent compliance with the Forest Plan stubble height standards will move riparian conditions in an upward trend. A standard for woody species utilization or bank stability could also be considered. Consistent implementation of the stubble height standard would result in a shift from static or declining riparian condition to an upward riparian trend.

There are four species of noxious weeds known to occur on the Wood Creek Allotment. Spotted knapweed (*Centaurea maculosa*) is found on NFS lands in the Louse Creek drainage. This weed is also found on adjacent private property in the same area. Leafy spurge (*Euphorbia esula*) occurs on private property in the Wood Creek drainage within the allotment. Rush skeleton weed (*Chondrilla juncea*), is scattered as mostly individual plants across the allotment on both NFS and private land. Canada thistle (*Cirsium arvense*) was also noted, scattered as single to small patches (approximately 20 plants) in the Castle Rock Creek drainage. Page 28 of the Vegetation Report (Project Record) provides a complete

discussion of noxious weeds. Continued treatment of knapweed, leafy spurge, and Canada thistle, as necessary, will effectively prevent further spread of these species on NFS land (Project Record, Vegetation Report, p. 28). Field observations across the allotment show bunchgrasses, forbs, and shrubs intermingled with the noxious weeds on the allotment. The presence of these native species indicates that soils remain productive and weed species have not choked out all other plants. Rush skeletonweed would continue to spread and increase in density on the allotment with or without the presence of livestock grazing.

3.4.2 ENVIRONMENTAL CONSEQUENCES

3.4.2.1 DIRECT AND INDIRECT EFFECTS

3.4.2.1.1 CONTINUED GRAZING ALTERNATIVE

The continuation of livestock grazing would not have a substantial effect on upland vegetation conditions on the Wood Creek Allotment (Project Record, Vegetation Report, p. 31). Changes in range management activities through the years have led to substantial improvement in upland vegetative condition on the allotment. Static or improving trends in ground cover condition would continue.

The current sagebrush canopy cover conditions do not meet Forest Plan objectives for any of the sagebrush types in all canopy cover classes (Project Record, Vegetation Report, p. 31). Decreased fire frequency, primarily due to human interruption of natural fire cycles, combined with historic (prior to the mid-1900's) livestock grazing that occurred before adequate recovery of vegetation after fire, likely account for the imbalance between canopy cover classes. Laycock (1994) determined that sagebrush stands would naturally trend to dense overstory, even with the removal of livestock grazing. Therefore, without disturbance, sagebrush would continue to become denser, resulting in stands with thick canopy cover.

Under this alternative, there would be no change in impacts from current existing riparian conditions (Project Record, Vegetation Report, p. 31) without consistent implementation of Forest Plan standards. Management consistent with current Forest Plan standards would be expected to maintain conditions where riparian resources are currently at the desired condition or move those areas in less than desired condition toward desired conditions in the long term. The revised Forest Plan standards and guidelines that are implemented under this alternative are more restrictive than the previous management direction and provide for seasonal and long-term recovery of riparian vegetation, moving riparian vegetation in an upward trend until desired condition is achieved.

This alternative would continue to result in some minor noxious weed spread by livestock (Project Record, Vegetation Report, p. 31). The permittee would continue to monitor the allotment and report new noxious weed infestations in the project area. The permittee provides an early detection resource for identifying new infestations due to their frequent presence, extensive travel through the allotment, and desire to prevent the spread of these weed species.

3.4.2.1.2 NO GRAZING ALTERNATIVE

Elimination of grazing on NFS lands after two years would not improve upland conditions in sagebrush stands (Project Record, Vegetation Report, p. 32). Without a disturbance such as fire or livestock grazing, sagebrush stands become dense and plant diversity within these stands is reduced. There have been a number of exclosures erected across the Intermountain Region that show vegetative changes without grazing impact. Winward's (1991) studies of exclosures throughout the Intermountain Region show no increase in herbaceous understory with heavy density and cover of sagebrush. Once sagebrush is

established in dense stands, it can be a strong competitor against the reestablishment of grass and forb seedlings. Implementation of this alternative would lead to slight increases in upland vegetation in selected areas where cattle would have tended to congregate under the continued grazing alternative. Removal of livestock would allow these areas to revegetate over time. Localized impact areas around water developments and salt licks would also revegetate over time.

Under this alternative, riparian vegetation would quickly progress toward desired conditions once livestock are removed from the allotment (Project Record, Vegetation Report, p. 32). Increased bank stability can also be expected to occur in the short term (three to five years) under this alternative. Removal of livestock would result in less browsing and trampling of riparian vegetation. Spot locations that received heavier use when livestock were present would be expected to recover substantially when livestock are removed. Stronger and more lush riparian vegetation would establish relatively quickly in these areas.

Removal of livestock would eliminate the possibility of noxious weed spread by livestock (Project Record, Vegetation Report, p. 32). However, the primary vectors for spreading these weeds (motor vehicles) would not be changed. Without the presence of livestock on the NFS portion of the allotment, the permittee would not be riding that part of the allotment on a regular basis and reporting noxious weed infestations. This could result in new infestations going undetected and becoming large infestations that are difficult to treat and manage.

3.4.2.2 CUMULATIVE EFFECTS

3.4.2.2.1 CONTINUED GRAZING ALTERNATIVE

This alternative would not have any additional impacts on upland vegetation (Project Record, Vegetation Report, p. 33). Vegetative condition would continue to move toward desired condition. With such localized and negligible direct and indirect effects on upland areas, no potential cumulative effects are expected to result from this alternative.

Grazing management standards and guides that currently apply to the Wood Creek Allotment will maintain healthy conditions within the riparian areas when implemented. Current vegetative conditions within the allotment would not change measurably. With such localized and negligible direct and indirect effects on riparian areas, no potential cumulative effects are expected to result from this alternative.

Cumulative effects for noxious weeds would not be measurable. Roads provide access to the area, opening new avenues for noxious weed spread. Maintenance of the road system would result in soil disturbance, which would provide establishment sites for noxious weeds.

3.4.2.2.2 NO GRAZING ALTERNATIVE

The potential direct and indirect effects of the no grazing alternative on upland or riparian vegetation are so localized and negligible that they would not accumulate in time and space with the effects of other past, present, or reasonably foreseeable future activities (Project Record, Vegetation Report, p. 33).

Cumulative effects of this proposal on noxious weeds would be the same as described for the continued grazing alternative, although removal of livestock would eliminate that vector of seed spread. However, this decrease would be minimal when compared to the amount and rate of spread done by motor vehicles.

3.5 RARE PLANT SPECIES

The "Biological Assessment/Evaluation – Botany Report" (BA/BE) (Botany Report) is hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). The Botany Report contains the detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the Botanist relied upon to reach the conclusions disclosed in the EA.

3.5.1 AFFECTED ENVIRONMENT

3.5.1.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

The Botanist analyzed two alternatives. The continued grazing alternative proposes no changes to the existing management of the allotment. This alternative proposes to continue livestock grazing in accordance with Forest Plan standards and guides, management area goals and objectives, and with terms and conditions defined in term grazing permits. All actions associated with this alternative were considered in the analysis.

The no grazing alternative was also analyzed and would require removal of several range improvements once grazing is phased out on NFS lands. This alternative assumes the permittee would continue to graze their private property at the same intensity and duration for which it is currently grazed. It also assumes that private boundaries would be fenced to ensure that livestock grazing does not occur on NFS lands once it has been phased out. All actions associated with this alternative were also considered in the analysis.

3.5.1.1.1 CAUSE-EFFECT RELATIONSHIPS CONSIDERED

During scoping, the public expressed concern with project effects to rare plants and rare plant habitat. There are no documented rare plant populations within the Wood Creek Allotment, but there are populations nearby, and suitable rare plant habitat exists within the allotment. Livestock grazing and related activities have the potential to impact unoccupied suitable habitat, or undiscovered or undocumented populations in the Wood Creek Allotment. The degree of risk varies with the intensity and nature of the activity and vulnerability of the plant species and habitat.

The public also expressed concern with project effects to viability and diversity in native plant communities, including non-vascular species. The shrubland and forested vegetation types within the Wood Creek Allotment have the capacity to support a diverse array of common native plant species. Livestock grazing and related activities have the potential to impact and alter the distribution, abundance and diversity of native plant species.

3.5.1.1.2 METHODS USED IN ANALYSIS

Occupancy and habitat suitability for rare plant species was analyzed using project area field surveys, range monitoring data, surveys and analysis conducted for past or ongoing projects in surrounding areas, potential vegetation group (PVG) and habitat type classification (Mehl, et al. 1998; Steele, et al. 1981), knowledge of rare species habitat suitability (USDA Forest Service 2000), Natural Heritage Program databases for adjacent states (ONHP 2008; WNHP 2009) and Idaho Fish and Game (IDFG 2009) database records of local rare plant populations.

Indicators used to determine effects to rare plants included:

- Presence or absence of rare plant species within the Wood Creek Allotment;

- Condition of habitat and capability of supporting rare plant species; and
- Occurrence of proposed activities in or adjacent to rare plant locations or suitable habitat.

The condition of native plant communities was analyzed using project area field surveys, range monitoring data, surveys and analysis conducted for past or ongoing projects in surrounding areas, potential vegetation group (PVG) and habitat type classification (Mehl, et al. 1998; Steele, et al. 1981), upland shrubland vegetation classification (IDFG 2008), and unpublished riparian vegetation classification.

Indicators used to estimate effects to native plant communities included:

- Species distribution, abundance and diversity in upland and riparian habitats; and
- Population viability and sustainability.

3.5.1.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

3.5.1.2.1 RARE PLANTS

There are no documented rare plant populations within the Wood Creek Allotment, but suitable habitat exists for multiple species, particularly in riparian areas, wet meadows, springs and seeps, and aspen stands (Project Record, Biological Assessment/Evaluation – Botany Report, p. 24).

There are three documented occurrences of the R4 Sensitive species, *Pyrrocoma insecticruris* (bugleg or wholeleaf goldenweed) within two miles of the Wood Creek Allotment in the Lime Creek and Upper Camas Creek watersheds. Bugleg goldenweed is a local endemic that occurs in vernal wet meadows and flats, grassland and sagebrush communities, and on the borders of agricultural land. A new population may also have been discovered on nearby NFS land in low sagebrush habitat near Wild Horse Creek during the June 2009 field visit to the eastern side of the Big Springs Allotment. Verification of the plant's identity is in progress. Multiple additional populations of the plant are documented at greater distances in the adjacent Chimney-Cow and Upper Camas Creek Watersheds to the south and east, including private land on the Wild Horse Creek Allotment.

Additional field work would be needed to determine whether any "rare communities" such as bitterbrush/bluebunch wheatgrass, ponderosa pine/bitterbrush, ponderosa pine/western needlegrass, or ponderosa pine /bluebunch wheatgrass exist within the allotment.

Suitable habitat or potentially suitable habitat for rare plants exists on the Wood Creek Allotment for the species listed in Table 7, although it may be marginal for some such as slickspot peppergrass (*Lepidium papilliferum*). Mountain sagebrush stands and relatively low elevation and drier coniferous forest types are less likely to provide suitable habitat for the Threatened, Endangered, Proposed, Candidate (TEPC) and R4 Sensitive species tracked by the Forest Service than riparian areas, wet meadows, springs and seeps, and aspen stands.

Table 7. Suitable or potentially suitable habitats for rare plants in or near the Wood Creek Allotment

Rare Plant Species Populations/Habitat	Habitat Description	Documented Location in Surrounding 5th Field HU?	Potential Habitat In/Near Project Area?
USFWS Listed/Proposed/Candidate Species			
<i>Lepidium papilliferum</i> Slickspot Peppergrass	Small-scale openings in sagebrush-steppe habitat. Occurs in microsites where soils have a higher clay and sodium content than adjacent areas. Low –mid elevation.	No	Yes ²
R4 Sensitive			
<i>Botrychium lineare</i> Slender-leaf moonwort	Wide variety of habitats including meadows and forested types. 3,000-10,000' + or - on Boise NF.	No	Yes ²
<i>Bryum calobryoides</i> Beautiful Bryum	Moist meadows or open forest, moist to dry soil or rock outcrops, cliffs at montane to subalpine elevations. Basic to acid substrate. 5,000'+.	No	Yes ²
<i>Phacelia minutissima</i> Small (Least) Phacelia	Sagebrush and aspen stands with late snow banks or seeps. Dense false hellebore patches, down slope from aspen, open understory. 5,000-8,200'	No	Yes ²
<i>Pyrrocoma insecticruris</i> (syn. <i>Happlopapus insecticruris</i>) Bugleg/Wholeleaf Goldenweed	Vernally wet meadows and flats with shallow, basalt soils (also found on granitics). Grassland/sagebrush communities. 4,600-6,500'.	Yes ¹	Yes ¹

Yes ¹: Documented sites are found in the project area or close by in the analysis area (5th Field Hydrologic Unit).
Yes ²: No documented sites are known from project area, but potential habitat or populations may occur there.

These latter environments are often heavily used by livestock for water, shade, and forage, and in their current condition, some stream reaches and stands (e.g. Castle Rock Creek) may not be able to support rare plant species. During the IDT field visit (July 2009) areas of bank instability, excessive bare ground, woody species hedging, overuse of graminoid forage, undesirable non-native plants, and low aspen regeneration were observed in areas of easy accessibility. Habitat conditions vary across the allotment, with other IDT members documenting good conditions on NFS land in the upper reaches of Wood Creek, but that degraded stream reaches also exist in the Louse Creek drainage.

3.5.1.2.2 NATIVE PLANTS

This allotment encompasses a variety of habitats, including sagebrush-steppe, mountain shrublands, coniferous forest, aspen, woody riparian, wet meadows, springs, and seeps. In turn, this translates into the potential for a vast number of native grasses, forbs, and shrub species. (Project Record, Biological Assessment/Evaluation – Botany Report, p. 16)

A complete list of species present on the Wood Creek Allotment is not available, particularly for riparian areas. Botanical surveys for this project were cursory and incomplete, and range monitoring work focuses on specific aspects such as sagebrush cover or forage production. Information on non-vascular species has not been collected. The best available information comes from work done as part of an upland shrubland classification project (IDFG 2008), which listed about 170 upland tree, shrub, forb and graminoid species within or on land adjacent to this allotment (Project Record, Biological Assessment/Evaluation – Botany Report, p. 50). As part of a riparian classification project also conducted by the Idaho Fish and Game, aspen stands in the Cat Creek headwaters averaged 30 species (data from a 2005 unpublished IDFG study).

Specific elements within a native plant community fluctuate with disturbance regimes (fire, flood, drought, etc.) but typically unless fundamental long-term changes occur in soil productivity (i.e. soil loss or erosion) or climate, an area would be expected to maintain a certain species composition, within certain distribution and frequency parameters throughout various seral stages. Events that could affect at least short term changes (that could lead to long-term changes) may be the introduction of weeds or non-native species, alteration of "normal" fire regime, temporary loss of reproductive capacity in plants, soil compaction, etc.

It appears, at least superficially, that in some upland and riparian habitats of the Wood Creek Allotment, the native plant communities are being negatively impacted. To make a more accurate comparison between desired and current conditions of the various native plant communities in the allotment, more information would be needed. Based on available information (sagebrush cover, species presence, comparison of reference plots and range monitoring plots, weeds, livestock or wildlife use) however, native plant composition, frequency and distribution in some areas may be outside desired conditions. Other areas (Project Record, IDT reports and 2009 field visit photos) appear to be in relatively good shape with a robust representation of native species.

3.5.2 ENVIRONMENTAL CONSEQUENCES

3.5.2.1 DIRECT AND INDIRECT EFFECTS

Table 8 summarizes the determinations for rare plant species for each alternative considered.

Table 8. Determinations for rare plant species and potential habitat (Listed, Proposed Listed, Candidate or R4 Sensitive) on NFS lands in the Wood Creek Allotment.

Species Populations/Habitat	Alternative	
	Continued Grazing	No Grazing
USFWS Listed/Proposed/Candidate Species		
<i>Lepidium papilliferum</i> Slickspot Peppergrass	NLTJ	NI
R4 Sensitive		
<i>Botrychium lineare</i> Slender-leaf moonwort	MII	BI
<i>Bryum calobryoides</i> Beautiful Bryum	MII	BI
<i>Phacelia minutissima</i> Small Phacelia	MII	BI
<i>Pyrrocoma insecticruris</i> Bugleg goldenweed	MII	BI

NLTJ = Not likely to jeopardize continued existence or adversely modify proposed critical habitat. NI = No impact to any populations, species or habitat. MII = May impact individuals, but will not likely contribute to a trend towards Federal listing or loss of viability to the populations or species. BI= Beneficial impact to the species or habitat.

3.5.2.1.1 CONTINUED GRAZING ALTERNATIVE

Lepidium papilliferum (Slickspot peppergrass) (Proposed Endangered): There is a low likelihood that suitable habitat is present within the Wood Creek Allotment for slickspot peppergrass (*Lepidium papilliferum*), and reauthorization of current grazing management would “not likely to [sic] jeopardize continued existence or adversely modify proposed critical habitat.” While intensive botanical surveys have not been completed for *L. papilliferum* or the presence of slickspots in this allotment, other supporting evidence (proximity to nearest known, dominant vegetation type, soils, precipitation, modeling) shows that there is a very low likelihood of unknown occurrences of slickspot peppergrass or suitable habitat being present on the Wood Creek Allotment. It is very unlikely that continued grazing in this allotment would affect this species.

Botrychium lineare (Slender-leaf moonwort), Bryum calobryoides (bryum moss), Phacelia minutissima (Small phacelia), Pyrrocoma insecticruris (bugleg goldenweed) (R4 Sensitive): Reauthorization of current grazing management may impact slender-leaf moonwort (*Botrychium lineare*), bryum moss (*Bryum calobryoides*), small phacelia (*Phacelia minutissima*) or bugleg goldenweed (*Pyrrocoma insecticruris*) individuals, but would “not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species (MII).” There would be no impacts to potential habitat for other Sensitive plant species. Suitable habitat for these four species is relatively moist environments such as riparian areas (*P. insecticruris* can be on the fringe), aspen stands, seeps, or springs. Therefore, effects to habitat from livestock use are expected to be similar as well.

Direct impacts may include soil disturbance, compaction, and trampling of plants. Risk of herbivory varies with size and texture of the vegetation. Soils of riparian areas, springs, seeps and meadows, as well as aspen stands are particularly vulnerable to disturbance. These areas may be disproportionately used (in terms of the amount of time) by livestock and wildlife for feed, water, and shade.

Indirect impacts of grazing could include exacerbation of bare ground open for weed colonization, spread of weeds through consumption or movement of seed or plant parts, and alteration of plant community composition, through selective grazing. Other indirect negative effects may occur in drainages, such as loss or removal of vegetation along streambanks, accompanied by an increase in erosion and downcutting. This can result in lowered water tables to the point at which the environment that provides suitable habitat is no longer sustainable.

While both small phacelia and bugleg goldenweed can be found in areas subject to some disturbance, it is probably at low levels where normal growth and reproduction are not repeatedly compromised.

3.5.2.1.2 NO GRAZING ALTERNATIVE

Elimination of grazing on Forest land would improve conditions for some (but not all) rare plant species analyzed in this report, particularly those whose potential habitat is moist or wet habitats such as meadows or aspen stands.

Overall conditions would improve for most native plants, potentially with an increase in the density of native grasses and plant diversity, and the potential expansion of biological soil crusts to historic levels (10 percent) in the sagebrush-steppe portion. This may be counteracted by continued increase in the density of sagebrush until a fire or other event reduces the number of sagebrush plants. Noxious weeds would be treated as needed, aided by a decrease in potential for introductions of new species or re-introductions by livestock. Other non-native species may continue to expand and threaten native plant communities by affecting species composition, density and altering the fire regime. Alternatively, if health and vigor in the native plant communities improve, they may become more resistant to invasion by non-native species.

Lepidium papilliferum (Slickspot peppergrass): As it is unlikely that the dominant sagebrush-steppe vegetation associations in this allotment provide suitable habitat for this species, there will not be any differences in impacts to *L. papilliferum* between grazing and not grazing the allotment.

Botrychium lineare (Slender-leaf moonwort), Bryum calobryoides (Bryum moss), Phacelia minutissima (Small phacelia), Pyrrocoma insecticruris (Bugleg goldenweed): These are all species tied to habitat in aspen stands and riparian areas, seeps, and springs (although sometimes on the fringe). Cessation of grazing in these areas would lead to eventual recovery of proper functioning conditions and structure in any areas where detrimental disturbance has occurred. However, heavy past use may prevent vegetative composition from reverting to that of the pre-grazing era. Soil characteristics may have been altered (through erosion, loss or structural change) enough that the land does not support the same suite of species that it did historically. Additionally, some species may have been extirpated from the area, and the means of regeneration are not present (seed, spores, or plant propagules). However, overall habitat for these rare plants and more common native species would improve without livestock grazing. Even in those areas of current heavy disturbance, it appears that the source material for native plant restoration is still present on site or nearby and eventual recovery would be anticipated.

Suitable habitat present in rocky or steep areas that are inaccessible to cattle would remain in similar condition as it is currently.

3.5.2.2 CUMULATIVE EFFECTS

Activities that may cumulatively add to negative effects of the proposed action include historic grazing, current grazing in surrounding allotments, livestock trailing, non-native species introduction, the presence and spread of noxious and non-native weeds, road construction and maintenance, fiber optic cable installation, and recreation and dispersed camping. All of these activities have or can contribute to changes

in environmental conditions such as soil loss, changes in native plant species composition, distribution, frequency, reproductive capacity, introduction or spread of aggressive weed species, or changes in fire regimes. These changes affect both native plant communities and rare plant habitat.

3.6 FISHERIES AND WATERSHED RESOURCES

The "Fisheries and Watershed Resource Specialists' Report" and the "Biological Assessment for ESA-Listed/Proposed/Candidate Species" (BA) are hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). These reports contain the detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the Fisheries Biologist and Hydrologist relied upon to reach the conclusions disclosed in the EA.

3.6.1 ALTERNATIVES AND ACTIONS ANALYZED

The continued grazing alternative, the no grazing alternative, and the actions associated with them were analyzed in the Fisheries and Watershed Resource Specialists' Report. Sections 1.3 and 2.1.2 of this EA and the Fisheries and Watershed Resource Specialists' Report provide a detailed description of these alternatives

3.6.2 AFFECTED ENVIRONMENT

For the purposes of this assessment, the 6th Field Hydrologic Unit Code (HUC) or subwatershed scale, unless otherwise stated, was used as the analysis area for depicting existing resource conditions and potential effects from implementation of the Wood Creek Allotment. The allotment is located within portions of the following two sub basins: 1) South Fork Boise River 4th field subbasin (17050113); and 2) Camas 4th field subbasin (17040220).

The allotment includes portions of seven 6th field subwatersheds. The Wood Creek, Cat Creek and Anderson Ranch Reservoir subwatersheds are the focus of this analysis. This is based on GIS analysis which indicates there are approximately 21.1 miles of perennial stream, 4.1 miles of which are on NFS lands. Perennial streams on NFS land include Castle Rock Creek, Louse Creek and Wood Creek. There are 56.2 miles of intermittent stream (8.8 miles of which are on NFS lands) within these subwatersheds in the Wood Creek Allotment.

Given the inconsequential amount of perennial and intermittent stream miles within the allotment on NFS land within the Wild Horse-Camas Prairie, Little Camas Creek, Camas-Malad River, and Moores Creek subwatersheds, these subwatersheds will be excluded from further analysis.

3.6.2.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

The Fisheries Biologist and Hydrologist considered the likelihood of potential effects to bull trout and other native fishes, effects to water quality beneficial uses, and wetlands and floodplains. It was determined that only native fishes and water quality beneficial uses were potentially affected by the action, and only within two subwatersheds out of the seven that exist in the allotment.

Both of the alternatives were determined to have "No Effect" on bull trout because there is little likelihood that bull trout are present and there is no bull trout habitat present within the allotment or any area downstream of the allotment that would be affected by either alternative. Bull trout is also the only management indicator fish species on the Mountain Home Ranger District. It was also determined that there would be no negative effect to wetlands or floodplains. Both of these "No Effect" determinations are

referenced in Chapter 4 of the Fisheries and Watershed Resource Specialists' Report and on page 18 of the "Biological Assessment for ESA-Listed/Proposed/Candidate Species" (Project Record).

3.6.2.1 CAUSE-EFFECT RELATIONSHIPS CONSIDERED

The effect of grazing on aquatic and riparian habitat and on fish and other aquatic organisms is greatly dependent upon the intensity of grazing and other aspects of grazing management. When cattle congregate in riparian areas due to lack of water, succulent forage, or level ground in the uplands, substantial damage to riparian vegetation and streambanks often occurs with relative rapidity. When cattle are encouraged to leave riparian areas by management practices such as salting, off-stream water development, and active herding measures, little more than isolated and temporary impacts may result.

3.6.2.1.2 RESOURCE CONDITION INDICATORS

There are 24 watershed condition indicators (WCIs) outlined in the Forest Plan to characterize current soil, watershed, riparian, and aquatic conditions and the effects of land management activities on subpopulation character, water quality, habitat access, habitat elements, channel conditions, flow and hydrology, and watershed conditions (Forest Plan, Vol. 2, pp. B-12 to B21). The current condition of each WCI is compared against the desired condition and given one of three ratings: 1) functioning appropriately (FA); 2) functioning at risk (FR); or 3) functioning at unacceptable risk (FUR). In the case of grazing authorizations, certain WCIs have been included or excluded from analysis. Section 3.7 of this EA and Appendix B in the Fisheries and Watershed Resource Specialist's Report (Project Record) provides a more detailed discussion regarding the rationale for inclusion or exclusion of certain WCIs.

Ten of the 24 WCIs were identified to be potentially affected by the proposed action. These WCIs are:

- Temperature
- Sediment/Turbidity
- Chemical Contaminants/Nutrients
- Physical Barriers
- Average Wetted Width/Maximum Depth ratio (Width-to-Depth Ratio)
- Streambank Condition
- Change in Peak/Base Flows
- Drainage Network Increase
- Riparian Conservation Areas, and
- Integration of Species and Habitat Condition

3.6.2.1.3 METHODS USED IN ANALYSIS

Methodologies used to determine effects on WCIs include field reviews of the allotment, review of the existing data described in Section 3.1 of the Fisheries and Watershed Resource Specialist's Report (Project Record), and professional judgment associated with the cause and effect relationships of livestock grazing on the WCIs. The Matrix (Forest Plan, Vol. 2, Appendix B) was used to assist in determining effects on WCIs and ensure consistency with the Forest Plan.

3.6.2.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

3.6.2.2.1 WATERSHED RESOURCES

Tables 1 through 7 in Appendix G of the Fisheries and Watershed Resource Specialists' Report (Project Record) indicate current baseline conditions within the seven subwatersheds in which the Wood Creek Allotment occurs. The tables were taken and modified, where appropriate, from Appendix B (p. 22) of the

Forest Plan. The environmental baselines are an average for the entire subwatershed including all land ownerships (private, state trust, and federal). Based on field reviews, the condition of the allotment on the Boise NF is in large part at or near desired conditions as compared to other ownerships. This is due to these lands being grazed based on the Forest Plan standards and guidelines. The streams that have WCIs that are not meeting desired conditions are listed in Table 9.

Table 9. WCIs on NFS land where improvement is needed to meet desired condition

WCI	Stream
Water Temperature	Louse Creek
Sediment/Turbidity	Louse Creek
Streambank Condition	Louse Creek
Riparian Conservation Areas	Louse Creek

The field review of lower Louse Creek (on National Forest land) identified several effects associated with prolonged grazing within riparian areas. These include reduced riparian vegetation, resulting in a lack of canopy cover and reduced ground cover resulting in unstable stream banks and an increase sediment delivery. Louse Creek riparian vegetation is in mid-seral condition and has 70 percent bank stability. It is important to note that there is adequate soil productivity and water holding capacity to provide for improvements in existing riparian vegetation to move toward desired conditions as the allotment is grazed to Forest Service standards and guidelines (retain the minimum 4" stubble height). Riparian vegetation and associated stream functions and processes would be expected to recover within three to five years.

3.6.2.2 FISHERIES RESOURCES

Rainbow trout, brook trout, and other fishes are present within Wood Creek Allotment. Wood Creek and Castle Rock Creek are two of the primary streams within the allotment, and contain the majority of aquatic habitat supporting these species within the NFS portion of the allotment.

There would be no effect to fisheries resources on NFS land in the Wild Horse-Camas Prairie, Little Camas Creek, Camas-Malad River, and Moores Creek subwatersheds within the allotment because of the inconsequential amount of perennial and intermittent stream miles on NFS land. The amount of NFS land within these four subwatersheds varies from one percent to four percent. Any potential effects to these streams, with subsequent effects to fisheries and hydrology resources, are not likely to be measurable. There are only intermittent drainages within the Little Camas Creek, Moores Creek, or Wild Horse-Camas Prairie subwatersheds in the Wood Creek Allotment that only flow water during snowmelt and significant rainfall events within these three subwatersheds. Furthermore, field reviews of the allotment showed the intermittent streams to be in stable (well vegetated) conditions (Project Record, Fisheries and Watershed Resource Specialists' Report, Appendix A photos), and no downstream effects to fisheries resources are expected from these intermittent streams.

3.6.3 ENVIRONMENTAL CONSEQUENCES

3.6.3.1 DIRECT AND INDIRECT EFFECTS

3.6.3.1.1 CONTINUED GRAZING ALTERNATIVE

Under the proposed action, cattle grazing would continue to occur on the allotment. The effects of grazing on the upland soil-hydrologic, and riparian conservation areas functions and processes will be maintained where currently functioning appropriately and will continue trending toward desired condition where currently not at desired conditions, although to a lesser extent than in the no grazing alternative.

The proposed action would continue to incrementally move towards appropriately functioning watershed, riparian and aquatic habitat conditions, due to the implementation of the Forest Plan goals, objectives, standards and guidelines. Site-level habitat impacts to riparian vegetation and bank stability would likely continue to occur because the actions of individual cattle cannot be totally controlled. However, riparian and in-stream habitat conditions would improve on the subwatershed level and over time, albeit more slowly than under the no grazing alternative. As with the no grazing alternative, improved riparian and water quality conditions leading to overall improved habitat conditions would occur on NFS lands within the three subwatersheds.

Water Temperature WCI

Livestock grazing has the potential to change the temperature regime within streams (Belsky, et al. 1999). This can occur through years of grazing in riparian areas. While the removal of grasses and forbs does not generally have an effect on stream temperatures, if livestock begin utilizing woody riparian species, stream-side shade can be reduced. The reduction of the woody vegetation can increase the solar radiation reaching the water surface, increasing stream temperatures.

The allotment has a Forest Plan standard (RAST01) of a four-inch minimum stubble height at the end of growing season. Grazing intensities that reduce stubble heights to less than four inches can increase browsing on woody species (Clary and Leininger 2000). Therefore, with implementation of Forest Plan standard (RAST01), riparian woody vegetation would be maintained or improved, resulting in improving trends in stream shading and stream temperature on NFS lands within the allotment. It should be noted that the improvement on the NFS lands may not have a measurable effect over the subwatersheds as a whole.

Alteration in stream temperatures can have detrimental effects to fish species. Coldwater fish have definite temperature requirements for spawning, incubation and rearing which influences metabolism, behavior, and mortality (Meehan 1991). In extreme cases, summer maximum temperatures can be above what coldwater fish species can tolerate. Thick overstory riparian vegetation and narrow stream channels reduce the risk of altering summer and winter temperatures.

While stream temperature data within the watersheds is limited, available data suggests that stream temperatures within the allotment regularly exceed desired conditions. Stream shading is a function of vegetation composition, stand height, stand density, latitude, topography, stream width, and orientation of stream channel (Spence, et al. 1996). Therefore, stream temperatures in all three subwatersheds are elevated due to their relatively low elevation, non-forested characteristics, south facing aspects, and intermittent nature, and not primarily due to the livestock grazing.

Riparian conditions on NFS lands within the allotment will improve, due to the incorporation of existing standards, guides, terms, and conditions listed in the grazing permit designed to allow the attainment of desired conditions over time. Maintenance of existing stream temperatures in the temporary-, short-, and long-term time frames within both subwatersheds is expected with potential negligible improvements as vegetation conditions within the RCAs continue on an improving trend.

Sediment/Turbidity WCI

Livestock grazing has the potential to increase fine sediment levels in stream channels. This can occur through streambank erosion, removal of riparian vegetation, and sediment routing to streams (Belsky, et al. 1999). Livestock grazing increases surface erosion via soil compaction, loss of vegetation, and soil exposure (Spence et al. 1996). Large increases in sediment delivery can fill the interstitial spaces and silt spawning gravels (Quigley and Arbelbide 1997, p. 1138). Sediment data within the allotment is limited (Project Record, Baseline Assessments in Appendix G of the Fisheries and Watershed Resource Specialists' Report).

Retaining a minimum four-inch stubble height, of hydric greenline species would retain some level of sediment filtering within RCAs (Forest Plan Standard (RAST01)). This minimum stubble height would help reduce sediment delivery by retaining vegetative cover to trap and filter sediment before it reaches stream channels (Clary and Leininger 2000). It has been acknowledged that in some instances, 2.75 inches may provide adequate protection and in other instances six to eight inches may be required (University of Idaho 2004).

As noted by Spence, et al. (1996), revegetation, compaction, and soil exposure are significant causes of erosion within allotments. However, data in the Vegetation Report (Project Record) shows improving trends in effective ground cover and a corresponding decrease in the amount of bare ground. These improving trends would suggest that sediment delivery to streams from upland areas within the allotment is decreasing. The field reviews of the Wood Creek Allotment on July 7 and August 5, 2009, showed uplands that were in very good soil-hydrologic condition (Project Record, Photos in Appendix A of the Fisheries and Watershed Resource Specialists' Report).

Wood Creek and Castle Rock Creek appeared to be in good condition with good sinuosity, good width-to-depth ratios, good pool frequency and depth, and good riparian vegetation for adequate bank stability and thermal regulation (Project Record, Photos in Appendix A of the Fisheries and Watershed Resource Specialists' Report).

The field review of lower Louse Creek on NFS land identified several effects associated with prolonged grazing within riparian areas. These effects included a lack of canopy cover and reduced ground cover contributing to unstable stream banks and increased sediment delivery. Vegetation is in mid-seral condition. Seventy percent of the streambanks are stable. There is adequate soil productivity and water-holding capacity to provide for improvements in existing riparian vegetation to move toward desired conditions, as the allotment will be grazed to Forest Service standards and guidelines (i.e. retain the minimum four-inch stubble height). Riparian vegetation and associated stream functions and processes are expected to recover within three to five years.

Chemical Contamination/Nutrients WCI

Field reviews conducted in areas of the allotments observed by the Fisheries Biologist and Hydrologist on July 7 and August 5, 2009, did not identify any areas of livestock concentration that would measurably contribute effects to the Chemical Contaminants/Nutrients WCI. There are no

identified water quality assessment units where chemicals or nutrients are identified as pollutants, based on a review of the Idaho DEQ Beneficial Use Reconnaissance Program (BURP) website.

Per Forest Plan Standard RAST04 (Forest Plan, p. III-45) livestock salting is prohibited in RCAs. While site-specific effects from cattle excrement may occur, no effects to the Chemical Contaminants/Nutrients WCI due to reauthorization of the grazing permit and livestock salting is expected at the subwatershed scale in any time frame.

Physical Barriers WCI

No aspects of the project would add or remove any potential barriers to fish passage. Continued livestock grazing would not change this indicator in the temporary-, short-, or long-term.

Width to Depth Ratio WCI

Livestock grazing has the potential to change channel morphology and dynamics by increasing stream width and reducing depth (Belsky, et al. 1999). Width to maximum depth ratio is related to the amount of sediment in a stream. Large amounts of sediment can fill pools and decrease stream depth (Quigley and Arbelbide 1997, p. 1139) and would increase the width to depth ratio. Width to depth ratio is also related to peak flows. Increases in peak flows could erode stream banks and increase the width of a stream. When stream widths and depths are altered, many other fish habitat characteristics are affected (Platts, et al. 1985). The major potential changes to fish habitat are stream temperature increases, increases in fine sediment delivery, and decreases in pool depths, all of which negatively affect fish habitat.

Wood Creek and Castle Rock Creek appear to be within desired conditions for this WCI, while Louse Creek is not at desired conditions. Implementation of the standards and guidelines listed above would begin to move Louse Creek towards desired conditions. Expected improvement on NFS lands will have negligible effects to the subwatersheds as a whole.

Streambank Condition WCI

Livestock grazing has the potential to reduce streambank stability in several ways (Belsky, et al. 1999). Hoof shear can destabilize streambanks directly. This can occur when livestock travel through stream channels or graze streamside vegetation. Livestock grazing can indirectly reduce bank stability by stressing streambank vegetation, causing reduced root mass. Overall impacts from grazing are determined by the intensity, timing, and duration. In grazed areas, stream channels contain more fine sediment, streambanks are more unstable, and banks are less undercut than is the case for ungrazed areas. Therefore, fish populations are reduced (Platts 1983).

As with the other WCIs, available data to characterize streambank condition outside of NFS lands is limited (Project Record, Appendix G of the Fisheries and Watershed Resource Specialists' Report). The desired condition for streambank stability is 90 percent of its potential inherent stability.

While grazing effects likely impacted stream conditions under management regimes in place prior to the 1970s, livestock numbers and grazing intensity have been modified to meet Forest Plan direction. These measures have been incorporated into the grazing permit and are designed to move the conditions on NFS lands in the allotment towards desired levels and would result in long-term improvements to RCAs and streambank stability on NFS lands in the allotment.

For example, the minimum stubble height of four inches within RCAs ensures available vegetation would be retained, which decreases the livestock browse on woody vegetation, lessening impacts to woody vegetation, which would help maintain root strength, therefore improving streambank condition. Streambank stability in NFS portions of Castle Rock and Louse Creeks will improve. Streambank conditions on NFS portions of Wood Creek are at desired condition and will be maintained.

The current functionality of this WCI for the subwatersheds within the Wood Creek Allotment ranges from functioning appropriately (FA) to functioning at unacceptable risk (FUR). Even with incremental improvement of riparian conditions on NFS lands within the allotment, changes at the subwatershed scale would not be measurably affected.

Change in Peak/Base Flows WCI

The current functionality of this WCI for the subwatersheds within the Wood Creek Allotment ranges from functioning appropriately (FA) to functioning at unacceptable risk (FUR). Even with incremental improvement of riparian conditions on NFS lands within the allotment, changes at the subwatershed scale would not be measurably affected.

Drainage Network Increase WCI

This alternative will not have any effect on drainage network increase.

Riparian Conservation Areas (RCA) WCI

Factors that contribute to the overall function of RCAs, such as sediment, temperature, and streambank condition are addressed above under their respective WCI. Given the non-forested characteristics of the majority of streams within the allotment, in-stream large woody debris (LWD) is inherently limited, and during the field reviews, did not appear to be affected by current grazing. The forested portions of Wood Creek on NFS land appear to be within desired conditions for the LWD WCI (Project Record, Photos in Appendix A of the Fisheries and Watershed Resource Specialists' Report). As mentioned above, Wood Creek and Castle Rock Creek appear to be within desired conditions for the RCA WCI. Louse Creek is not currently at desired conditions. Implementation of Forest Plan standards and guides listed above would move Louse Creek towards meeting desired conditions.

Integration of Species and Habitat Conditions WCI

As described for the above WCIs, riparian conditions on NFS lands will improve. However, the contribution from NFS lands to the subwatersheds as a whole will not result in any measureable change for this WCI.

3.6.3.1.2 No GRAZING ALTERNATIVE

The no grazing alternative would require a minimum of two years' notice to the permittee before being implemented. Therefore, until cattle are removed from the allotment, effects under this alternative would mimic the effects of the continued grazing alternative.

It is important to note that the vast majority of land within the allotment is privately owned, and therefore even if the no grazing alternative were implemented, grazing would continue on the private land. Riparian vegetation on NFS lands would improve and achieve desired conditions within 3 to 5 years. All other WCIs are influenced by upstream activities. Removing grazing from NFS lands alone would not result in measurable change to these conditions from those described for the proposed action. Therefore, even with

incremental improvements on NFS land within the allotment under the no grazing alternative, conditions within the allotment at the subwatershed scale would not be expected to measurably improve.

3.6.3.2 CUMULATIVE EFFECTS ON WATERSHED AND FISHERIES RESOURCES

3.6.3.2.1 SCALE OF ANALYSIS

The Wood Creek Allotment fisheries and watershed cumulative effects analysis area encompasses the three 6th field HUs (subwatersheds) included in the analysis for all WCIs unless otherwise specified. This scale was chosen for the cumulative effects analysis area because it is the largest spatial extent that direct and indirect effects would be observed. Cumulative effects occur when existing water resource and aquatic conditions from past land management activities are further affected by the proposed activities and activities planned in the reasonably foreseeable future.

The cumulative effects analysis for the Wood Creek Allotment is based upon past, present, and reasonably foreseeable future projects within the identified cumulative effects area. The Project Record includes a list of all potential activities that were considered in the fisheries and watershed cumulative effects analyses. Some activities listed in the Project Record may be outside the cumulative effects areas considered in the fisheries and watershed analysis. The Fisheries and Watershed Resource Specialists' Report provides estimates of stream miles and details ownership within the allotment.

Past Actions

Past actions considered as part of this analysis include:

- Historic livestock grazing on the allotment and adjacent allotments
- Mining
- Livestock trailing along Castle Rock Road
- Road construction and maintenance (paved and gravel)
- Portions of two large fires (about 1,700 acres in 1958 and about 300 acres in 1930) in the Cat Creek 6th HUC (but not within the allotment boundary)
- Landowner's prescribed burning on private land
- Fiber optic line along Castle Rock Road
- Dispersed camping
- Recreational use

Past Grazing

Impacts of the historical grazing use under management regimes in place prior to the 1970s are likely to have been severe on several of the WCIs listed above. Reductions in vegetative cover would have increased soil erosion and sediment delivery to streams, altered the width-to-depth ratios, and peak/base flows. These alterations would likely have severely impacted any fish populations that were present at the time. A Range Analysis was completed in 1962, which focused on forage productivity and did not include specific information about RCAs or in-stream conditions.

Effects from past grazing and range management efforts are likely still affecting conditions as RCAs and in-stream conditions stabilize and begin to trend toward desired conditions.

Past Fire

Fire is a natural part of western ecosystems, and most plants in fire-prone areas are adapted to living under such conditions. If fires fall within historic norms for severity and frequency, eventual and full recovery of vegetation is expected. This would be applicable to both wildfire and prescribed fire. Effects from fires occurring in shrubland and grasslands that are greater than 20 years old are no longer affecting soil, water, riparian, and aquatic resources. Therefore, there are no cumulative effects associated with past fires within the Wood Creek Allotment.

Present Actions

Other present actions considered for cumulative effects included:

- Livestock grazing on adjacent allotments
- Livestock trailing along Castle Rock Road (one band of sheep (approximately 1,000 head) and one herd of cattle (500 head to Moores Creek) in the spring (late May to early June) and fall (October))
- Road maintenance (paved and gravel)
- Recreational use – mostly during hunting season in the fall
- Dispersed camping
- Fiber optic line along Castle Rock Road

Livestock Trailing and Adjacent Grazing Allotments

Livestock would continue to graze adjacent allotments and the private property within the project area. Sheep and cattle would continue to trail across the allotment along the Castle Rock Road corridor at current levels to access other allotments on the Boise NF. Reference the Wood Creek Scoping Issue and Alternative Analysis and Approval document (located in the project record) for a complete list of adjacent grazing allotments.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions considered for cumulative effects include:

- Livestock grazing on allotment and adjacent allotments
- Livestock trailing along Castle Rock Road (one band of sheep (about 1,000 head) and one herd of cattle (500 head to Moores Creek) in the spring (late May to early June) and fall (October))
- Road maintenance (paved and gravel)
- Recreational use – mostly during hunting season in the fall
- Dispersed camping
- Fiber optic line along Castle Rock Road

There are several reasonably foreseeable future actions that would most likely continue to take place on the Wood Creek Allotment. Livestock would continue to graze adjacent allotments and the private property within the project area. Livestock would continue to trail across the allotment at current levels to access allotments on the Boise NF. The existing road system would continue to be maintained and the permittee would continue to use roads on private property. Unplanned ignitions are likely to occur at some point in the future within the allotment.

3.6.3.2.2 CUMULATIVE EFFECTS OF THE CONTINUED GRAZING ALTERNATIVE

The continuation of current grazing does not propose any new management activities, although natural processes and ongoing management activities are expected to continue. Upland vegetative conditions on NFS lands would continue to move toward desired conditions. Since upland vegetative conditions within the allotment are improving (Project Record, Vegetation Report), sediment delivery from upland areas is decreasing. This decrease in sediment delivery is expected to negligibly improve stream conditions.

Riparian vegetation on NFS lands has likely been impacted by past grazing activities within the project area. However, changes in management that have taken place over the years have allowed riparian vegetation to recover to more desirable conditions. Grazing management standards and guides that are currently applied to NFS lands on the allotment maintain healthy conditions within the riparian areas. Current vegetative conditions outside of NFS lands within the allotment would not change measurably. With such localized and negligible direct and indirect effects on riparian areas, no potential cumulative effects are expected to result from this alternative.

Integration of Species and Habitat Conditions

The cumulative effects analysis for this alternative considered the existing conditions of the WCIs for the three subwatersheds and the potential effects for the reasonably foreseeable future actions. Assuming that the incorporation of existing Forest Plan standards and guidelines would continue to be implemented, RCA vegetative conditions would continue to negligibly improve along with vegetative conditions in the uplands, which would confer negligible improvements to fish and aquatic habitat. Since no undesirable effects are anticipated, no negative synergistic effects are anticipated with implementation of this alternative and the reasonably foreseeable future actions.

3.6.3.2.3 CUMULATIVE EFFECTS OF THE NO GRAZING ALTERNATIVE

As mentioned above, two years' notice is required to the permittee before cattle are removed from the allotment. Therefore, for the first two years, the effects of the no grazing alternative would be identical to the continued grazing alternative. Overall, on NFS land within the allotment, there would be a faster recovery towards soil-hydrologic, vegetation, riparian, and aquatic conditions associated with the no grazing alternative as compared with the continued grazing alternative. Given these improving conditions, it is likely there would be modest improvements in these resources.

However, it is important to note that the vast majority of land within the allotment is privately owned; and therefore, even if the no grazing alternative were implemented, grazing would continue on the private land. Therefore, even with incremental improvements on NFS land within the allotment under the no grazing alternative, conditions within the allotment at the subwatershed scale would not be expected to measurably improve.

3.7 WILDLIFE RESOURCES

The "Wildlife Resource Specialist's Report and Biological Evaluation" (BE) and the "Biological Assessment for ESA-Listed/Proposed/Candidate Species" (BA) are hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). These reports contain the detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the Wildlife Biologist relied upon to reach the conclusions disclosed in the EA.

3.7.1 ALTERNATIVES AND ACTIONS ANALYZED

The proposed action (continued grazing alternative) is the no action alternative and would continue grazing on NFS lands, with mitigated reductions in HMs. Actions analyzed under this alternative include grazing at a mitigated season of use on portions of the allotment, utilization levels defined in the Forest Plan, salting, and use of water developments. For a detailed description of the proposed action refer to the section 1.3 of this EA.

The no grazing alternative would phase out grazing on NFS land over a minimum of two years. It is assumed grazing would still occur on private land at current rates and seasons of use. For a detailed description of the no grazing alternative refer section and 2.1.2 of this EA.

3.7.2 AFFECTED ENVIRONMENT

The Wildlife Biologist considered the effects of the alternatives on impacts to TEPC, sensitive, big game, and management indicator species or their habitats. The TEPC wildlife species that occur on the Mountain Home Ranger District are Canada Lynx (*Lynx Canadensis*) (Threatened) and yellow-billed cuckoo (*Coccyzus americanus*) (Candidate). However, neither of these species was determined to be affected. The "No Effect" determinations for these species resulted from the fact that neither is likely to occur within the Wood Creek Allotment because of lack of suitable habitat (Project Record, Biological Assessment for ESA-Listed/Proposed/Candidate Species).

The Wildlife Biologist considered 18 Region 4 Sensitive species found on the Mountain Home Ranger District, and determined that ten species have habitats on the allotment (Table 10). Two of those species, greater sage-grouse and gray wolf, were determined to be potentially impacted by the alternatives.

Pileated woodpecker (*Dryocopus pileatus*) and white-headed woodpecker (*Picoides albolarvatus*) are management indicator species on the Boise NF. Although pileated woodpecker were confirmed present during site visits by wildlife biologist, neither species were determined to be affected by the alternatives because grazing would not affect forest structure or snag densities.

3.7.2.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

3.7.2.1.1 CAUSE-EFFECT RELATIONSHIPS CONSIDERED

The primary resource concerns with this grazing allotment on wildlife would be impacts to TEPC, sensitive, big game, and management indicator species or their habitats. During scoping, the public expressed concern with the effects livestock grazing have on

- Wildlife habitat and habitat connectivity;
- Threatened, Endangered, Sensitive species and management indicator species (wildlife, plants, and fish); and

- Sagebrush-obligate and riparian-dependent bird species habitat.

3.7.2.1.2 RESOURCE CONDITION INDICATORS

Effects to TEPC species are addressed in the BA (Project Record). For sensitive species, available habitat was identified and a determination of whether grazing would impact the habitat was made. Negative impacts to species habitat could influence how the population continues to function, and if of a substantive value either directly, indirectly, or cumulatively, could drive the species towards federal listing.

Big game species provide both a biological and economic value to the local area. Direct competition of forage through grazing of domestic livestock could impact the ability of big game species to meet population objectives. The primary reason MIS are selected is because their populations are believed to indicate the effects of management activities. By monitoring and assessing populations of MIS, managers can estimate effects on other species within similar habitats.

3.7.2.1.3 METHODS USED IN ANALYSIS

Species occurrence was determined using species habitat parameters discussed in the Wildlife BE and BA. All species with available habitat were assumed to be present. Additional data, such as surveys, GIS data layers, and research reports were used in determining effects to species present. Those species with life cycles that would not be altered by the actions associated with these allotments were determined to have "No Effect."

3.7.2.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

Data for sage-grouse within the allotment and the Mountain Home Sage-grouse Planning Area is either absent or of insignificant value and could not be used to provide either a quantitative or qualitative values. Based on professional judgment and the limited data collected from 2005 to 2009 it is believed that the sage-grouse population is stable or experiencing a slight decline. Grazing is not considered to be a factor associated with declining populations of sage-grouse within the project area.

Sage-grouse habitat within the Moores Creek HUC is relatively stable. Sage brush densities are at the upper levels that support sage-grouse. Sage brush is primarily of an older age class with limited regeneration due to the exclusion of fire over that past 100 years. Without disturbance such as fire or mechanical treatment, it is unlikely sagebrush condition classes would improve. Overall rangeland conditions are trending towards the Forest Plan's desired future conditions.

Wolves have been observed within the analysis area since 2004, with the first conflict with domestic animals occurring in 2006. The USFWS wolf annual reports have shown the wolf populations within the Central Idaho Experimental Area have increased at an exponential rate since reintroductions began. Wolves have continued to colonize the project area since 2006 when the first control actions occurred. Between 2006 and 2008 there were 13 control actions on wolves within the Moores Creek HUC including all suspected members of the Moores Flat pack. Based on professional judgment this allotment occurs at the edge of suitable habitat for gray wolf due to the limited forest structure and low numbers of big game prey species present during the summer.

Gray wolves are habitat generalists and are more reliant on habitat associated with prey species. Elk, the primary prey species, only occur within the allotment during migration periods, with the exception of a small herd that spends time on the allotment and adjacent agricultural fields. Other big game species are stable to slightly above state objectives. No prey is available during the winter except to the north within the Lime Creek drainage.

Big Game species are at or above the state objective within the hunting area that includes the project area. Primary threats to big game species are degradation of winter range and harassment during high stress periods while on winter range. There is no identified big game winter range within the project boundary or analysis area. The analysis area is within Idaho Fish and Game's Big Game Unit 44, managed for trophy elk and mule deer hunting. Pronghorn hunting is primarily influenced by depredation complaints to the east of the project area within agricultural fields. Currently, pronghorn numbers exceed management objectives as complaints of depredation have dropped off over the past decade.

3.7.3 ENVIRONMENTAL CONSEQUENCES

3.7.3.1 DIRECT AND INDIRECT EFFECTS

The Direct and indirect effects to species with habitats on the Wood Creek Allotment are summarized in Table 10. Only those species that may be impacted by the alternatives are discussed in detail in the sections following the table.

Table 10. Effects to Region 4 Sensitive species with habitats present on NFS land within the Wood Creek Allotment

Wildlife Species	Determination	Rationale
Flammulated owl (<i>Otus flammeolus</i>)	NI	No effects to nesting or foraging opportunities
Great gray owl (<i>Strix nebulosa</i>)	NI	No effects to nesting or foraging opportunities
White-headed woodpecker (<i>Picoides albolarvatus</i>)	NI	No effects to nesting or foraging opportunities
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	MII	Nesting habitat present and lek sites known to occur within neighboring allotments.
Mountain quail (<i>Oreortyx pictus</i>)	NI	Species is not known to occur in the area. Limited amount of summer habitat available and no winter habitat available.
Spotted bat (<i>Euderma maculatum</i>)	NI	No roosting habitat present. Foraging habitat present
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	NI	No effects to foraging opportunities.
Spotted frog (<i>Rana luteiventris</i>)	NI	Habitat present, cattle present after eggs have hatched. Substantial habitat inaccessible to cattle
Bald eagle (<i>Haliaeetus leucocephalus</i>)	NI	No change to nesting or roosting habitat.
Gray wolf (<i>Canis lupus</i>)	MII	Habitat present, historic conflict between cattle and wolves on this and neighboring allotments.

NI = No impact to any populations, species or habitat. MII = May impact individuals, but will not likely contribute to a trend towards Federal listing or loss of viability to the populations or species.

3.7.3.1.1**CONTINUED GRAZING ALTERNATIVE****Sage-Grouse**

There are 3721 acres of sage grouse habitat on of NFS lands in the Wood Creek Allotment. The primary threats to sage-grouse are predation, fence strikes, hunting, and direct interactions with cattle. Turn-on of cattle before June 15 may directly impact sage-grouse nesting and brood rearing. In known suitable nesting habitat, livestock grazing would be restricted on NFS lands until after the nesting period of April 1 to June 15. Cattle presence prior to this time period may cause flushing, trampling of nests, reduced cover and reduced forage that provides the insect prey base vital to young sage grouse survival. This measure maintains consistency with Forest Plan direction. If monitoring identifies additional leks on NFS land within the allotment, suitable nesting habitat on NFS land within the three-mile buffer zone would also be excluded from livestock grazing until after June 15.

Grazing of grasses and forbs may reduce hiding cover during the brood rearing and summer months. The proposed intensity of grazing will not detrimentally impact hiding cover.

Gray Wolf

Direct impacts of grazing on wolves consist of control actions that would remove wolves from where depredations of livestock might occur. Livestock grazing would continue to occur in spring, summer, and fall ranges for elk, mule deer, and pronghorn. Any reduction in forage could potentially impact these prey species for wolves. However, the extent of the potential grazing impact on big game spring, summer, and fall range is small given the abundance of forage and the continued improvement of forage conditions. The allotment does not provide winter forage for wolves. The continued grazing on Wood Creek and other allotments within the identified 6th HUCs would continue to cause interactions between wolves and livestock. Although control actions would most likely continue, they would not be of a level to impact the continued growth of the wolf population.

Big Game Species

Forage can be influenced by season of use, duration and intensity of use. Within the Wood Creek Allotment, grazing could influence the forage available for three big game species: (1) Elk, a grazer (competition); (2) deer, a browser (no conflict); and (3) pronghorn, a browser (no conflict). Direct competition between elk and cattle would be limited due to duration and intensity. Forty-three head of cattle use 5,591 acres of NFS land for a period of five months. Big game arrives before cattle are released into the allotment and most migrate through to higher elevations, not returning until late November or December.

Wildlife Habitat and Habitat Connectivity

Grazing in wildlife habitat has the potential to affect forage quantity and quality, hiding cover, nesting and denning cover, and brood rearing cover. The duration and intensity of grazing under management guidelines would protect wildlife habitat. Grazing within management guidelines would not impact habitat connectivity for wildlife species. Based on ground cover data, rangeland conditions are in an upward trend on the Wood Creek Allotment (Project Record, Vegetation Report).

Sagebrush-obligate and Riparian-dependent Bird Species Habitat

Grazing after June 15 would protect nesting cover and brood-rearing cover for sage-grouse and other sagebrush-obligate species. During the summer, impacts to sage-grouse would be limited to decreased hiding cover in open grasslands, and flushing which could expose sage-grouse to predation. Sagebrush canopy distribution on the Wood Creek Allotment is outside of desired conditions for mountain big sagebrush based on GIS analysis. However, the current level of livestock grazing does not affect sagebrush canopy distribution (Section 3.4.2.1.1 of this EA and Project Record, Vegetation Report). Reintroduction of fire or mechanical treatments would be needed to bring sagebrush within densities desired in the Forest Plan.

Aspen Habitats

Currently aspen stands on the Wood Creek Allotment are in fair condition (see section 3.4.1.2).

3.7.3.1.2 NO GRAZING ALTERNATIVE

Sage-grouse

The no grazing alternative differs from the continued grazing alternative by providing 3,721 acres of sage-grouse habitat with no grazing. The no grazing alternative has no conflicts with the spring nesting period, brood rearing, or summer range of sage-grouse. Under this alternative, five miles of existing fencing would be removed and an additional 43.5 miles of fencing may be installed to separate NFS land from private ownership. Additional fencing would increase the likelihood of fence strikes within the allotment.

Gray Wolf

The no grazing alternative would not differ from the proposed action in relation to direct and indirect effects to wolves.

Big Game Species

An addition of 43.5 miles of new fencing to prevent cattle grazing on NFS lands would restrict movement between ownerships by wildlife as well as cattle. Entanglement by big game species could result in mortalities or cause injuries to animals.

Wildlife Habitat and Habitat Connectivity

The no grazing alternative would have no effect on forage quantity and quality, hiding cover, nesting cover, or brood rearing cover. Grazing would continue on private lands within the allotment. An addition of 43.5 miles of new fencing to prevent cattle grazing on NFS lands would restrict movement between ownerships by wildlife as well as cattle. Hazards associated with fencing include fence strikes by sage-grouse, raptors, and other avian species. Entanglement by big game species can result in mortalities or cause injuries to animals.

Sagebrush-obligate and Riparian-dependent Bird Species Habitat

The no grazing alternative would have no impacts to sagebrush-obligate or riparian-dependent species. An additional 43.5 miles of new fencing would be constructed to prevent cattle grazing on NFS lands. Potential hazards associated with fencing include fence strikes by sage-grouse, raptors and other avian species.

Aspen Habitats

Removal of livestock grazing will have little effect on aspen stand conditions. Treatment by fire or other means would be needed to rejuvenate decadent aspen stands..

3.7.3.2 CUMULATIVE EFFECTS

Road construction and subsequent road use, prescribed burning, hunting, OHV riding, and grazing by domestic sheep and cattle represent the past, present, and reasonably foreseeable future actions that contribute to cumulative effects to sage-grouse and wolves in the allotment. Cumulative effects are the same under both alternatives. The no grazing alternative only restricts grazing on those portions of NFS lands within the allotment and it is assumed grazing would continue on private lands at current levels.

Continued grazing within the analysis area would trend sagebrush densities and canopy closer towards older age stands with higher densities not favored by sage-grouse. The continued exclusion of natural disturbance such as fire would prevent improvements to sage-grouse habitat. Motorized vehicle use within the allotment is tightly controlled by the landowner, closed on NFS lands, and would not impact wildlife.

3.8 CULTURAL RESOURCES

The "Cultural Resource Specialist's Report" is hereby incorporated by reference in the Project Record (40 CFR §1502.21, 2007). The Cultural Resource Specialist's Report contains the detailed data, methodologies, analyses, conclusions, references, and technical documentation that the Cultural Resource Specialist relied upon to reach the conclusions disclosed in the EA.

3.8.1 AFFECTED ENVIRONMENT

The historical record documents the cultural sensitivity of lands included in the Wood Creek Allotment boundary. Approximately 1,000 acres have been surveyed for cultural resources, focusing on areas of high probability (i.e. drainages, springs, ridges, saddles, and areas with slopes less than twenty-five percent). These surveys documented seven sites within the project area. Of the seven sites, five are eligible for listing on the National Register of Historic Places and two are not eligible. Although not eligible for listing on the National Register, these two sites consist of Native American artifacts and may be of importance to the tribes. Of the five eligible sites, one is historic, one is a multi-component (prehistoric and historic) site, and the remaining three consist of Native American artifacts. The seven sites were recorded during cultural resources inventories for the 2008 Danskin-Camas Land Exchange.

3.8.1.1 ISSUES AND RESOURCE CONDITIONS ANALYZED

The National Historic Preservation Act (NHPA) is the principle guiding statute for the management of cultural resources. Section 106 of NHPA requires federal agencies to consider the effects of their activities and programs on historic properties, and provide the Advisory Council on Historic Preservation the opportunity to comment on agency undertakings. At the state level, the State Historic Preservation Officer (SHPO) reviews federal undertakings on behalf of the Advisory Council. The procedures for implementing Section 106 of NHPA are outlined in the Code of Federal Regulations (36 CFR Part 800, 2007).

NHPA, as amended in 1992, also requires federal agencies to consult with appropriate Indian tribes regarding the management of traditional religious and cultural properties eligible for the National Register of Historic Places. The Nez Perce Tribe, Shoshone-Bannock Tribes, and Shoshone-Paiute Tribes in particular

have expressed their interests in cultural resources management on the Boise NF. The Tribes consider Native American sites in the area to be very important to their respective cultures.

During scoping, the public expressed concern with livestock impacting cultural sites, and the interplay between livestock degradation of vegetation and soils, and impacts to cultural sites. Potential adverse effects to cultural resources within the Wood Creek Allotment are not anticipated. Should the Forest Archaeologist determine that adverse effects to cultural resources are taking place, they will be addressed and mitigated under the terms of the Programmatic agreement (PA) between the Forest Service and the Idaho SHPO (FS Agreement No.: 06-MU-11040218-059) regarding the Rangeland Management Program. The PA outlines the terms and conditions for satisfying the Forest Service's NHPA Section 106 responsibilities for the identification, evaluation, and resolution of adverse effects (should they exist) to historic properties in allotment areas.

3.8.1.1.1 CAUSE-EFFECT RELATIONSHIPS CONSIDERED

The Cultural Resources Specialist considered the effects to historic properties on NFS lands within the allotment for both alternatives. Direct, potentially adverse effects to historic properties from livestock use and rangeland management activities can include but are not limited to the displacement, damage, and destruction of artifacts, building remains, and associated landscape features. Braided trails, denuded vegetation, erosion, and intense soil churning within site boundaries from livestock use can affect artifacts and overall site integrity. Historic structures, pictographs, and petroglyphs can be damaged by livestock rubbing. Range improvements such as salting, water troughs, spring developments, and fences in or near site boundaries can directly impact sites through ground disturbance associated with implementation and maintenance. Direct and indirect effects can occur if these improvements encourage concentrated livestock use on sites.

3.8.1.1.2 METHODS USED IN ANALYSIS

Direct and indirect effects to historic properties from livestock use and rangeland management activities are determined by applying NHPA's criteria of effect. NHPA defines an adverse effect as one that diminishes the integrity of a historic or prehistoric site's location, design, setting, materials, workmanship, feeling, or association. Adverse effects include physical destruction, damage, or alteration to all or part of a site, and the introduction of visual, audible, or atmospheric elements that are out of character with the site, or alter its setting (36 CFR §800.5[a][2][i-vii], 2007). Criteria of effect are only applied to those sites determined eligible for the National Register.

If an undertaking would not alter the characteristics of a historic property that make it eligible for listing on the National Register, then a "No Effect" determination may be reached. No Adverse Effect determinations are applied when the Forest Service, in consultation with the SHPO, 1) determine that the effects do not meet the criteria of adverse effect, or 2) the undertaking is modified or conditions are imposed to avoid adverse effects. Should the Forest Service determine that an activity would have an adverse effect on a historic property, and SHPO concurs, the agency and SHPO would stipulate measures to resolve or mitigate the effect(s).

The Cultural Resources Specialist considered 1) the results of previous cultural resources inventories in the area; 2) the intensity of livestock use on the NFS lands within the allotment, and 3) range improvements to determine the existence or potential for direct and indirect effects to historic properties.

3.8.1.2 EXISTING STATE OF RESOURCE CONDITION INDICATORS

No effects due to grazing have been identified during previous cultural resources inventories of NFS lands in the allotment.

3.8.2 ENVIRONMENTAL CONSEQUENCES

The Cultural Resources specialist has determined that implementation of either alternative would likely have "No Effect" on historic properties. The Forest Service will document the "No Effect" determination with the Idaho SHPO under the terms of the PA.

3.8.2.1 DIRECT AND INDIRECT EFFECTS

3.8.2.1.1 CONTINUED GRAZING ALTERNATIVE

This alternative authorizes continued livestock grazing at current permitted numbers and season, consistent with standards and guidelines specified in the Term Grazing Permit, the Forest Plan, management prescriptions, and monitoring requirements.

At this time, no impacts to historic properties from grazing activities have been identified within the Wood Creek Allotment. Based on cultural resource inventories in the area, it is anticipated that continued grazing would have "No Effect" to historic properties in the Wood Creek Allotment.

3.8.2.1.2 NO GRAZING ALTERNATIVE

The no grazing alternative would consist of eliminating livestock grazing from NFS lands in no fewer than two years. The no grazing alternative would require a minimum of two years' notice to the permittee before being implemented. It would also require the removal of approximately five miles of fence and one water development on NFS land once livestock grazing on NFS land is phased out. The pond that exists on NFS land would remain in place, but would no longer be available to the permittee's livestock after two years. An additional 5.5 miles of fence may also be removed along the Castle Rock Road if livestock can be effectively controlled while trailing through this area without the fence.

It is assumed the private landowner would continue to graze their private property at the same intensity and duration that it is currently grazed. In order for the private landowner to effectively graze their private property and to prevent livestock trespass on NFS land, the landowner would need to construct 43.5 miles of fence on their private land boundary.

The implementation of measures to keep cattle off of NFS lands (i.e. constructing fence along NFS boundaries) has the potential to adversely affect cultural resources. Under the no grazing alternative, certain management activities may require additional NHPA Section 106 review under the terms of the PA.

3.8.2.2 CUMULATIVE EFFECTS

Recent cultural resources investigations within and adjacent to the project area have noted no past or ongoing damage to historic properties. With no direct or indirect effects to historic properties resulting from either alternative, no direct or indirect effects of any other past, present, or reasonably foreseeable future activities would accumulate with the effects of either alternative.

3.9 CONSISTENCY WITH OTHER LAWS, REGULATIONS, AND POLICIES

A number of disclosures involving compliance with various laws, executive orders, and regulations are required in grazing NEPA analyses. These disclosures are listed below.

3.9.1 ENDANGERED SPECIES ACT

The District Wildlife Biologist considered effects of continued grazing to listed wildlife species with habitats on the Mountain Home Ranger District. Continued grazing of the Wood Creek Allotment would have **"No Effect"** to Canada lynx (*Lynx canadensis*) (Threatened) or yellow-billed cuckoo (*Coccyzus americanus*) (Candidate) (Refer to Section 3.7.2 of this EA and the Project Record, Biological Assessment for ESA-Listed/Proposed/Candidate Species).

Columbia River bull trout (*Salvelinus confluentus*) are the only fish management indicator species in the Forest Plan (Forest Plan, Vol. 2, p. E3) and are also listed as Threatened under the ESA. However the continued grazing alternative would have **"No Effect"** on bull trout because the Wood Creek Allotment does not occur within any potential or existing bull trout population, or designated critical habitat (Refer to Section 3.6.2.1 and the Project Record, Biological Assessment for ESA-Listed/Proposed/Candidate Species).

There is a low likelihood that suitable habitat is present within the Wood Creek Allotment for proposed candidate slickspot peppergrass (*Lepidium papilliferum*), and reauthorization of current grazing management **"would not likely jeopardize continued existence or adversely modify proposed critical habitat"** for this species (Refer to Section 3.5.2.1.1 of the EA and the Project Record, Biological Assessment/Evaluation – Botany Report).

3.9.2 CLEAN WATER ACT

The Clean Water Act (CWA) is a federal statute that requires states and tribes to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Potential effects to water quality beneficial uses were specifically analyzed and documented in Appendix E of the Fisheries and Watershed Resource Specialists' Report (Project Record). The Water Quality Federal Consistency Checklist was completed as part of the requirements for the Idaho Nonpoint Source Management Program and identified full compliance with the CWA (Project Record, Fisheries and Watershed Resource Specialists' Report, p. 18).

3.9.3 EXECUTIVE ORDER 11988, FLOODPLAIN MANAGEMENT

The decision for the Wood Creek Allotment would be consistent with E.O. 11988 because it would not increase flood hazards (Project Record, Fisheries and Watershed Resource Specialists' Report, pp. 18 and 19).

3.9.4 EXECUTIVE ORDER 11990, PROTECTION OF WETLANDS

The decision for the Wood Creek Allotment would be consistent with E.O. 11990 because it would not result in a net loss of wetlands hazards (Project Record, Fisheries and Watershed Resource Specialists' Report, pp. 18 and 19).

3.9.5 PRIME FARMLAND, RANGELAND, AND FOREST LAND (DEPT. REGULATION 9500-3)

The decision for the Wood Creek Allotment would not affect prime farmlands, rangeland, or forest lands because there are no prime farmlands, rangeland, or forest lands located on the Boise NF (USDA Forest Service 2003a, p. 3-979).

3.9.6 FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA), SECTION 402(G)

The decision for the Wood Creek Allotment would be in compliance with FLPMA. Section 402(g) of FLPMA requires two years' advance notice to a grazing permittee that the permittee's grazing privileges may be cancelled, except in emergency situations. If the no grazing alternative were to be selected for this allotment, the affected grazing permittee would be sent the required advance written notification of the proposed closure of the allotment.

3.9.7 EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE

The decision for the Wood Creek Allotment would be in compliance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations" because it does not have the potential to place any burden or disproportionate impact which could be considered an environmental injustice or unequal protection on any segment of the population, including the population of Elmore County, Idaho.

3.9.8 EXECUTIVE ORDER 13186 AND THE MIGRATORY BIRD TREATY ACT OF 1918

Neotropical migratory birds are those that breed in the United States and winter primarily south of the United States-Mexico border. They include a large group of species, including many hawks, shorebirds, warblers, and other song birds with diverse habitat needs, spanning nearly all successional stages of most plant community types. Of the 225 migratory birds that are known to occur in the western hemisphere, about 120 are known to breed in Idaho. Nationwide, declines in population trends for neotropical migrants have developed into an international concern. Habitat loss is considered the primary factor in the decline of some of these species. Since there are so many different species in this group, it is difficult to assign an appropriate analysis area scale. Generally the subwatersheds that contain the project area would be an appropriate scale for the species in this group for the period of the year that they utilize the area.

Migratory birds are present during the implementation period (normally present from end of June to October). Project activities could displace individuals any time during this period. Unintentional take could occur through destruction of nests and nestlings. Activities associated with grazing on this allotment would have little influence on migratory birds. The Wood Creek Allotment is 5,591 acres of NFS lands with 43 head of cattle authorized primarily after the nesting season.

3.9.9 SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT (NHPA)

The Forest Service and Idaho SHPO have agreed that the rangeland management program will be performed in accordance with the terms and conditions stipulated in a Programmatic Agreement (PA) between the Forest Service and the SHPO regarding the Rangeland Management Program (see FS

Agreement No. 06-MU-11040218-059) to satisfy the Forest Service's NHPA Section 106 responsibilities for all individual undertakings of the program. The PA outlines procedures for the identification, evaluation, and resolution of adverse effects to historic properties in allotment areas. The criteria for determining adverse effects are outlined in the PA. The resolution of adverse effects, if adverse effects are identified, is also established in the PA.

The Cultural Resource Specialist considered the likelihood of potential adverse effects to historic properties from rangeland management activities, including (but not limited to) braided livestock trails, denuded vegetation, increased erosion, and intense soil churning within site boundaries. Range improvements such as salting grounds and water developments within or adjacent to site boundaries can encourage increased livestock use of the area. Historic structures, pictographs, and petroglyphs are also susceptible to rubbing by livestock.

The resource specialist has reviewed the project under the terms of the PA regarding the Rangeland Management Program and determined that there is little difference between the alternatives in the magnitude, intensity, or duration of effects to historic properties in the project area. Adverse effects to historic properties have not been identified at this time and are not likely to occur if either alternative is implemented. Implementation of the continued grazing alternative would likely result in "**No Effect**" to historic properties. The no grazing alternative has the potential to adversely affect cultural resources and may require additional Section 106 review by the SHPO to have no adverse effect to historic properties (Refer to Section 3.8 of this EA and the Project Record, Cultural Resources Specialist Report).

3.9.10 CONSERVATION PLAN FOR THE GREATER SAGE-GROUSE IN IDAHO

Grazing under management standards and guidelines developed for the Wood Creek Allotment follow directions outlined for grazing in sage-grouse habitat.

3.9.11 OTHER DISCLOSURES

Neither alternative has the potential to affect congressionally designated areas, Inventoried Roadless Areas (IRAs), Wild and Scenic Rivers, Research Natural Areas, protected caves, or parklands because there are none of these areas on the Wood Creek Allotment.

Chapter 4 -- Consultation and Coordination

4.1 FOREST SERVICE IDT MEMBERS

Tina Ruffing	Team Leader, Range Resources, Vegetation Resources
Kay Beall	Rare Botanical Resources
Joe Bergstrom	Cultural Resources
Scott Bodle	Wildlife Resources
Devon Green	Fisheries Resources, April 2009 to Completion
Terry Hardy	Soils Resources
Bart Lander	NEPA Coordination, Writer/Editor
Susie Osgood	Cultural Resources Consultant
John Thornton	Watershed Resources

4.2 TRIBES CONSULTED

Shoshone-Bannock Tribes

Shoshone-Paiute Tribes of Duck Valley



Appendix: Response to Comments

As required by 36 CFR Part 215, the 30-day Notice and Comment period for the Wood Creek Allotment analysis occurred in 2004. A "Legal Notice of Proposed Action" was published in the newspaper of record on November 5, 2004, and Proposed Action Reports were mailed to several interested agencies, groups, and individuals. Comments were received on both the Wood Creek and Moores Flat allotments because the Notice and Comment periods for these allotments were conducted concurrently. Most comments received were not specific to either allotment and, with rare exception, generally applied to both. The Forest Service's responses provided below are specific to the Wood Creek Allotment.

Three of the five commenters listed below submitted their comments timely, conferring appeal eligibility.

1. Idaho Conservation League (Comments not timely)
2. Magic Valley Region, Idaho Department of Fish and Game (Comments not timely)
3. John Faulkner (Comments submitted timely)
4. The Ecology Center, since renamed Wild West Institute (Comments submitted timely)
5. Western Watersheds Project (Comments submitted timely)

The Forest Service considered each comment received. The project record also includes letters of support that were received from other commenters which are not included in the above list.

All non-supportive comments and concerns are listed below, followed by the commenter's identification in parentheses with reference to the above list, and the Forest Service's response.

1. *Under NEPA, the Forest Service must analyze a "no action" [sic] alternative that differs from the proposed action. (1)*

Forest Service Response: CEQ regulations allow the no-action alternative to be defined as continuing current management or as no implementation. The District Ranger has chosen to define no action as continuing current management, which is consistent with CEQ regulations. In addition to the "no-action" alternative, a "no-grazing" alternative will be analyzed in the EA.

2. *The Forest Service is obligated to analyze a restoration alternative because a portion of this area is within MPC 6.1 and in general. (1, 4)*

Forest Service Response: There is no Forest Plan requirement to analyze a restoration alternative.

3. *The Forest Service must address how soils, wetlands, riparian habitats and water quality have been affected by past grazing and by range improvements and how these resources will be protected in the future. (1)*

Forest Service Response: Forest Plan management direction that addresses soils, wetlands, riparian habitats and water quality applies in the project area. The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on soils, wetlands, riparian habitats and water quality will be analyzed by resource specialists and disclosed in the Environmental Assessment. The proposed action ensures that these resources will be protected in the future.

4. *The Forest Service should analyze the effects of spring developments on the availability of water for various wildlife species. (1)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on wildlife will be disclosed in the Environmental

Assessment. No additional spring developments are proposed. The potential impacts of the existing spring developments are expected to continue to be beneficial to wildlife.

5. *A maximum of 45% utilization in riparian areas and 50% utilization in upland areas is too high and will adversely affect wildlife and riparian condition. Livestock utilization should not exceed 35% for improvement of rangeland vegetation and wildlife habitat. (1, 2)*

Forest Service Response: Conditions that would require a change in the level of utilization to allow for vegetative recovery are not expected on this allotment. If these utilization rates are found to be insufficient to meet resource objectives, they will be adjusted for this allotment.

6. *The Forest Service should assess the relationship between livestock grazing and noxious weeds and describe how noxious weed monitoring and treatment will be coordinated. (1, 2, 4, 5)*

Forest Service Response: The Forest Service acknowledges the relationship between livestock grazing and noxious weeds. Noxious weeds are discussed at the site-specific level in the range specialist's report. Known populations of noxious weeds within the project area on NFS lands are treated as part of the district weed treatment program.

7. *Permittees should be required to feed livestock with certified weed-free hay prior to entering NFS land. (1)*

Forest Service Response: Cattle on this allotment arrive from winter range and not from a controlled pen situation. It is not possible to control what cattle have been fed prior to arriving on this allotment. Because this is an "on-off" allotment, cattle may also move between NFS land and non-NFS land without impediment.

8. *The Forest Service must assess the grazing suitability and capability of each allotment. (1, 4, 5)*

Forest Service Response: The Forest Plan has determined that livestock grazing is a suitable activity to occur within the Wood Creek Allotment. The site-specific capability analysis has been completed for this allotment and it has determined that there is sufficient capable range to support the currently permitted number of livestock.

9. *The Forest Service must consider effects of grazing on these allotments on other potentially conflicting uses of the allotments such as various recreational activities. (1, 5)*

Forest Service Response: The Wood Creek Allotment receives light recreational use, primarily by big game hunters. There are no conflicts with existing recreational activities on this allotment.

10. *The Forest Service must consider the effects of grazing on these allotments on wilderness characteristics. (1)*

Forest Service Response: There is no wilderness or recommended wilderness in the project area.

11. *The Forest Service must consider the effects of grazing on these allotments on wildlife habitat and habitat connectivity. (1, 4)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on wildlife habitat will be disclosed in the Environmental Assessment.

12. *The Forest Service must consider the effects of grazing on these allotments on threatened, endangered, sensitive species and management indicator species. (1, 2, 4, 5)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on threatened, endangered, sensitive and management indicator species will be disclosed in the Environmental Assessment.

13. *The Forest Service must describe how they will effectively monitor and control the use of OHVs by permittees and examine the impacts of OHV recreationists following rancher-created routes. (1, 5)*

Forest Service Response: All motor vehicle use off designated routes by permittees is administered through the Annual Operating Instructions (AOIs). OHV recreationists are restricted to designated roads and trails.

14. *Native bunchgrasses are essential components of healthy plant communities and the effects of grazing on bunchgrass diversity and production should be analyzed. (2)*

Forest Service Response: The comment expressed a concern with the availability of bunchgrass to ground-nesting birds and other wildlife. Site visits, photos and data collected in 2004 indicate that bunchgrasses are present and appear to be in vigorous condition on the allotment. The upland utilization standard set for the allotment allows sufficient recovery to prevent long-term detrimental impacts to bunchgrasses. In addition, the deferred rotation on this allotment provides the opportunity for bunchgrasses to set seed and reproduce every other year.

15. *These allotments' components of suitable elk winter range and the effects of grazing on residual herbaceous vegetation for elk should be analyzed. (2, 5)*

Forest Service Response: Elk winter range is identified in the Forest Plan. There is no elk winter range on the Wood Creek Allotment.

16. *Browse is an important component of big game diets and the Forest Service should monitor to assure no browse utilization occurs from livestock grazing. (2)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on the availability of browse will be disclosed in the Environmental Assessment.

17. *The analysis should include effects of livestock grazing on these allotments to sagebrush-obligate and riparian-dependant bird species habitat. (2, 4)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on sagebrush-obligate and riparian-dependant bird species habitat will be disclosed in the Environmental Assessment.

18. *The effects of the proposed action on the trailing of sheep across the Moores Flat allotment should be considered. (3)*

Forest Service Response: This comment applies specifically to the Moores Flat Allotment. Sheep are not trailed across the Wood Creek Allotment.

19. *The Forest Service must require the permittees to pay all costs of administering the allotments and for construction of "improvements". (4)*

Forest Service Response: The burden of costs associated with livestock grazing allotments and for construction of improvements is already established by Forest Service policy. Deviation from this policy is beyond the scope of this analysis.

20. *An alternative that excludes grazing from riparian areas should be considered. (4)*

Forest Service Response: The "no-grazing" alternative excludes grazing from riparian areas, and will be considered in this analysis.

21. *The analysis must disclose how the alternatives comply with the Clean Water Act and potential for toxic algae in downstream reservoirs. (4, 5)*

Forest Service Response: There is no potential for the proposed action or any alternatives to result in toxic algae in downstream reservoirs. Compliance with the Clean Water Act will be addressed and documented in this analysis. Nutrients derived from cattle grazing and potential for water quality concerns will also be addressed.

22. *The analysis must disclose the cumulative effects resulting from logging, mining, OHV use and any other activity in the area. (4, 5)*

Forest Service Response: There is no past, present, or reasonably foreseeable future mining or logging in the area from which effects would accumulate with the effects of the proposed action. OHV use is limited and would also not accumulate with the effects of the proposed action. As to other possible activities, the potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on resources actually affected by the proposed action will be disclosed in the Environmental Assessment.

23. *The analysis must disclose the impact of livestock grazing on these allotments to predators. (4)*

Forest Service Response: The Forest Service acknowledges the fact that livestock-predator conflicts have occurred in the past on this allotment and on adjoining allotments. However, this concern is outside the scope of this analysis. The means of addressing this concern are already decided by law, regulation, and policy, and are under the jurisdiction of other agencies.

24. *The analysis must contain a complete cost accounting of grazing fees and all Forest Service costs and all indirect cost resulting from impacts to other uses. (4)*

Forest Service Response: This concern has no relevance to the analysis.

25. *This analysis should validate the boundaries of roadless areas. (4)*

Forest Service Response: There are no Inventoried Roadless Areas (IRAs) within this allotment and validation of IRA boundaries is outside of the scope of this analysis.

26. *The analysis must disclose the effects of livestock grazing on these allotments on tree plantations. (4)*

Forest Service Response: There are no tree plantations within the allotment.

27. *The analysis should disclose the effects of livestock grazing on native plant diversity and soils. (4, 5)*

Forest Service Response: The potential direct, indirect, and cumulative effects of the proposed action, the no-action alternative, and any other action alternatives on native plant diversity and soils will be disclosed in the Environmental Assessment.

28. *The analysis should disclose the amount of detrimental soil conditions that exist including effects on microbiotic crusts. (4, 5)*

Forest Service Response: The Forest Service will analyze the amount of detrimental soil disturbance as it determines each alternative's consistency with the Forest Plan. The Forest Service will analyze the effects on microbiotic crusts, if they are likely to occur on the allotment.

29. *The analysis should disclose the degree to which livestock grazing has affected the succession of forested stands in the area. (4)*

Forest Service Response: There is very limited livestock use of forested stands, and very few forested stands, in this allotment. Therefore, the interaction of grazing on succession of forested stands will not be analyzed.

30. *The analysis should disclose a complete documentation of permit violations on these allotments. (4, 5)*

Forest Service Response: The allotment has been administered in accordance with the Forest Service permit. In recent history, there has been one violation of permit terms and conditions on the Wood Creek Allotment. The permittee was cited for salting within a riparian area and required to remove the salt.

31. *The analysis must disclose the effects livestock grazing on these allotments have on cultural resources. (5)*

Forest Service Response: Potential impacts on cultural resources will be avoided and mitigated under the programmatic agreement between the Forest Service and the Idaho State Historic Preservation Officer.

32. *Bank Trampling of 5% or greater of any accessible length of stream, 20% woody species browse, and a 6-inch stubble height should be used as triggers for removal of livestock from bull trout pastures. (5)*

Forest Service Response: There is no potential or occupied bull trout habitat affected by the Wood Creek Allotment.

33. *The analysis should disclose how livestock grazing affects hazardous fuels. (5)*

Forest Service Response: There are no hazardous fuels conditions in the Wood Creek Allotment.



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