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CHAPTER 1. PURPOSE OF AND NEED FOR ACTION

1.1 Document Structure

The Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- *Chapter 1. Purpose of and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences:* This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by significant issues.
- *Chapter 4. Consultation and Coordination:* This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement.
- *Index:* The index provides page numbers by document topic.

Additional documentation, including more detailed analyses of project-area resources, are in the project planning record located at the Evanston Ranger District, Evanston, Wyoming 82930.

1.2 Sequence of Events Leading to this FEIS

1995 Members of the public expressed concerns about the conditions of the alpine benches of the West Fork Blacks Fork Allotment, of specific concern was the relative amount of bare ground vs. ground cover.

1997 The Forest Service visited the areas of concern with those members of the public and the grazing permit holder. New studies were established and existing studies (1965-67) were reviewed and updated. Monitoring results (tied to 1965 bench marks) showed one study site (17-6A) on Dead Horse Bench was not meeting the Wasatch-Cache National Forest 1996 Rangeland Health Amendment standard of 85% of potential (which was 97-100% for Uinta Alpine Grassland) for ground cover.

1998 Public scoping was conducted on a proposal to change management of the Allotment with the intent of improving ground cover, reducing salting, bedding, and herder camp impacts, determining the site-specific potential for ground cover, and examining effects of grazing on stream banks. Monitoring was continued.

1999 A Predecisional Environmental Assessment document was prepared and provided to interested parties. This document analyzed the environmental effects of three alternative grazing scenarios (including no grazing). At the same time, due to concerns about alpine ground cover, Dead Horse Bench area was rested from grazing (with an accompanying reduction in sheep months to compensate for the reduction in area available). This change was made through Annual Operating Instructions for the Allotment with the cooperation of the permit holder. Monitoring was continued during the summer of 1999.

2000 Early in the year, a Forest Service Interdisciplinary Team reviewed public comments on the Predecisional EA as well as the results of monitoring conducted in 1999. In response to the public comments and monitoring, a review of relevant literature was conducted as well. A new understanding of factors contributing to a high degree of variability in ground cover conditions inherent in the alpine benches was gained.

Based on the new understanding of site-potential for the various plant community types present, the 1999 monitoring indicated that the ground cover on the Dead Horse Bench (Study 17-6A) was meeting the Forest Plan standard of 85% of potential for ground cover. When compared with 1965-1967 monitoring, the ground cover trend for the site has been stable over the past 35 years (see Appendix D, Synopsis of Study 17-6A/B.M. No.4, Dead Horse Bench, West Fork-Blacks Fork).

In June a Hydrologist Specialist report (Wasniewski 2000) was prepared discussing new data collected in 1999 and conclusions about streambank, stream channel, and watershed conditions were revised. (See Non- Significant Issues in section 1.8.3.2 and 1.8.3.3 this FEIS Chapter 1).

In addition, monitoring results for the entire Allotment from 1997-1999 were compiled showing forage utilization of both uplands and riparian areas to be within standards set by the Rangeland Health Amendment. Still concerned about ground cover on Dead Horse Bench, in a January 2000 Memo (USDA Forest Service 2000), the Rangeland Specialist made a recommendation to the District Ranger to implement a system resting half of the alpine unit each grazing season for two consecutive years (the first year was 1999 as described above).

2001 Monitoring to improve the environmental analysis in response to public comments on the predecisional environmental assessment was continued. There continued to be discussion and debate among specialists regarding conditions and possible causative factors on the Allotment (e.g., stream stability, ground cover, detrimentally disturbed soils).

2002 The Forest Service discussed the merits of completing an environmental impact statement rather than supplementing the predecisional environmental assessment document because of controversy and disagreement over environmental effects and the relevant science. A public

meeting with a narrated slide presentation was conducted in Coalville, Utah in July to update interested parties on monitoring results and literature search findings regarding stream channel conditions and alpine ground cover.

2003 Given significant changes in conclusions about ground cover conditions along with continued disagreements about whether or not conditions were meeting standards and about the degree to which sheep grazing was contributing to this, in March of 2003 a new Scoping document was mailed to the public requesting comments and a Notice of Intent to prepare an Environmental Impact Statement for the West Fork Blacks Fork Allotment was published in the Federal Register on March 26, 2003.

In May, a Revised Forest Plan (RFP) for the Wasatch-Cache National Forest (RFP 2003) was completed. With regard to rangeland management, it incorporated decisions made earlier in the Rangeland Health Amendment as well as adding a utilization guideline for areas in unsatisfactory condition.

In August, monitoring of Soil Health Conditions in the Red Knob and Dead Horse bench areas was conducted. A summary of results is presented in Chapter 3 of this FEIS.

2004 The Rangeland Management Specialist provided an update to the District Ranger on monitoring results and recommendations since the 2000 Memo with a February 5, 2004 Memo (USDA Forest Service 2004). This Memo highlighted the new understanding of inherent site potential associated with snow beds in the alpine areas of the Allotment and suggested that continuation of the rest periods for these areas should improve ground cover conditions where the potential exists. Soil monitoring of the alpine benches was conducted (Soils Specialist Report, Appendix B, 2005).

2005 In August of 2005 a Draft Environmental Impact Statement (DEIS) was released for public comment. Numerous comments were received and incorporated into this document.

2006 In July of 2006, the Forest Supervisor, Deputy Forest Supervisor, District Ranger and some members of the interdisciplinary team traveled to the allotment to review and discuss some of the effects and study sites (Condrat 2006; Flood 2006)

1.2.1 Permit Background

Given that the Allotment Management Plan for West Fork Blacks Fork Allotment was developed in 1965, no NEPA analysis was completed for this permit. Prior to 1997, limited monitoring took place. In 1997, analysis of resource conditions on the allotment began with the establishment of new studies and a review and update of existing studies completed in 1965-1967 (see Section 1.2, Sequence of Events). Public Law 104-19 allowed the Forest Service to issue a new permit in 2001 when the old permit expired. Also pursuant to Public Law 104-19, commonly referred to as the "Rescissions Act," the new permit included the same terms and conditions as contained in the expired permit. Analysis of resource conditions continued and in 2004 the permit was modified (as were all permits for this National Forest) to include pertinent requirements from the Revised Forest Plan. Although the Revised Forest Plan did determine the general suitability of

areas to produce forage for grazing animals and established programmatic direction for grazing (goals, objectives, desired conditions, standards, guidelines, and monitoring requirements), "...a project level analysis evaluating the site-specific impacts of the grazing activity, in conformance with NEPA is required in order to authorize livestock grazing on specific allotments" (FSH 2209.13 Chapter 91).

1.3 Purpose of and Need for Action

The purpose and need for this proposed action is to authorize livestock grazing on the West Fork Blacks Fork Allotment in a manner that will meet or move toward desired conditions identified in the Revised Forest Plan while meeting other resource objectives. Past public involvement and monitoring have identified several areas where resource conditions may or may not be meeting or moving toward desired conditions for rangelands (including ground cover, soil disturbance, and streambank stability). In addition, Public Law 104-19, commonly referred to as the "Rescissions Act" includes Section 504(a) which requires the Forest Service to: "establish and adhere" to a schedule for the completion of NEPA analysis for all National Forest System grazing allotments where such analysis is needed.

1.4 Proposed Action

The Evanston Ranger District is proposing to authorize continued livestock grazing of the West Fork Blacks Fork Allotment under updated grazing management direction (scheduled rest of alpine units) to maintain Revised Forest Plan desired conditions (for ground cover, species composition, soil disturbance, and riparian greenline seral-status) where they are already being met, and to monitor movement (trend) toward those conditions where they are currently not as desired. The Proposed Action includes monitoring and continuing to adjust domestic livestock grazing as needed based on monitoring results. The updated direction will be incorporated in part 3 of the grazing permit as an allotment management plan. The Proposed Action is described in detail in Chapter 2 of this FEIS.

This proposed action responds to Wasatch-Cache Revised Forest Plan goals for watershed health, biodiversity and viability, social/economic contributions and designated wilderness and to objectives for rangeland management. It provides for moving the project area toward and/or maintaining the desired conditions described in the Plan.

1.5 Decision Framework

Based on the environmental analysis in this EIS, the Forest Supervisor will decide whether livestock grazing should be authorized on all, part, or none of the West Fork Blacks Fork Allotment. If the decision is to authorize grazing, then the decision will also include management direction to be applied (including Revised Forest Plan standards and guidelines, monitoring, and potential future adjustments in grazing).

1.6 Relationship to Revised Forest Plan

Under the National Forest Management Act (NFMA) of 1976 (16 U.S.C. 1600 et seq.), project level decisions which authorize the use of specific National Forest System lands for a particular purpose like livestock grazing must be consistent with the broad programmatic direction established in the Forest Plan. Consistency is determined by examining whether the project-level decision implements the goals, objectives, desired conditions, standards and guidelines, and monitoring requirements from the Forest Plan. Where appropriate, this EIS tiers to the Wasatch-Cache Revised Forest Plan and FEIS, as encouraged by 40 CFR 1502.20.

1.6.1 Applicable Forestwide Direction

1.6.1.1 Desired Future Conditions

The Wasatch-Cache National Forest Revised Forest Plan (RFP 2003) includes Forestwide Desired Future Conditions that describe in a general way what the forest should look like in the future for a variety of resources and uses. Those with direct applicability to this Project include Soil, Water, Riparian and Aquatic Resources, Wildlife Resources, and Vegetation (RFP 2003, pg. 4-5 through 4-9), and Designated Wilderness (RFP 2003, pg. 4-12). The following statements are particularly applicable excerpts from these Desired Conditions for this Proposed Action and environmental analysis.

The desired future condition is to improve or maintain stable watershed conditions by maintaining vegetation with healthy ground cover and plant communities dominated by desired perennial grasses, forbs, with a range of shrub cover. (RFP 2003, pg. 4-7, 8)

Riparian vegetation and large woody debris reduce erosion, maintain water quality, filter sediment, aid floodplain development, improve floodwater retention, improve groundwater recharge, develop root masses that stabilize streambanks, and develop diverse channel characteristics. (RFP 2003, pg. 4-5)

These (riparian) areas provide stable stream banks, shorelines, and channels of streams and stillwater bodies to facilitate meeting water quality standards. They provide habitat for viable populations of wildlife and fish, provide livestock forage, support healthy aquatic ecosystems and a variety of undeveloped recreation opportunities, and aesthetic values. Existing soil productivity and water quality shall be maintained or improved. Important and distinctive values of riparian areas are considered when implementing management activities. (RFP 2003, pg. 4-7)

Most soils have at least minimal protective ground cover, soil organic matter, and coarse woody material. Soils have adequate physical properties for vegetative growth and soil-hydrologic function. Physical, chemical, and biological processes in most soils function similarly to soils that have not been harmfully disturbed. Degradation of soil quality and loss of soil productivity is prevented. Soil-hydrologic function and productivity in riparian areas is protected, preserving the ability to serve as a filter for good water quality and regulation of nutrient cycling. Soil productivity, quality, and function are restored where adversely impaired and contributing to an overall decline in watershed condition. (RFP 2003, pg. 4-6)

The amount, distribution, and characteristics of vegetation (live and dead) are present at levels necessary to maintain habitat for viable populations of native and desired non-native wildlife species. (RFP 2003, pg. 4-6)

Alpine areas are those above treeline with short growing seasons, often with shallow soils and low growing vegetation. Some areas with deeper soils do exist in alpine ecosystems although these areas are still subject to short growing seasons and relatively low productivity when compared to lower elevation sites. Ground cover provides protection with a diversified vegetative cover that stabilizes soil and provides for watershed conditions that absorb surface runoff and contribute to meeting water quality standards, stream stabilization and healthy habitat for fish and wildlife populations. Ground cover is at least 85 percent of potential and is characterized by perennial vegetation, moss, litter, and/or naturally occurring rock. Both livestock grazing and recreation activities are managed to maintain and protect the inherent ecological values of these fragile ecosystems. Existing soil productivity and water quality shall be maintained or improved. (RFP 2003, pg. 4-9)

Wilderness is managed and protected, for the plants and animals that live there and their habitat; the preservation of large intact ecosystems, clean air and water, and primitive recreation opportunities. Natural ecological processes are dominant. Ecosystems are influenced by natural process with little or no intervention. (RFP 2003, pg. 4-12)

High Uintas Wilderness – This area will be managed in accordance with the 1997 High Uintas Wilderness Management Plan, including its DFCs and monitoring. (RFP 2003, pg. 4-185)

Desired Condition Class II – The area is characterized by predominately unmodified natural environment. Some human induced change is evident but will recover. Soil loss, compaction and minor vegetation loss associated with human related activities are discontinuous and limited in extent to the area of activity. Permitted livestock grazing and fish stocking may occur. (HUW Mgt. Plan, pg. II-5, 6)

Sustainable and predictable levels of goods and services are provided contributing to community resiliency. Firewood, post and poles, sawlogs, forage, oil and gas, and other products are provided consistent with management direction. (RFP 2003, pg. 4-15)

Management allows use of riparian, uplands, aspen and alpine ecosystems emphasizing maintenance or restoration of the inherent biological, physical, hydrologic and aesthetic values of these ecosystems. (RFP 2003, pg. 4-9)

1.6.1.2 Goals

The Revised Forest Plan also sets broad Forestwide Goals to guide development of more specific objectives. While many of the Goals and Subgoals generally relate to a large area such as a grazing Allotment, those Goals with the most specific and direct applicability to this project are listed below. The reader is also referred to the Revised Forest Plan for a more comprehensive review of Forestwide Goals and Subgoals (RFP 2003, pg. 4-17 through 4-25)

Forestwide Goal 2 - Watershed Health

Maintain and/or restore overall watershed health (properly functioning of physical, biological and chemical conditions). Provide for long-term soil productivity. Watershed health should be addressed across administrative and political boundaries. (RFP 2003, pg. 4-17)

Forestwide Goal 3 – Biodiversity and Viability

Provide for sustained diversity of species at the genetic, populations, community and ecosystem levels. Maintain communities within their historic range of variation that sustains habitats for viable populations of species. Restore or maintain hydrologic functions. Reduce potential for uncharacteristic high-intensity wildfires, and insect epidemics. To achieve sustainable ecosystems, meet properly functioning conditions (PFC) criteria for all vegetation types that occur in the Wasatch-Cache National Forest. Focus on approximating natural disturbances and processes by restoring composition, age class diversity, patch sizes, and patterns for all vegetation types. (RFP 2003, pg. 4-18)

Forestwide Goal 10 – Social/Economic Contributions

Contribute to the social and economic well being of local communities by promoting sustainable use of natural resources and by participating in efforts to devise creative solutions for economic health (diversity and resiliency). Provide timber for commercial harvest, forage for livestock grazing, exploration and development opportunities for mineral resources, and settings for recreation consistent with goals for watershed health, sustainable ecosystems, biodiversity and viability, and scenic and recreational opportunities. (RFP 2003, pg. 4-23)

Forestwide Goal 13 – Designated Wilderness

Maintain wilderness ecosystems and character, primarily influenced by the forces of nature, to provide opportunities for public use, enjoyment, and understanding of wilderness, and to preserve a high quality wilderness resource for present and future generations. Manage wilderness to sustain wild ecosystems for values other than those directly related to human uses. (RFP 2003, pg. 4-25)

1.6.1.3 Management Area Applicable Desired Future Conditions

The West Fork Blacks Fork Allotment is located on the western boundary of the Eastern Uintas Management Area. Excerpts from the Desired Future Conditions for this Management Area particularly pertinent to this proposal follow.

Watershed: Tie-hacking and probably turn-of-the-century grazing have left an impact on most of the watersheds on the North Slope of the Uintas. Tie-hackers cleared obstructions and straightened channels to permit floating of ties to collection points. Anecdotal accounts of turn-of-the-century grazing indicate substantial erosion and likely effects on stream channel conditions. This has caused many indirect influences on current management. Restoration of properly functioning stream channels is expected to be a long process that includes careful management of streamside and upland facilities and uses, and consideration of streamside vegetation management and instream structures to augment the process of restoration. (RFP 2003, pg. 4-193 to 194)

Botanical Threatened, Endangered, and Sensitive Species Protection/Recovery: Livestock grazing intensities will be managed at a level that maintains rare plant habitat dynamics and provides for pollinator diversity. Riparian and aquatic plant habitats and species will be protected from trampling and overuse by recreational users, livestock and grazing wildlife. (RFP 2003, pg. 4-195)

Wildlife Habitat: Riparian vegetation composition and structure (especially in aspen and willow) will be improved providing habitat for beaver and moose (RFP 2003, pg. 4-196).

Aquatic Conditions: Aquatic habitats will be managed to maintain cool, clear water and well-vegetated stream banks for cover and bank functioning. Water temperature will be preserved through well-vegetated banks. The importance of the National Forest in the conservation of Colorado River cutthroat trout will be recognized. (RFP 2003, pg. 4-196)

Rangeland/Livestock Grazing: Livestock grazing will be a compatible use in each of the prescription areas within active allotments. It will be adjusted and managed to maintain or improve watershed, terrestrial habitat, riparian and aquatic conditions and minimize conflicts with other uses consistent with management direction for the area. Vegetation will be at or moving toward desired composition, structure and function as described in Forestwide Desired Future Conditions. (RFP 2003, pg. 4-201)

Structural improvements such as fences and water developments will be well maintained and serve to improve distribution and control of livestock use. Structural improvements that have been determined as not needed, will be removed from the forest. Grazing permit holders will take full responsibility for monitoring use, movement, and control of livestock to meet standards designed to ensure multiple resource sustainability. Grazing systems will provide for rest or deferment of all areas for some portion of the rotation to achieve improved plant vigor and composition. (RFP 2003, pg. 4-201)

Social: Citizens of communities near the North Slope as well as those from other areas will continue to be actively involved in management and stewardship of the Forest.

1.6.1.4 Standards and Guidelines

Specific Forestwide Standards and Guidelines are designed to assist in land management actions that meet or move toward the Desired Conditions described above. Those that are relevant to this Proposed Action and Alternatives are listed as part of the Design Elements and Management Requirements Common to All Alternatives in Chapter 2 of this FEIS.

1.7 Public Involvement

1.7.1 Scoping

As outlined earlier in the Section 1.2, “Sequence of Events Leading to this FEIS,” public interest and involvement in planning for management of the West Fork Blacks Fork Allotment has a long

history. Initially in 1999 a Predecisional Environmental Assessment was reviewed and commented on by about 46 interested parties. Those comments lead to additional monitoring, a literature review, and numerous discussions both inside and outside the Forest Service regarding conditions and cause-effect relationships for those conditions within the Allotment.

A second Scoping Document was mailed to the public on March 10, 2003 and a Notice of Intent (NOI) to prepare an Environmental Impact Statement was published in the Federal Register on March 26, 2003. The NOI asked for public comment on the proposal to be received by April 18, 2003. In addition to the following specific activities, the West Fork Blacks Fork Grazing Allotment has been listed on the Wasatch-Cache National Forest Schedule of Proposed Actions since the spring of 2003. To date, the public has been invited to participate in the project in the following ways.

Local News Media

Articles about the project were printed in the Uinta County Herald (March 25, 2002 and April 1, 2003), the Summit County Bee (April 4, 2003), and the Park Record (March 19-21, 2003).

Meetings

In July of 2002, a public meeting with a narrated slide presentation was conducted in Coalville, Utah to update interested parties on monitoring results and literature search findings since the time of the Predecisional EA review and comment. In March of 2003, an informational public meeting in conjunction with the new Scoping and NOI was held at the Uinta County Public Library.

Public Mailing

In March of 2003, a letter (Scoping Document) providing information and seeking public comment was mailed to approximately 109 individuals and groups. This included federal and state agencies, tribal governments, municipal offices, businesses, interest groups, and individuals. A total of sixty-three responses (letters containing short to lengthy comments) to this initial mailing were received. Using the comments from the public and other agencies, as well as comments on the Predecisional EA, the interdisciplinary team identified issues and grouped them as follows.

1.8 Issues

The Forest Service first identified all potential issues and then separated them into two groups: significant and non-significant issues.

Significant issues were defined as those: 1) within the scope of the proposed action; 2) not already decided by law, regulation, Forest Plan, or other higher level decision; 3) relevant to the decision to be made; or 4) not conjectural, but supported by scientific or factual evidence.

Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) not relevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence.

The Council on Environmental Quality (CEQ) NEPA regulations explain this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of the non-significant issues and reasons for their categorization as non-significant is provided later in section 1.8.2 of this Chapter.

1.8.1 Significant Issues

Significant issues related to authorizing grazing on West Fork Blacks Fork Allotment were identified through public and internal scoping. Similar or closely related issues were combined into one statement where appropriate. The following five issues were determined to be significant and within the scope of the project decision. These issues are addressed through the proposed action and alternatives.

Issue 1: Vegetation and Soil Conditions

There are concerns about the condition and trend of alpine vegetation and soils within the Allotment. Of concern specifically is the impact of livestock grazing on the types and amounts of plants present, the adequacy of ground cover for protecting soils from erosion, and the soil's condition for supporting productivity and proper functioning of watersheds. These concerns are especially focused on the high elevation alpine and riparian portions of the Allotment and whether these are meeting Revised Forest Plan standards and desired conditions. There is concern that monitoring was not mentioned in the Proposed Action described in the Scoping Document (March 2003). Given that a number of factors have influenced vegetation and soil conditions over time, questions about the degree to which livestock grazing is affecting current condition and trend have been raised both within and outside the Forest Service.

Indicators:

- Plant composition in alpine areas
- Ground cover (FP standards)
- Detrimental soil displacement (FP standards)
- Riparian vegetation meeting desired conditions (greenline studies)

Issue 2: Native Wildlife and Fish Habitats

There are concerns about the impacts of livestock grazing on native wildlife and fish populations and whether grazing is damaging their habitats. Damage mentioned included loss of vegetation, stream sedimentation, water temperature changes, nutrient loading and mortality on fish eggs and pre-emergent fry from livestock wading in streams. Specifically mentioned in public concerns were "big, small, avian, aquatic, and terrestrial wildlife"; bighorn sheep, wolf, native fisheries, Canada lynx, wolverine, and threatened, endangered, and sensitive species".

Indicators:

- Available forage for big game
- Habitat available for MIS and Threatened Species
- Adherence to Conservation Strategies
- Condition of Fish Habitat

- Potential for predator control

Issue 3: Wilderness

There are concerns that damage caused by domestic sheep grazing (specifically to watershed and wildlife habitat) is not in keeping with wilderness qualities (wild, natural) envisioned by the Wilderness Act and Congress when the area was designated.

Indicators:

- Natural Integrity
- Apparent Naturalness
- Remoteness
- Solitude
- Primitive Recreation Opportunity
- Special Features

Issue 4: Recreation

There is concern that the sights, sounds, and effects of domestic sheep grazing are affecting the recreation experiences available within the Allotment area, including recreation opportunities associated with wilderness attributes.

Indicators:

- Primitive Recreation Opportunity
- Challenge

Issue 5: Economic and Social Values

There is concern that the benefits of grazing this Allotment are limited to a small number of people and that “Rangelands on today’s national forest lands have a much broader value than pasture land.” Broader values include ecological and recreational. At the same time, there is concern that “public lands grazing permits play an important role in the vitality of the local economy and any reduction has significant negative impact on the permittee’s ability to continue the livestock operation.”

Indicators:

- Gross revenue for permittee
- Economic stimulus to Uinta County

1.8.2 Non - Significant Issues

The Council on Environmental Quality (CEQ) NEPA regulations explain in Sec. 1501.7, “...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)...”

Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) not relevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence.

1.8.2.1 Issues Outside the Scope of the Proposed Action

Bighorn Sheep

The West Fork Black's Fork Allotment falls within the Utah Division of Wildlife Resources North Slope Bighorn Sheep Plan (UDWR 2004). The area falls within the Hoop Lake sub population and has a population objective of 25-50 animals. The population estimate in 2004 was 15-20 animals. The only area of concern for the Hoop Lake sub population was the Henry's Fork sheep allotment, which is approximately 14 miles from the West Fork Black Fork sheep herd. Currently, bighorn sheep move to the higher elevations following the Henry's Fork drainage. There have been no reported individuals west of the Smith's Fork. In fact, most of the bighorn sheep are reported on the east side of the Henry's Fork (personal communication, UDWR 2006).

Due to needs including analysis of both winter and summer range and maintaining adequate separation between domestic and wild sheep, an area much larger than the WFBF would need to be analyzed for wild sheep management.

The FEIS for the Revised Forest Plan (RFP 2003, pg. 3-359) in the selected Alternative 7 addressed closure of currently vacant allotments (Burro Peaks, Thompson Peak, and West Beaver) as well as future closure of additional Allotments (Gilbert Peak, Henry's Fork-Hessie Lake, Red Castle, East Fork Blacks Fork, West Fork Blacks Fork, East Fork Bear River, and Stillwater) for bighorn sheep habitat should those permits be voluntarily waived without preference.

Sheep Trailing to Ashley National Forest

Some people commented on the trailing of sheep permitted to graze on the Ashley National Forest through the West Fork Blacks Fork Allotment. The Ashley NF permits 1300 ewe/lambs or 1500 dries to graze its allotment; this number of sheep normally takes about 1.5 days trailing across the West Fork Blacks Fork Allotment when both trailing to and trailing from the Ashley NF allotment. If the dries are grazed, only one day is usually needed in the fall to trail across the West Fork Blacks Fork Allotment. Trailing in recent years has been rotated so that the West Fork Blacks Fork is used one out of three years rather than every year however the analysis assumes annual trailing of the Ashley herd through West Fork Blacks Fork Allotment.

Trailing of the Ashley NF sheep herd though the West Fork Blacks Fork is outside the scope of the decision to be made. Any decisions regarding the Ashley NF sheep trailing would be analyzed in a separate NEPA document at another time. Trailing of the Ashley NF sheep is not considered a connected action to this project's purpose and need and therefore will not be analyzed in direct and indirect effects. However, trailing of the Ashley NF sheep herd is a past, present, and reasonably foreseeable action. Therefore, the environmental effects of trailing are analyzed in the cumulative effects analysis in Chapter 3 of this EIS.

Cost Benefit Economic Analysis

Forest Service Range Project Effectiveness Analysis Handbook 2209.11 (USDA Forest Service 1998), effective April 1, 1998, noted that following a Washington Office and Regional review

the direction to complete an economic effectiveness analysis was no longer applicable at the project level.

One of the issues addressed during scoping concerned the costs to the government for implementing the proposed action as compared to the benefits received. Some people feel that the range management program should demonstrate economic efficiency and “pay its way” as a condition to issuing grazing permits.

There are costs associated with analyzing, implementing, and administering range management programs in the Forest Service. The Forest Service administration directs National Forests to provide a range management program where capable and suitable lands are present. As such, the Forest Service accepts the costs of doing business (administration, resource monitoring and analysis, NEPA planning, etc.) for that directed program.

While financial integrity and accountability of all resource management programs in the Forest Service is a program management priority, the Forest Service is constrained in its ability to positively affect the financial efficiency of agency grazing projects. Grazing fees for permitted livestock use on National Forest System lands are designated by Congress in accordance with direction incorporated in FLPMA, Sect. 401, and 36 CFR 222.10(a). Under this regulation, currently 50 percent of Forest Service fees are returned to Regions and Forests from which they are generated to be used for range betterment there.

These same regulations place a limit on the fee the Forest Service can charge for livestock grazing on National Forest System lands. Federal grazing fees are established through an approved formula. As a result, because the Forest Service is limited in its ability to affect financial returns by increasing grazing fees, and is subject to fluctuations in return of grazing receipts based on Congressional determination, it is limited in its ability to create a positive financial return as measured by traditional economic criteria.

Based on the constraints of federal laws and regulations affecting the financial efficiency of the Forest Service grazing program, economic efficiency as a condition for grazing authorization is considered outside the scope of this analysis.

1.8.2.2 Issues already decided by law, regulation, Forest Plan, or other higher level decision

Suitability and Capability Determinations

Some people questioned whether the alpine portions of the Allotment, because of their “sensitive soils, steep slopes, and short growing season,” should be considered “suitable” for livestock grazing. Slopes are one of several criteria used to validate capability, and therefore suitability, in this section. Soils and vegetation are addressed under Issue 1 – Vegetation and Soil Conditions and are further analyzed in Chapter 3.

Rangeland suitability determinations for the WCNF were made during Forest Plan revision (USDA Forest Service 2003, FEIS, pg. 3-356 to 3-359). Forest planning regulations (36 CFR 219.20) regarding grazing resources, require a determination of rangeland suitability in forest plans. Criteria for assessing rangeland capability and suitability are identified in the

Intermountain Region Planning Protocol: Rangeland Capability and Suitability Determinations for Forest Plan Revisions (USDA Forest Service 1998).

Forest Plan Capable Rangeland Acres

Table RN-1 of the Forest Plan Revision FEIS (page 3-350), reports a total of 69,100 (22%) capable range acres within the 308,000 acre Eastern Uintas Management Area. In the West Fork Blacks Fork Sheep Allotment, there are a total of 2,886 (20%) capable range acres within the 14,786 acre allotment. On a percentage basis, the West Fork Blacks Fork has slightly less capable range acres than the management area it is found within, primarily due to relatively more areas with slopes that exceed 45% gradient.

Table 1-1. Criteria and acreages for computing total capable range acres - West Fork Blacks Fork Allotment and Eastern Uintas Management Area.

Area	Total Acres	Acres within 1 mile of Water	Acres with > 200 lbs/ac Forage and Slopes <45%	Percent Capable	Total Capable Range Acres
Eastern Uintas MA	308,400	308,400	69,100	22	69,100
West Fork Blacks Fork Allotment using 2003 Forest Planning Information	14,786	14,786	2,886	20	2,886
West Fork Blacks Fork Allotment using site-specific information from the 1960s range analysis	14,786	14,786	3,178	22	3,178

Site-specific Capable Rangeland Acreage Validation for the Allotment

This site-specific validation applied the exact same protocols and assumptions used to determine capable range acres for the Eastern Uintas Management Area (RFP 2003, Appendix B-9, page B9-1), however similar but slightly different information was used. The Forest Plan Revision used information about proximity to water sources, presence of steep slopes, and forage productivity to identify capable range areas. Forage productivity information was developed from the forest wide vegetation map. Upon examination of this map for the West Fork Black Fork Allotment, the forest wide vegetation map was found to have inappropriately classified large areas of the allotment as “barren” and therefore not producing at least 200 pounds per acre of forage per year. More accurate forage productivity was available from the 1960s range analysis cover type (vegetation) map. These cover types were more accurately drawn and the boundaries have not changed significantly since these maps were drawn. The 1960s range analysis collected information on productivity through a combination of clipping and weighing of plots that represent each cover type and ocular field estimates of cover type polygons. Based on long-term trend analysis, conditions have not changed significantly in the past 40 years and the production data collected in the 1960s accurately reflects current conditions (Zobell and Goodrich 2005). Consequently, the 1960s range analysis was used, along with proximity to

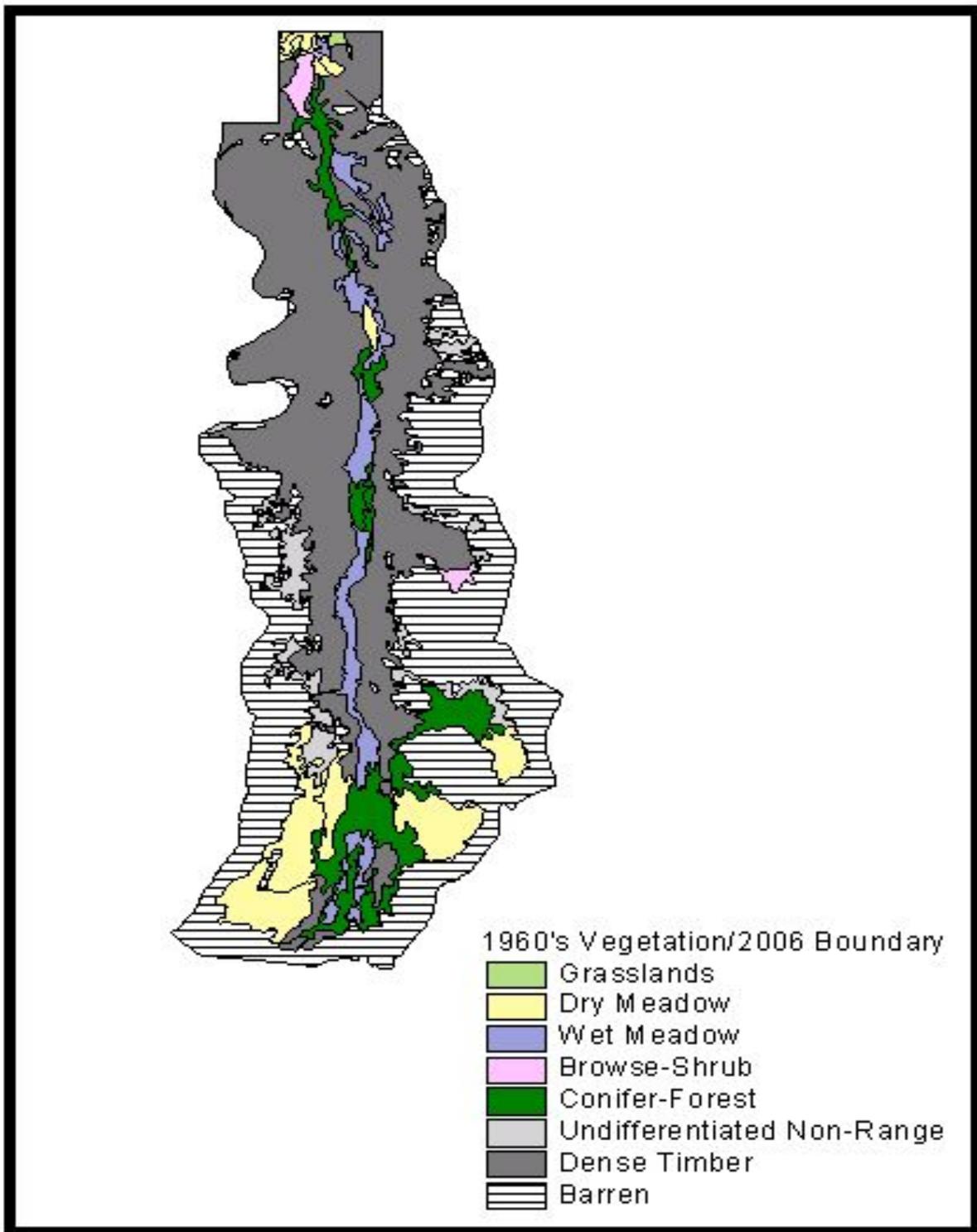
water sources and presence of steep slopes, in validating the capable range for this allotment. The 1960 range survey data was not used in the Forest Plan Revision range capability determination because it did not cover the entire forest. The results of the site-specific analysis show that there are 3,178 acres of capable rangeland within the allotment.

Site-specific Suitable Rangeland Acres Validation for the Allotment

The selected Revised Forest Plan Alternative 7 identified the following as not suitable for livestock grazing: developed recreation sites, research natural areas, vacant allotments within the Salt Lake and Davis County watersheds; and vacant allotments on the North Slope closed for bighorn sheep. A review of these criteria applied specifically to the lands within the West Fork Blacks Fork Allotment indicates that all lands determined to be capable range are also suitable range. However, it should be noted that the selected Forest Plan Alternative 7 identified potential future changes in suitable acres providing that a total of seven Allotments, of which West Fork Blacks Fork is one, would be closed to provide bighorn sheep habitat “should those permits be voluntarily waived without preference”. (USDA Forest Service 2003, FEIS, pg. 3-359)

In summary, there are 3,178 acres of land within this allotment are capable and suitable for grazing.

Map 1-1. 1960s vegetation/2006 boundary.



Remove Grazing From Wilderness

Section 4(d)(4)(2) of the Wilderness Act states: “the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture.”

The legislative history of this language is very clear in its intent that livestock grazing, and activities and the necessary facilities to support a livestock grazing program, will be permitted to continue in National Forest wilderness areas, when such grazing was established prior to classification of an area as wilderness.

Guideline #1 of the Congressional Grazing Guidelines further repeats and clarifies the above paragraph: “...nor should wilderness designations be used as an excuse by administrators to slowly “phase out” grazing. Any adjustments made as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, range condition, and the protection of the range resource from deterioration.”

The Utah Wilderness Act of 1984 designated the High Uintas Wilderness. The Utah Wilderness Act incorporated Section 108 of the Colorado Wilderness Act which included House Committee Report Language stating: “...there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness”. Grazing is a historical use in the High Uintas Wilderness. In addition, Section 303 of the Utah Wilderness Act of 1984 noted that recreation conflicts alone would not be the determining factor in the removal of livestock from those newly established Wilderness Areas...” (RFP 2003, Appendix B9-3).

1.8.2.3 Issues Not Relevant to the Decision to be Made

The following issues are important, but effects on the resources are very minor or have been effectively mitigated with the proposed action and they did not drive formulation of alternatives to the Proposed Action. However, disclosure of effects on these resources is required by law, regulation and policy.

1.8.2.3.1 Risk of Livestock Borne Disease Being Transmitted to Human Users of the Area

Giardia and Q fever can be transmitted through sheep (CDC 2006; EBMUD 2006). The following (CDC 2006) describes the transmission of the Q fever microbe to humans. “*Infection of humans usually occurs by inhalation of these organisms from air that contains airborne barnyard dust contaminated by dried placental material, birth fluids, and excreta of infected herd animals. ... Ingestion of contaminated milk, followed by regurgitation and inspiration of the contaminated food, is a less common mode of transmission. Other modes of transmission to humans, including tick bites and human to human transmission, are rare.*” Microbes can be carried on dust from manure. Animal holding facilities are high-risk areas for contracting the disease. This issue is not carried forward in the analysis because there are no known cases of Q fever in the sheep that are grazed in the allotment, the only animal holding facilities are located at the Wyoming state line and livestock are held in them for a few hours when they are coming

on and off the allotment, and livestock have already given birth to their young before grazing on the forest.

There are several ways that giardia can be transmitted. Giardia can be transmitted on fecal matter by infected mammals such as beaver, livestock. Sediment has a correlation with the level of pathogens such as *Giardia* and has been implicated as a means of transport (EBMUD 2006). Stream stability surveys of the West Fork Blacks Fork in the allotment show that stream stability is good and that the main areas where instability occurs are in beaver habitat. This issue is not carried forward in this allotment because best management practices such as having only a few designated stream crossings and herding sheep mainly in the uplands and not in the riparian areas are already in place in this allotment, which minimizes the amount of sediment that may be caused by sheep grazing.

1.8.2.3.2 Rare Plants

Table 1-2 lists the Threatened, Endangered, and Forest Service Sensitive plant species for the Wasatch-Cache National Forest. In addition, Table 1-2 lists those plants identified as “Recommended Sensitive” in the Wasatch-Cache National Forest Revised Forest Plan (USDA Forest Service 2003).

Table 1-2. Threatened, Endangered, Proposed, Forest Service Sensitive, and Recommended Sensitive plant species for the Wasatch-Cache National Forest.

Species	Common Name	Status
<i>Angelica wheeleri</i> Wats.	Wheeler's angelica	Recommended Sensitive
<i>Arabis glabra</i> (L.) Bernh. var <i>furcatipilis</i> Hopkins	Hopkin's tower-mustard	Recommended Sensitive
<i>Artemisia norvegica</i> var. <i>piceetorum</i> (<i>A.arctica</i> Less. ssp. <i>Arctica</i>) Welsh & Goodrich	Spruce wormwood	Recommended Sensitive
<i>Astragalus jejunus</i> var. <i>jejunus</i> Wats.	Starvling milkvetch	Sensitive
<i>Botrychium lineare</i>	Dainty moonwort	Proposed
<i>Corydalis caseana</i> ssp <i>brachycarpa</i> (Rydb.) Ownbey	Wasatch fitweed	Recommended Sensitive
<i>Cymopterus lapidosus</i> (Jones) Jones	Echo spring-parsley	Recommended Sensitive
<i>Cypripedium calceolus</i> var <i>parviflorum</i> L. (<i>Cypripedium parviflorum</i> – Salisb.)	Lady's slipper	Recommended Sensitive
<i>Cypripedium fasciculatum</i> Kellogg ex Wats.	Brownie lady's slipper	Sensitive
<i>Dodecatheon dentatum</i> var. <i>utahense</i>	Utah shooting star, Wasatch shooting star	Recommended Sensitive
<i>Draba brachystylis</i>	Wasatch draba	Recommended Sensitive
<i>Draba globosa</i> (<i>D. densifolia</i> var. <i>apiculata</i>)	Rockcress draba	Sensitive
<i>Draba maguirei sensu lato</i>	Maguire's draba	Sensitive

Species	Common Name	Status
<i>Draba maguirei</i> var. <i>burkei</i>	Burke's draba	Sensitive
<i>Erigeron arenarioides</i> (D.C. Eaton) Gray	Wasatch daisy	Recommended Sensitive
<i>Erigeron cronquistii</i> Maguire	Cronquist daisy	Sensitive
<i>Erigeron garrettii</i> A. Nels	Garrett's daisy	Recommended Sensitive
<i>Eriogonum brevicaule</i> var. <i>loganum</i> (A. Nels.) Welsh	Logan buckwheat	Sensitive
<i>Ivesia utahensis</i> Wats.	Utah Ivesia	Recommended Sensitive
<i>Jamesia americana</i> var. <i>macrocalyx</i> (Small) Engler	Wasatch Jamesia, Wasatch cliff-bush	Sensitive
<i>Lepidium montanum</i> var. <i>alpinum</i> Wats.	alpine pepper plant, Wasatch pepperwort	Recommended Sensitive
<i>Lesquerella garrettii</i> Payson	Garrett's bladderpod	Sensitive
<i>Papaver radicum</i> ssp <i>kluanense</i> (<i>P. kluanense</i>)	Arctic Poppy	Sensitive
<i>Penstemon compactus</i> (Keck) Crosswhite	Cache beardtongue	Sensitive
<i>Penstemon platyphyllus</i> Rydb.	broad-leaf beardtongue,	Recommended Sensitive
<i>Potentilla cottamii</i> N. Holmgren	Cottam's cinquefoil,	Sensitive
<i>Potentilla pensylvanica</i> var. <i>paucijuga</i> (Rydb.) Welsh & Johnston	Alpine cinquefoil, few-leaflet cinquefoil	Recommended Sensitive
<i>Primula maguirei</i> L.O. Williams	Maguire's primrose	Threatened
<i>Spiranthes diluvialis</i> Sheviak	Ute ladies'-tresses	Threatened
<i>Thelesperma pubescens</i> Dorn	Uinta greenthread	Sensitive
<i>Viola frank-smithii</i> N. Holmgren	Frank Smith Violet	Sensitive

Plants known to occur in the Uinta Mountains include spruce wormwood, dainty moonwort, brownie lady's slipper, echo spring-parsley, Wasatch draba, rockcress draba, Utah Ivesia, arctic poppy, fibrous-stipuled pondweed, alpine cinquefoil, and Uinta greenthread. Table XI-3 in the Revised Forest Plan lists these plants by management area and by habitat in which they occur on the forest (RFP 2003, Appendix XI, pg. XI-6 to XI-9).

Rare plants that are known to occur in or near the West Fork Blacks Fork Allotment include rockcress draba, Utah Ivesia, and Spruce wormwood. These plants typically occur in alpine, rock cliffs, crevices, talus, scree, and subalpine non-forest habitats. Individual plants in the more open, vegetated alpine and non-forest subalpine habitats could be affected by sheep trailing, but are not likely to be grazed because of the low-growing nature of these species (Personal observation, Sherel Goodrich). Wasatch draba and arctic poppy also occur in these habitats and

are also not likely to be grazed because of their growth form and the locations they grow in (Goodrich 2006b).

There is known habitat for brownie lady's slipper. The habitat for the brownie lady's slipper is in communities dominated by conifer forests (lodgepole, subalpine fir, and/or Engelmann spruce) with sparse understory (Photo 1-1). These habitats are not grazed and, because of the tree density, are not likely to have sheep trail through them (Personal observation, Sherel Goodrich).



Photo 1-1. *Cyripedium fasciculatum* habitat in the Uinta Mountains.

Fibrous–stipuled pondweed is an aquatic species and, as such, is not likely to be affected by sheep grazing.

The Uinta greenthread is known from populations on the northern boundary of the Forest in the State of Wyoming. No habitat for this species occurs in this allotment. Echo spring-parsley is not known to occur at high-enough elevations to be on the Forest and, as such, is not likely to be affected by livestock grazing in this allotment.

1.8.2.3.3 Water Quality

The State Division of Water Quality, Department of Environmental Quality assigns beneficial use classes that protect a river against controllable pollution. The designated beneficial uses for the West Fork Blacks Fork and its tributaries includes protection for secondary contact recreation, such as boating, wading or similar uses; protected for cold water species of game fish

and other cold water aquatic life, including the necessary aquatic organisms in their food chain; and protected for agricultural uses including irrigation of crops and livestock watering.

The Utah Department of Water Quality has not listed the West Fork Blacks Fork on their 303(d) list, as a water quality limited segment (Toole 1997). This list recognizes rivers that are not adhering to standards for one or more of the four beneficial uses. Water quality samples collected along the WFBF from 1974 through the present have met state standards.

1.8.2.3.4 Stream Banks

In section 1.4.1.2 Local Site Impacts of the Predecisional Environmental Assessment for West Fork Blacks Fork Allotment Management Plan dated July 1999, an issue was raised concerning whether sheep grazing on unstable stream banks along the main channel was impeding recovery. The cumulative effects in that document suggested that stream bank instability could be symptoms of natural factors such as heavy stream bedload movement below shale outcrops, extensive historic tie drives, and extensive grazing around the turn of the century. It also stated that grazing of alpine meadows and streambanks under Alternative A (of the 1999 document) still could be increasing channel instability or delaying the recovery of unstable stream banks.

After completion of the Predecisional Environmental Assessment for West Fork Blacks Fork Allotment Management Plan, Ashley National Forest resource specialists including an ecologist, hydrologist and soil scientist collected additional information regarding stream bank stability and its causes. This information was reported in a hydrologist report in June 8, 2000 (Wasniewski 2000) and is summarized in this section. In addition, a field visit to the allotment in July 2006 further supports the information presented in this section (Condrat 2006). Data from fish habitat surveys regarding stream bank stability is discussed in Chapter 3 under the issue of Native Wildlife and Fish Habitats.

The issue of the effect of grazing on the stability of stream banks is not carried further in this NEPA analysis because almost all of the stream bank instability is associated with natural conditions. (However, effects of sheep crossing streams within the Allotment are described in Chapter 3 both under the soil and vegetation issue as well as the aquatic habitat issue.) Current grazing practices compared to natural events and historic disturbances have a relatively small effect on channel morphology. Other streams, such as the Upper East Fork Blacks Fork and Little East Fork Blacks Fork, do not exhibit signs of debris fans or debris avalanches and have low levels of stream bank instability and channel scour even though they are grazed by sheep in a similar manner to the WFBF allotment. This suggests that the instability is related to the natural avalanche and its debris flow rather than from livestock grazing.

There are several reasons stream banks are naturally unstable in certain reaches of the West Fork Blacks Fork River:

- ***Lack of deep-rooted vegetation/rocks and naturally high bedload sediment supply*** – The unstable stream banks of the WFBF are associated with debris fans and modern alluvial plains (ecological unit 7 and 27) and consist mainly of red pine shale and dominated by dry meadow vegetation communities that are generally elevated above the stream channel and do not have enough sub-irrigation to support deep-rooted sedges.

The unstable stream banks naturally do not have deep-rooted vegetation or rocks to provide effective resistance against stream bank erosion. The West Fork Blacks Fork has a bedload sediment supply that is delivered from the numerous tributaries that are draining out of the cirque headwalls and Red Pine shale outcrops along the east side of the drainage. The main source of sediment supply currently entering the stream channel is from stream bank erosion that was triggered indirectly by the 1980s avalanche. This is explained in the following section. (Condrat 2006). The natural delivery, mainly from the red pine shale, to the channel from tributaries, debris avalanches, and stream scour of unstable debris fans and alluvial plains cause this system to be naturally high in sediment. The excess bedload is accumulated in the low gradient sections, causing the channel to move laterally across the valley forming mid channel bars and new point bars in the process. The stream's lateral movement is a natural effort to re-establish a new dynamic equilibrium. In order to be stable, low gradient stream reaches that have low rock content require dense, deep-rooted streambank vegetation that is capable of withstanding high stream flow events.

- ***Avalanche Effects on Stream Banks*** – A major event that has played a significant part in channel conditions in the lower part of the allotment is a large avalanche path located at about 10,000 feet elevation (West Fork Blacks Fork Stream Condition, Goodrich 2003). An aerial view of the West Fork Blacks Fork shows a high degree of scouring of the stream below the avalanche path. Historic avalanches have probably occurred at this site as indicated by stream gradients above, below, and at the avalanche site and because the 1980s avalanche does not appear to have deposited all of the 20 feet of built up avalanche material at the avalanche site (Condrat 2006). Future avalanches are also expected to occur. Debris from an avalanche (about 1983-1984) was deposited at this location (Fig.4) across the canyon bottom. Compacted snow, ice, and large woody debris from this avalanche likely dammed the stream. During high flows, water will move the deposited soil, rock, and trees downstream and this material will get deposited on stream bars or trees will direct water into stream banks (Condrat 2006). Trees with rootwads still attached are rather common in the stream below the avalanche; the size of the trees, the rootwads, and volume of trees in the stream indicate the avalanche was the source. These trees are agents of scouring as they are washed down stream. Smaller debris dams caused by the avalanche below the avalanche path have forced the stream to cut into dry debris fans. Scouring of the banks at these sites is indicated to be a function of stream migration into the dry debris fan. Dry vertical banks are the result. Associated with these banks are the more xeric kinds of plants (in contrast to the “water loving” sedges and rushes) that do not have the long rhizomatous root masses that are desirable for providing bank stability. While scouring and bed load are concerns in the West Fork Blacks Fork, standing vegetation crop post grazing indicates utilization to be a minor factor (Unit Examination Records 1997 thru 2003, Studies 17-2GL2, 17-2GL3, West Fork-Blacks Fork Stream Condition, Goodrich 2003).

In addition to the directly deposited soil and rocks from the avalanche, bank erosion contributes more gravel and cobbles to the streambed load below the avalanche area. When this material is moved down the channel onto the crossover between meanders, more scouring occurs on the outside meander the stream banks. The outside meander bank material that is composed of gravels will be eroded and will also contribute

additional bed load to the amount of gravel moving down the stream from meander to meander further compounding the effect. This bank erosion process continues down the stream until the moving bed load spreads out enough and the scour of the banks from excessive bed load ceases. This is the process noted by Louis Wasniewski, Ashley NF hydrologist who reviewed stream conditions on this allotment in 1999 and 2000. (Condrat 2006).

Slumping Stream Banks – The WFBF stream banks show many areas where stream banks are sloughing into the stream. The slumping stream banks are along the edge of large sedge-type wetland meadows. During the 2006 field review these large wetlands were covered by dense sedge and wiregrass growing on fine-grained soil with water six inches on the surface or within the spongy vegetative mass under the sedge and wiregrass leaves. Bank slumping appears to be the results of a gravity failure process. For a description of this process see Forest Hydrologist’s Review of WFBF Allotment (Condrat 2006).

Stream banks that have deep-rooted vegetation such as sedges and willows or large boulders will not erode as easily as banks with shallow-rooted vegetation and gravel/cobble banks. The stream banks in the meadows along the West Fork Blacks Fork have very little boulder-size rock but mostly have a layer of fine-grained soil with sedges and or willows holding the stream banks in place. Below this layer is a relatively weak layer of gravel and cobble. When deep-rooted sedges or willows grow in the fine-grained soils above this layer, then the stream bank forms about a one-foot overhang on the outside meander. Stream banks on higher, dryer landforms within the meadow do not have deep-rooted willows or sedges and are very susceptible to bank erosion where these landforms are located along the stream. There are several, up to six-foot high, 100-200 foot vertical eroded stream banks along outside meanders that are caused by bank erosion along these landforms. This bank erosion is a natural result of the avalanche during the 1980s that added soil, rocks, and trees to the WFBF stream channel. (Condrat 2006).

Livestock Effects On Streambanks – There are only two areas along the WFBF stream channel where there is evidence of sheep impacts to the streambanks. One is located in the upper end of the Buck Pasture and the other is located in Unit 4B (Study 27-2). These crossings are about 20 to 30 feet wide and have caused streambank degradation. Other crossings undoubtedly exist, but inspections of the West Fork Blacks Fork stream channel have not indicated adverse impacts to streambanks at those crossings (Range Specialist Report 2003). The sheep only have a need to cross the West Fork Blacks Fork once or twice in each unit each year. The Ashley NF trail herd does not cross the West Fork Blacks Fork. The Ashley NF trail herd uses other crossings along the small tributaries to the West Fork Blacks Fork, the allotment permitted sheep, and some by recreation stock. One of these crossings is about 80 feet long, but the area immediately away from the crossing, is dominated by late seral plant species (Studies 17-5F1, 17-5F2). Other small tributary crossings exist, but their impacts are small and localized (Unit Examination Reports, Study 7-18A2). Using narrow, discrete stream crossings is in line with the USEPA’s Best Management Practices (BMPs) for grazing (USEPA 2003) that states “Manage rangeland, pasture, and other grazing lands to protect water quality and aquatic and riparian habitat by: 2.) excluding livestock where appropriate, and/or controlling livestock access to and use of sensitive

areas such as streambanks, wetlands, estuaries, ponds, lake shores, soils prone to erosion, and riparian zones, through the use of one or more of the following practices: e.) provide stream crossings, where necessary, in areas selected to minimize the impacts of the crossings on water quality and habitat.” Several other BMPs have been implemented such as keeping the number of stream crossings to a minimum, maintaining enough vegetative cover to prevent accelerated erosion due to wind and water; manipulate the intensity, frequency, duration, and season of grazing in such a manner that the impacts to vegetation and water quality will be positive; and maintain and improve riparian and upland area vegetation.

While walking along the WFBF channel banks in Buck Pasture during the July 2006 review of the WFBF allotment, the only signs of sheep on both sides of the channel that may have trailed to the WFBF stream channel were two 15-foot wide breaks in the stream bank that look like sheep could trail to the stream. This represents about 0.3 percent of the stream bank along this segment of the stream. Walking another 1,000 feet along the WFBF stream channel south of Buck Pasture and looking at both sides of the stream channel, five 15-foot long breaks in the stream bank that may be attributed to sheep going to the stream were seen which is 3.8 percent of the stream bank along this segment. In summary, there is very little sheep trailing to the West Fork Blacks Fork. The most likely reason for this is that sheep do not need to go to the West Fork Blacks Fork stream channel to water because there are so many areas of water available in the extensive wetlands meadow. (Condrat 2006)

Another indication that sheep have very little effect on streambanks is that the small tributary streams have dense vigorous vegetation growing along them and show very little sign of sheep grazing. If sheep were adversely affecting stream zones in the allotment, small streams would be impacted first before the main channel, because they are intersected during grazing and are less of a barrier because of their relative size. There is very little sign of sheep grazing along small tributary streams or along the main channel of the WFBF where sheep have affected only a few small areas of the stream. *See also the effects analysis in Chapter 3 for Colorado River Cutthroat Trout under Issue 2 Native Wildlife and Fish Habitats for estimates of area impacted by stream crossings.*

The wetland meadows along the WFBF stream channel show very little adverse effects from sheep grazing or trailing through the allotment. The only sign of sheep in the wetland meadows are ten 2-foot wide by 4-foot long by 0.5-foot deep trails in the spongy, organic wetland mass along 1-foot wide side channels that occur about every 500 feet or so in the wet meadows. These areas are not eroding but are depressions left in the organic layer by sheep crossing the wet meadow. (Condrat 2006).

Information collected during the July 2006 review show that many of the examples of sheep impacts from trailing are short-term impacts and are not visible when looking at the allotment the year after grazing has occurred. (Condrat 2006).

Comparison of Greenline Vegetation: West Fork Blacks Fork (WFBF)

A greenline is the first perennial vegetation from the water's edge. Riparian areas that are in high seral status with stable stream banks will exhibit a continuous line of vegetation at the bankfull

discharge level. Rocky stream types may have a significant amount of rock causing breaks in the vegetation. This rock is considered part of the greenline. Other breaks may occur in the first perennial band of vegetation (watercourses or bare ground).

A method of evaluating the condition of stream banks as it relates to livestock grazing is to compare the percent of late seral vegetation along the stream bank greenline above and below the avalanche, and along tributaries of the main stream. For a comparison of greenline vegetation, see Section 3.1.9.2.

Percent Late Seral Vegetation at Greenline Studies

First Order Streams * (number of study sites =5) Average Late Seral 96%
WFBB above avalanche (number of study sites =3) Average Late Seral 91%
WFBB below avalanche (number of study sites =5) Average Late Seral 58%
*Side streams or tributaries.

Sheep have had about equal access to each of the Greenline Study Sites referred to above. Sheep can be expected to have equal or greater impact to the first order streams compared to the main stream. Factors other than livestock are strongly implicated in the lower presence of late seral vegetation below the avalanche path. Floods associated with the avalanche path and dry debris fans are factors of influence below the avalanche path. They are not factors above the avalanche path. (West Fork-Blacks Fork Stream Condition, Goodrich 2003).

Cumulatively, only a few small areas contribute a small amount of sediment to WFBB and its tributaries such as along a few points of one road, few hiking trail stream and wetland crossings, and a small active gully (Study 17-10E2).

1.8.2.3.5 Cultural Resources

The upper part of the West Fork of the Blacks Fork has been used intermittently by groups of Native Americans for perhaps as long as 13,000 years. Over the last 150 years the majority of the use has been by European American stock grazers and loggers. Due to the mountainous terrain and relatively severe winters within the project area, much of this use has likely been seasonal. With the exception of the loggers, the majority of use has been restricted to the warmer months.

Although relatively few archaeological surveys have been done in the area, the majority of the recorded sites are historic era logging cabins. These cabins are associated with harvesting trees to use as railroad ties. Thus these loggers were known as "Tie Hackers" and the structures were referred to as "Tie Hack Cabins". The remaining structures are generally in poor condition due to a combination of natural decay, vandalism and artifact looting. The USFS believes that continued sheep grazing will have no adverse effect on the remains of these historic structures.

There are likely numerous prehistoric sites within the allotment boundaries. Since the allotment is well watered, and in a forested environment, the USFS believes that the majority of these sites are protected from sheep grazing by soil deposition and organic detritus on the forest floor. This allotment offers a good deal of forage and water for the livestock, so the sheep are rarely

concentrated in one spot for very long. This also lessens the potential for trampling on archaeological sites that may be on, or near, the ground surface.

Consultation over the possible affects to cultural resources by reissuing the sheep grazing permit on the West Fork Blacks Fork Allotment was initiated with the Utah State Historic Preservation Office on 12/19/2005.

On January 18, 2006 concurrence was received from Wilson G. Martin, State Historic Preservation Officer. The letter concurred, "...as there are no cultural properties affected by this undertaking, we concur with your finding (Martin 2006)."

1.8.2.3.6 Grazing Capacity/Stocking Rates/Utilization Monitoring

Stocking Rates - Beginning in 1999, 2,580 S.M.'s (sheep months) have been allowed on the allotment; this number includes about 107 S.M.'s that are not grazed on the allotment itself, but are grazed as the sheep trail across the National Forest coming to and going from the allotment. Prior to 1999, permitted sheep months have varied somewhat. From 1959 thru 1998 permitted sheep months varied from as high as 3,288 S.M.'s to as low as 2,790 S.M.'s. Prior to 1959, permitted use on the allotment reached as high as 4,661 S.M.'s in 1916 and then was gradually reduced over the years to those S.M.'s permitted in 1959. The allotment boundary was also a bit smaller during some of these early years (Allotment Management Plan, West Fork Blacks Fork Sheep Allotment 1965).

Grazing Capacity - In 1962 a range analysis was conducted on the allotment; the resulting analysis indicated a tentative grazing capacity of 3,525 S.M.'s. This capacity estimate was based on only the suitable range and 45%-50% use of the key species (Forms R4-2200-24, Tentative Grazing Capacity, West Fork-Blacks Fork Allotment 1963)

Because only half of Unit 4 has been grazed since 1999, the estimated allotment grazing capacity available in any given year is reduced to 2,921 S.M.'s. The total estimated grazing capacity of Unit 4 is 982 S.M.'s (Allotment Management Plan, West Fork Blacks Fork Sheep Allotment 1965).

Table 1-3. Estimated grazing capacity and actual stocking rate since 1999.

	Sheep Months
Estimated allotment grazing capacity since 1999	2,921
Actual stocking rate since 1999	2,580

In summary, if the highest number of permitted sheep months is compared with the estimated capacity from the range analysis work, it is evident that the permitted S.M.'s from 1959 thru 2006 has not exceeded the estimated capacity. None of the alternatives would exceed estimated capacity.

Utilization Monitoring - Recent monitoring indicates light to moderate utilization levels throughout the allotment, with some small heavy use spots (R4-2215 Unit Examination Records 1997 thru 2003, Appendix C-Utilization Studies Summary)

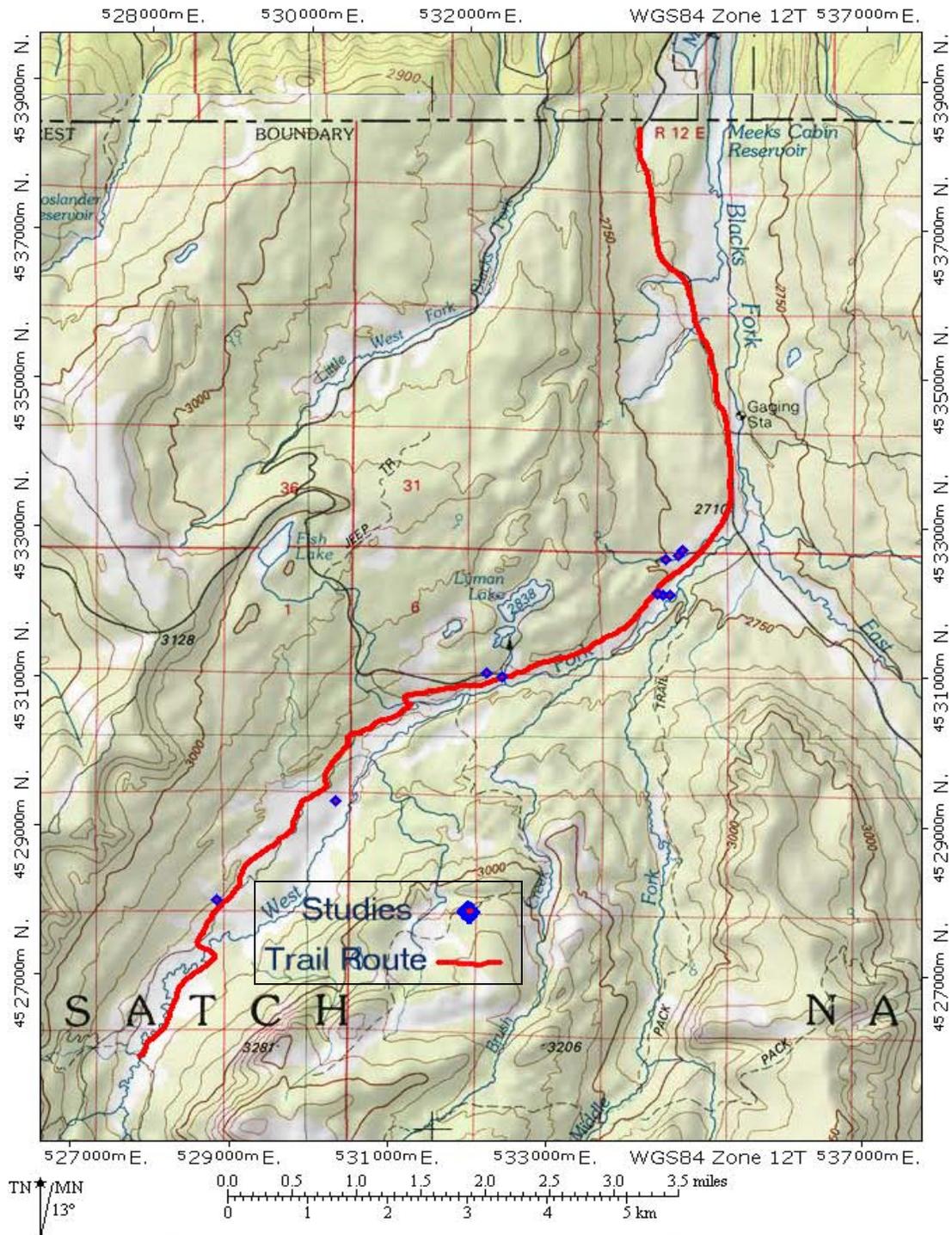
1.8.2.3.7 Trailing Outside the Allotment by the West Fork Blacks Fork Sheep Herd

Map 1-2 shows the trailing route followed by the West Fork Blacks Fork sheep herd to the West Fork Blacks Fork Allotment once the herd enters the National Forest Boundary at the Wyoming-Utah Stateline. The trail primarily follows the road until the West Fork Blacks Fork River is crossed on a bridge by the sheep herd in Section 23 T2N R11E. The sheep take about 1.5 days trailing onto the allotment in early July and about 1.5 days trailing off the allotment in mid September. One over night bedding off of the allotment occurs each way. Trailing impacts appear to be quite narrow and confined to the area adjacent to the road. Monitoring studies in close proximity of the trail indicate satisfactory conditions except for one greenline transect (Study 8-6G) where conditions may be more related to the intermittent status of the stream.

Table 1-4. Studies Outside West Fork Blacks Fork Allotment, Along Trail Route.

Study No.	Type	Estimated Distance From Road	Narrative
8-6B1, 8-6B2, 8-6C1, 8-6C2	Nested Frequency Line Intercept	0.04 mile	This study was established in 1999; 400 points measurements recorded 64% ground cover; it is located adjacent to the Lyman Lake enclosure; its companion study, 8-6B2, is located inside the enclosure and recorded 74% ground cover; 74% is the ground cover potential at this site; therefore 85% of 74% is 63%; monitoring indicates Revised Forest Plan Standard (S7) being met specifically for this site. After 40+ years of protection, sagebrush crown cover was about as high inside (31.6) the enclosure as outside (28.3). After 40+ years of protection, such low value forage plants as pussytoes, milkvetch, and buckwheat were among the most common forbs inside the enclosure. The enclosure demonstrates that long-term exclusion of livestock is not likely to greatly improve ground cover, decrease sagebrush crown cover, or greatly improve understory composition at this site on morainal material.
8-6F	Nested Frequency	0.11 mile	This study was established in 1999; 400 points measurements recorded 69% ground cover; the study area is heavily dominated by gopher activity. In 2005 73% ground cover was measured; 82% of soil hits were attributable to gopher activity. It does not appear that livestock grazing is the prime factor influencing ground cover conditions; unable to determine if Revised Forest Plan Standard (S7) being met because a ground cover potential for this vegetation type has not yet been determined. However, after 6 years monitoring period, livestock grazing/ trailing does not appear to be reducing ground cover.
8-6G	Greenline	0.1 mile	This study was established in 1999; it is established on a

Study No.	Type	Estimated Distance From Road	Narrative
			1 st order stream that runs through a dry meadow; the stream is fed by a spring located about 200 yards to the west; the stream dries up during periods of drought and late summer; this inherent condition could be the primary factor dictating the percentage of late seral species; Study 8-6E indicates moderate utilization of the uplands in this area; given the inherent condition of this stream to dry up and the recorded moderate grazing use, the low percentage of late seral species does not appear to be driven by livestock grazing; 14% late seral species were recorded; Revised Forest Plan Guideline (G7) is not being met, however livestock grazing is not indicated to be the prime factor
8-6G1	Greenline	0.13 mile	This study was established in 2005; it is established on a 1 st order stream; it is located about 0.11 miles upstream from Study 8-6G, but within about the same distance to the driveway; 97% late seral species were recorded; Revised Forest Plan Guideline (G7) is being met.
8-6H	Camera Points	.04 mile	2005 camera points along the enclosure fence line indicate: 1.) factors other than livestock are indicated to be major determinates of the change from sagebrush to grass; 2.) little difference is apparent in ground cover between the inside of the enclosure and the outside; 3.) sagebrush is about equally dominate on both sides of the fence; and 4.) impacts of driveway appear to be quite narrow and confined to the area adjacent to the road.
8-6J	Camera Point	0.0 mile	This 2004 camera point taken near the end of the grazing season reports vigorous willows and graminoids.
8-6J1	Camera Point	0.01 mile	This 2005 camera point is of a spring that shows little or no impacts from livestock.
8-7	Greenline	0.13 mile	This study was established in 1998; 98% late seral species were recorded; the percentage of late seral species meets Revised Forest Plan Guideline (G7).
7-1	Nested Frequency	0.03 mile	This study was established in 1999; 400 points measurements recorded 63% ground cover; the study area is heavily dominated by gopher activity. Follow-up observations and photos in 2003 and 2004 indicate that graminoids are not being used by livestock at a level that would prevent them from forming dense stands. Factors other than livestock were indicated to be major determinates of the open interspaces between grass plants. It does not appear that livestock grazing is the prime factor influencing ground cover conditions; unable to determine if Revised Forest Plan Standard (S7) is being met because a ground cover potential for this vegetation type has not yet been determined.
7-54	Greenline	0.26 mile	This study was established in 2005 on a 1 st order stream; 99.6% late seral species were recorded; the percentage of late seral species meets Revised Forest Plan Guideline (G7).



Map 1-2. Trailing Route of West Fork Blacks Fork Allotment Sheep Herd.

1.8.2.3.8 Executive Order 12898 – Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Departmental Regulation 5600-2 direct federal agencies to integrate environmental justice considerations into federal programs and activities. Environmental justice means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on, are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment. Implementation of any of the alternatives will be consistent with this Order and will not have a discernible effect on minorities, American Indians, women, or the civil rights of any United States Citizen. Nor will it have a disproportionate adverse impact on minorities or low-income individuals. No civil liberties will be affected. Public involvement and comment was sought and incorporated into this document. The Forest Service has considered all public input from individuals or groups regardless of age, race, income status, gender, or other social/economic characteristics. (See project record – scoping and DEIS letters).

Executive Order 12898 also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. The decision would not alter opportunities for subsistence hunting by Native American tribes. Native American tribes were provided an opportunity to comment on the proposal. (See project record – scoping and DEIS letters).

Based on experience with similar projects on the Evanston Ranger District, none of the alternatives would substantially affect minority or low-income individuals, women, or civil rights.

1.8.2.4 Issues that are Conjectural and Not Supported by Scientific or Factual Evidence

None.