

Utah State University

DigitalCommons@USU

All U.S. Government Documents (Utah Regional
Depository)

U.S. Government Documents (Utah Regional
Depository)

1996

Environmental Assessment for 36 Livestock Grazing Allotments on the Shoshone National Forest

United States Forest Service

Follow this and additional works at: <https://digitalcommons.usu.edu/govdocs>



Part of the [Environmental Sciences Commons](#)

Recommended Citation

United States Forest Service, "Environmental Assessment for 36 Livestock Grazing Allotments on the Shoshone National Forest" (1996). *All U.S. Government Documents (Utah Regional Depository)*. Paper 393.

<https://digitalcommons.usu.edu/govdocs/393>

This Report is brought to you for free and open access by the U.S. Government Documents (Utah Regional Depository) at DigitalCommons@USU. It has been accepted for inclusion in All U.S. Government Documents (Utah Regional Depository) by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



COMPLETED

SA 13.92/2:sh7



Environmental Assessment for 36 Livestock Grazing Allotments on the Shoshone National Forest

Department of Agriculture

March 1996



ENVIRONMENTAL ASSESSMENT for 36 LIVESTOCK GRAZING ALLOTMENTS on the SHOSHONE NATIONAL FOREST

Park, Fremont, Hot Springs, Sublette and Teton Counties, Wyoming

USDA Forest Service

March 1996

Responsible Officials:

District Rangers Shoshone National Forest Powell, Cody, Meeteetse, Dubois and Lander, Wyoming

For Further Information contact:

Greg Bevenger, Team Leader Shoshone National Forest 808 Meadow Lane Cody, Wyoming 82414 (307) 527-6241

ABSTRACT: The Shoshone National Forest proposes to issue Term Grazing Permits that will authorize the grazing of livestock on 36 grazing allotments located within the Forest. Permits will be issued for a period of up to 10 years. Part 3 (Special Terms and Conditions) of each permit would contain site specific livestock and rangeland management requirements designed to mitigate existing resource conflicts and implement Forest Plan standards and guidelines specific to each allotment.

The United States Department of Agriculture (USDA) Forest Service is a diverse organization committed to equal opportunity in employment and program delivery. USDA prohibits discrimination on the basis of race, color, National origin, age, religion, sex or disability, familial status, or political affiliation. Persons believing they have been discriminated against should contact the Secretary, U.S. Department of Agriculture, Washington, D.C. 20250 or call (202)720-7327 (voice), or (202)720-1127 (TDD).

SA

BLANK PAGE

TABLE OF CONTENTS

	PAGE
Abstract	i-1
CHAPTER I - Purpose and need for action	I-1
Introduction	I-1
Decisions to be made	I-2
Purpose and need	I-3
Vicinity maps	I-5
Issues	I-8
CHAPTER II - Forestwide Discussions	II-1
Affected environment	II-1
Watershed condition and water quality	II-1
Riparian areas	II-2
Aquatic habitat	II-2
Rangeland vegetation	II-3
Wildlife habitat and species	II-4
Endangered, threatened and sensitive species	II-7
Heritage resources	II-7
Native American cultures	II-8
Economics	II-8
County level employment and income	II-8
Federal payments to counties	II-10
Property taxes	II-11
Social environment	II-12
Park and Hot Springs Counties - the Northern Zone	II-14
Fremont County - the Southern Zone	II-14
Alternatives considered	II-14
Alternative A - No action	II-14
Alternative B - Authorize grazing as most recently permitted	II-14
Alternative C - Authorize grazing under different conditions than most recently permitted	II-15
Mitigation measures common to the action alternatives	II-15
Environmental consequences of the no action (no livestock grazing) alternative	II-15
Effects of watershed condition, riparian areas, aquatic habitat and water quality	II-15
Effects on rangeland vegetation	II-16
Effects on big game wildlife habitat and species	II-16
Effects on endangered, threatened and sensitive species	II-16
Effects on heritage resources	II-16
Effects on Native American cultures	II-17
Effects on economics	II-17
Employment and income	II-17
Federal payments to counties	II-19
Property taxes	II-19
Effects on the social environment	II-19

Environmental consequences of alternatives that include livestock grazing	II-20
Effects on watershed condition, riparian areas, aquatic habitat and water quality	II-20
Effects on rangeland vegetation	II-21
Effects on big game wildlife habitat and species	II-23
Effects on endangered, threatened and sensitive species	II-24
Effects on heritage resources	II-24
Effects on Native American cultures	II-24
Effects on Economics	II-25
Effects on the social environment	II-25
Cumulative effects of alternatives that include livestock grazing	II-25

Chapter III - Allotment specific discussions III-1

North Zone

Basin Allotment	III-4
Face of the Mountain/Deep Creek/Little Rock (017) Allotments	III-12
Lake Creek Allotment	III-18
Little Rock (008) Allotment	III-24
Dick Creek Allotment	III-30
Kirwin Allotment	III-36
Sugarloaf Allotment	III-43
Timber Creek Allotment	III-50
Wood River Allotment	III-57
Carter Mountain/Meeteetse Creek Allotments	III-64
East Fork Allotment	III-71
Francs Peak/Yellow Steer Allotments	III-78
Sunshine Allotment	III-85
Bobcat Allotment	III-91
Community Allotment	III-98
Hardpan Allotment	III-105
Hunter Creek Allotment	III-112
Ishawooa Hills Allotment	III-119
Valley/Boulder Allotment	III-126

South Zone

Dickinson Park Allotment	III-133
Hays Park Allotment	III-139
Meadow Creek Allotment	III-145
Squaw Creek Allotment	III-151
Doby Cliff Allotment	III-157
Fish Lake Allotment	III-163
Horse Creek Allotment	III-170
Parque Creek/Ramshorn Allotments	III-178
Whiskey Mountain Allotment	III-186
Wiggins Fork Allotment	III-192
Bear Creek Allotment	III-200
Salt Creek Allotment	III-208

Appendicies

Appendix A	Glossary
Appendix B	Watershed effects analysis
Appendix C	Supplemental information
Appendix D	Supplemental information on range-related Forest Plan Standards and Guidelines
Appendix E	Supplemental information on State of Wyoming Draft Grazing Best Management Practices
Appendix F	Supplemental information on endangered, threatened and sensitive species
Appendix G	Mitigation measures and monitoring
Appendix H	Bibliography

Chapter I

Purpose and Need

INTRODUCTION

The Shoshone National Forest (the Forest) has allowed commercial livestock grazing since the early 1900's. This grazing is authorized through issuance of term grazing permits. Such grazing is conducted within designated areas called grazing allotments. Most permits are valid for 10 years and usually have attached to them an allotment management plan (AMP). The term grazing permit specifies the number, kind and class of livestock that can be grazed, the planned season of use, and any special terms and conditions (such as mitigation and monitoring) the permittee must follow while grazing their livestock on the Forest. The allotment management plan can, but may not always, contain management objectives, grazing system design, management and monitoring actions necessary to meet objectives, existing and necessary structural and non-structural developments, and a map that displays where management actions occur.

Livestock grazing on the Forest is conducted in accordance with applicable federal regulations and laws, agency policy, and the Shoshone National Forest Land and Resource Management Plan (Forest Plan). The regulations can be found in the Code of Federal Regulations (CFR's), while agency policy can be found in the Forest Service Manual and guides. The major applicable federal laws are the Organic Act, Public Rangeland Improvement Act, Multiple Use Sustained Yield Act (MUSYC), Endangered Species Act (ESA), Federal Land Policy and Management Act (FLPMA), National Environmental Policy Act (NEPA), National Forest Management Act (NFMA), Clean Water Act (CWA), and National Historic Preservation Act (NHPA).

During development of the Forest Plan, decisions were made on what areas of the Forest are open to commercial livestock grazing and what areas are not. Accompanying these decisions were direction for rangeland and commercial livestock grazing management. This direction is presented in the form of goals, objectives, standards and guidelines. The Forest Plan did not authorize a decision to graze livestock; it merely constituted a decision that livestock grazing is a permissible activity on parts of the Forest.

Forest Plans are generally programmatic. However, it was Forest Service policy that Forest Plans contained enough site-specific analysis of grazing allotments that subsequent NEPA analysis was not needed to reauthorize expired term permits. A review of this policy in early 1995 resulted in a decision that Forest Plans do not contain enough site-specific analysis and that permits that expire in 1995 and beyond will need additional site-specific analysis before they can be reissued.

Permits on approximately one-third of the 82 commercial livestock grazing allotments on the Forest expired December 31, 1995. To facilitate the policy change, the Forest made a decision in early 1995 to assemble an interdisciplinary team (IDT) to conduct analysis on all 82 allotments, rather than only on those that had permits expiring in 1995. This decision was made primarily because it would be cheaper to analyze all allotments at once rather than over the years as remaining permits expired. Following NEPA procedures, public scoping for all 82 allotments was initiated on March 30, 1995 with a letter and scoping statement being mailed to 210 members of the public, including existing commercial livestock grazing permittees. Public comments were received from approximately 100 interested parties, including individuals, organizations and government agencies.

The IDT consolidated these comments and began the site-specific analysis in April. A decision was made in May to prepare two environmental assessments (EA's). The first EA would cover 36

BLANK PAGE

allotments, consisting of a) those allotments that had permits expiring the end of 1995 and b) nearby vacant allotments that could be restocked or used to mitigate concerns on those allotments in (a). The second EA would cover the remaining 46 allotments. IDT efforts through the spring and early summer were concentrated on the first EA. Then, on July 27, 1995 Congress passed the 1995 Rescission Bill (Public Law 104-19). Section 504 of the law specifically addressed how the Forest Service is to conduct grazing allotment analysis and grazing permit issuance relative to compliance with NEPA. The law requires each Forest, for permits that expired in 1995, to issue a new term grazing permit under the same terms and conditions as the original permit, including the length of term. The Forest did this in January, 1996. The law also requires each National Forest to develop and adhere to a schedule for completing site-specific, allotment management plan level NEPA analysis on all allotments where such analysis is needed, and do so within 15 years. Then, upon completion of the NEPA analysis and associated decisions, the terms and conditions of existing permits can be modified or new permits issued if necessary, to conform to the analysis and decision. The law further states decisions can only be made on twenty percent of the allotments prior to September 30, 1996.

Because the Forest cannot issue decisions on more than sixteen allotments (20 percent of 82) prior to September 30, 1996 a decision was made to complete the first EA in order to make the best use of analysis completed to that date, and then make decisions on 16 of those 36 allotments. Decisions on the remaining 20 allotments will be made between late 1996 and the end of 1998. Analysis and decisions on the remaining 46 allotments will occur in 1999 or beyond.

This Environmental Assessment discloses the environmental effects of developing AMP's and issuing permits to allow commercial livestock grazing on 36 allotments within the Forest. This assessment has been conducted in accordance with NEPA, its corresponding Federal Regulations (40 CFR Parts 1500-1508) and other applicable Forest Service policies. This EA is not a decision document. It provides information that the Deciding Officers (District Rangers) will use in selecting one or a combination of alternatives evaluated during the NEPA process. The District Ranger's decision(s) will be stated and explained in a Decision Notice, which will follow a 30-day public review of this EA.

DECISIONS TO BE MADE

Following public review of this EA, the district ranger's will decide, by allotment, whether to:

- a. not develop an AMP and not issue a term grazing permit(s),
- b. develop an AMP, then issue a term grazing permit(s) that authorizes grazing similar to that most recently permitted, or
- c. develop an AMP, then issue a term grazing permit(s) that authorizes grazing different than that most recently permitted.

The decision will outline the requirements of the permit, including mitigation measures and monitoring requirements, necessary to comply with the Forest Plan or other Federal laws, regulations and policies. The additional mitigation and monitoring requirements will be described in a Decision Notice(s) and those that apply to permittee responsibility will be included in the AMP or Section III of the term grazing permit. The permits will not authorize site-specific rangeland improvements such as water developments, fence construction, road or trail building, forage improvements (vegetation manipulation), or other ground disturbing activities. Such improvements may be considered in the future if monitoring indicates the need. Additional site-specific NEPA analysis and disclosure will occur before such improvements are authorized.

PURPOSE AND NEED

This EA is necessary, as previously mentioned, because of Public Law 104-19. This law directs the Forest Service to develop and adhere to a schedule for completing site-specific, allotment management plan level NEPA analysis on all allotments where such analysis is needed, and do so within 15 years. This EA is part of that schedule and covers 36 of the 82 commercial livestock grazing allotments on the Forest.

There are 82 commercial livestock grazing allotments on the Forest (Table I-1, Figures I-A and I-B). Approximately 1,200,000 of the 2,436,834 total acres of the Forest are within commercial livestock grazing allotments. The remaining acreage is closed to grazing, some per Forest Plan decisions, and will remain closed pending any new Forest Plan decisions or amendments. Of the approximately 1,200,000 acres open to commercial livestock grazing, only 346,000 are classified as suitable range (Figure I-C). The remaining 854,000 acres, even though open to grazing, are considered unsuitable rangeland because they are inaccessible to livestock, forested, rock outcrop, or grow vegetation unpalatable to livestock.

To facilitate analysis in this EA, the Forest was divided into two zones - North and South. The North Zone is a consolidation of the Clarks Fork, Wapiti, and Greybull Ranger Districts. Offices for these Districts are located in Powell, Cody, and Meeteetsee, respectively. The South Zone is a consolidation of the Wind River and Washakie Ranger Districts. Offices for these Districts are located in Dubois and Lander, respectively.

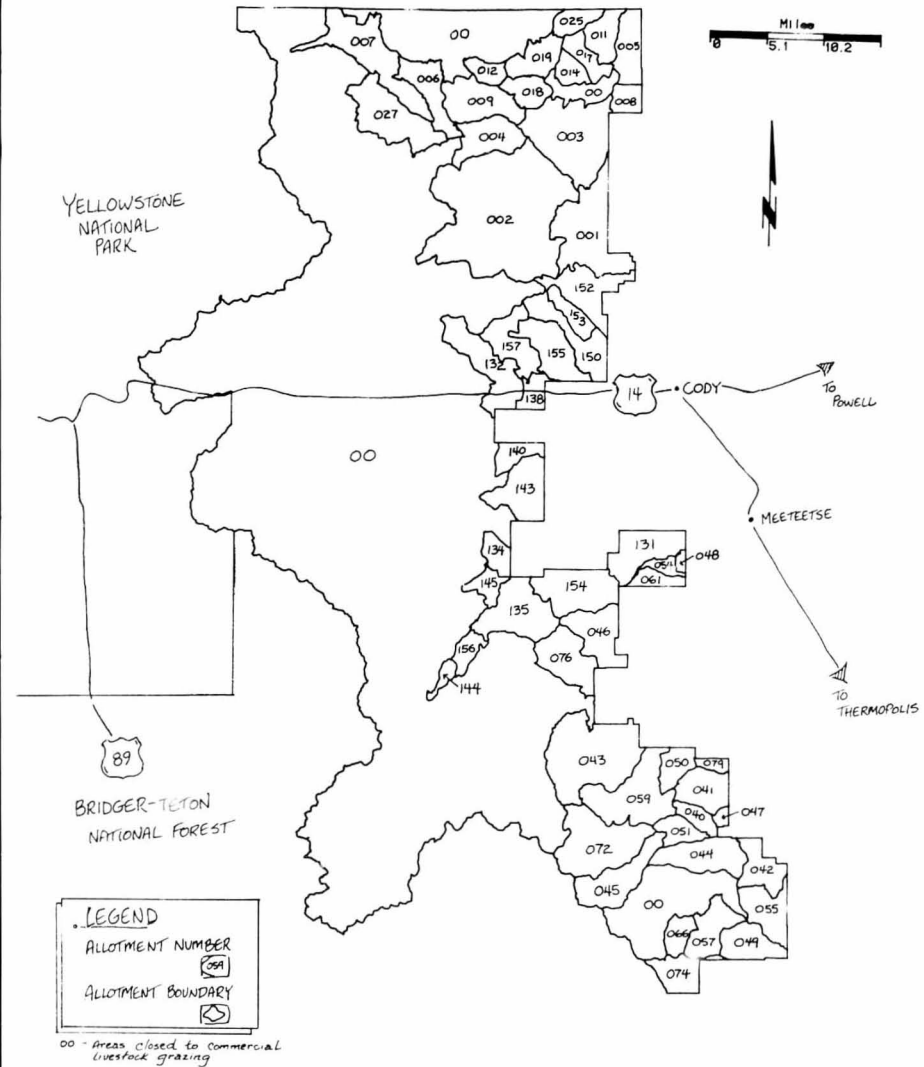
The Forest Plan contains many goals (Forest Plan pages III-6 through III-10). Of these goals, the following relate directly or indirectly to management of the rangeland resource and commercial livestock grazing:

- develop, protect and manage the range resource to maintain it in fair or better condition status with an upward trend,
- provide for grazing of livestock to maintain dependent existing industry,
- allow natural succession to proceed without human intervention in designated wilderness, wilderness study areas, and special management areas,
- manage vegetation types outside of wilderness to provide multiple benefits commensurate with land capability and resource demand,
- improve the health and vigor of vegetation types outside wilderness and selected types in wilderness where necessary,
- integrate vegetation management with resource management in functional areas - range, recreation, timber, water and wildlife,
- locate historical and archeological sites; evaluate them for significance; and preserve, protect and/or interpret for public information a representative sample of sites associated with and typifying the economic and social history of western Wyoming,
- manage designated wilderness under the Wilderness Act of 1964 to protect and perpetuate essentially natural bio-physical conditions and to provide for wilderness recreation opportunities,

**TABLE I-1
Shoshone National Forest Commercial Grazing Allotments**

NORTH ZONE			NORTH ZONE (cont)		
Number	Name		Number	Name	
001	Bald Ridge		138	Dunn Creek	
002	** Basin		140	Green Creek	
003	Bench		143	** Hardpan	
004	Crandall I		144	** Hunter Creek	
005	** Face of the Mountain		145	** Ishawooa Hills	
006	Ghost Creek		150	Logan Mountain	
007	** Lake Creek		152	Pearson	
008	** Little Rock		153	Rattlesnake	
009	Table Mountain		154	Rock Creek	
011	Bennett Creek		155	Trout Creek	
012	Burnt Mountain		156	** Valley-Boulder	
014	** Deep Creek		157	Jim Mountain	
017	** Little Rock				
018	Peat Beds				
019	Stockade				
025	Line Creek East				
027	Crandall II				
040	Deer Creek		091	Bayer Mountain	
041	** Dick Creek		092	** Dickinson Park	
042	Gooseberry		093	Ed Young	
043	Greybull		094	Frye Lake	
044	Guard Station		095	** Hays Park	
045	** Kirwin		096	Maxon Basin	
046	Pickett Creek		097	** Meadow Creek	
047	Rennerberg		098	Middle Fork	
048	Sage Creek		099	Sawmill	
049	** Sugarloaf		101	South Pass	
050	** Timber Creek		102	** Squaw Creek	
051	** Wood River		103	Atlantic	
054	** Carter Mountain		108	Pine Willow	
055	Cottonwood		109	Slate Creek	
057	** East Fork		180	** Doby Cliff	
059	** Francs Peak		181	Dunoir	
061	** Meeteetse Creek		182	** Fish Lake	
066	Twin Peaks		183	** Horse Creek	
072	** Yellowsteer		184	** Parque Creek	
074	Washakie Needles		185	** Ramshorn	
076	Piney		187	Union Pass	
079	** Sunshine		188	Warm Springs	
131	Belknap		189	** Whiskey Mountain	
132	Big Creek		190	** Wiggins Fork	
134	** Bobcat		.1	Wind River	
135	** Community		192	** Bear Creek	
			196	** Salt Creek	

** = allotments addressed in this EA



**Figure I-A
Shoshone National Forest Grazing Allotments - North Zone**

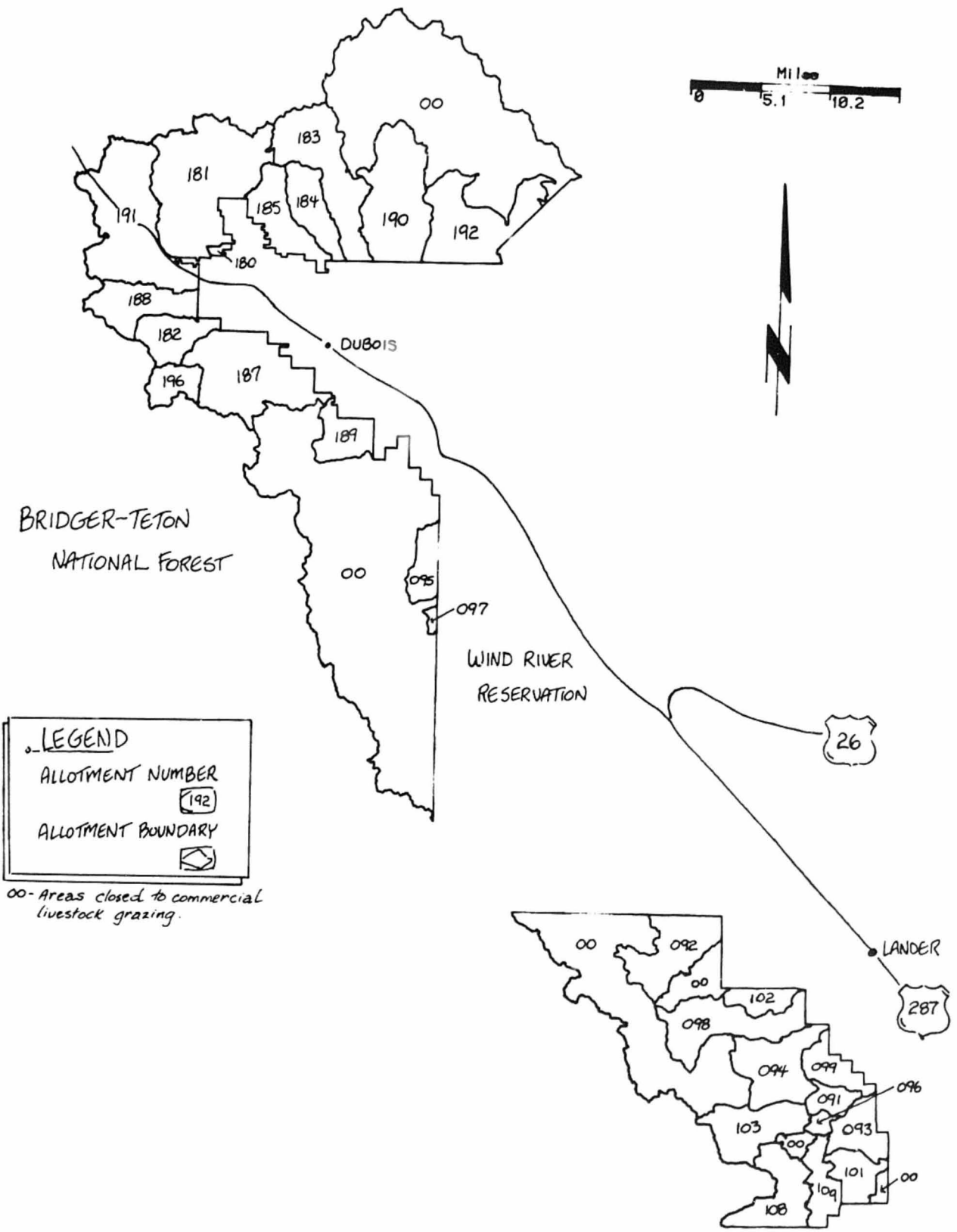


Figure I-B
Shoshone National Forest Grazing Allotments - South Zone

Forest Plan Allocation

Total Forest Acres = 2.4 Million

**Allocated for
Commercial Grazing
1.23 Million Ac (51%)**



**Not Allocated for
Commercial Grazing
1.2 Million Ac (49%)**

**Suitable Range
346,247 Ac
(14%)**

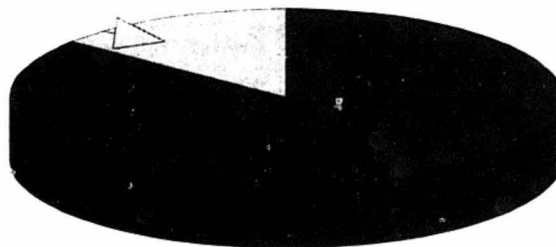


Figure I-C

- maintain or restore the inherent biological, physical and aesthetic values of riparian ecosystems,
- improve habitats where vegetation conditions are significantly below biological potential,
- maintain or improve habitat for threatened and endangered species including participation in recovery efforts for listed species,
- improve or maintain the quality of habitat in winter range on the Forest,
- maintain or improve soil productivity and water quality,
- rehabilitate lands in declining/unsatisfactory watershed condition, and
- meet state water quality standards.
- evaluate the effects of Forest management on water and soil resources to ensure that neither will be significantly or permanently impaired by management,
- protect wetlands, riparian areas, and floodplains.

These goals, as defined by the planning regulations (36 CFR 219.3), are concise statements that describe desired conditions to be achieved sometime in the future (Forest Plan page III-6). Throughout this EA, these goals are referred to as the "Desired Condition" or "Desired Future Condition (DFC)". No specific date by which these goals are to be completed is given in the Forest Plan or this EA. Vegetation management and changes associated with commercial livestock grazing will not bring rapid changes into the present mix of rangeland vegetation types.

The Forest Plan does not contain a specific management area prescription for commercial livestock grazing. Instead, such grazing is incorporated into numerous other management area prescriptions. Table III-2 displays by allotment which management area prescriptions occur within that allotment. Detailed descriptions of the prescriptions can be found in the yellow pages of the Forest Plan, beginning on page III-99.

ISSUES

Many issues were identified during public scoping. The interdisciplinary team reviewed these issues and determined, following NEPA regulation, those that are significant and nonsignificant (including those beyond the scope of this analysis).

The following eight significant issues were considered during the formulation of alternatives and during the evaluation of the environmental effects of the alternatives.

1. The effect of wildlife and livestock (ungulate) grazing on watershed condition, riparian areas, aquatic habitat and water quality. Some people hold that ungulate grazing can have negative effects on watershed condition by introducing more sediment to streams due to streambank damage, increasing water temperature due to over-grazing of riparian vegetation, and subsequently decreasing water quality. Other people hold that livestock grazing may not be in compliance with the Clean Water Act due to the lack of monitoring the effectiveness of Forest Plan standards and guidelines. Some people hold that livestock grazing creates no negative effects within riparian areas as long as standards and guidelines are implemented completely and correctly. Some also hold there may be cumulative effects to watersheds and their corresponding riparian areas due to

livestock grazing in combination with other activities on the Forest such as timber harvest, road construction, mining and recreation.

2. The effect of ungulate grazing on the condition and trend of rangeland vegetation. Some people hold grazing is necessary to sustain rangelands in a productive state. Some people hold all livestock should be removed. Other people hold that, on some allotments, grazing by livestock, wildlife, or both is causing degradation of the rangeland by changing the quality, quantity and type of available forage. These people hold that the primary reasons for this effect are inadequate monitoring and failure to implement Forest Plan standards and guidelines completely and correctly. Other people hold that some allotments should be closed to livestock grazing because of the effects on rangeland condition.

3. The effect of commercial livestock grazing on big game crucial winter range. This issue has two related parts:

- the allocation of available forage between livestock and big game on crucial winter ranges - This part of the issue is beyond the scope of this analysis; for further explanation see 'issues that are outside the scope of this analysis' (Issue 20 in particular).
- the actual use by livestock and big game currently occurring on crucial winter ranges, as compared to the planned or allocated use. This part of the issue is within the scope of this analysis.

The actual forage use occurring by both livestock and big game species indicates that on parts of a few allotments, crucial winter ranges are being overused. In some areas on the northern part of the Forest, elk populations in particular are well above the Wyoming Game & Fish Department's current herd unit objectives. Some people hold these numbers of elk and other wildlife are consuming forage beyond a level desirable to maintain good rangeland habitat conditions in conjunction with current authorized numbers of livestock. Other people hold that livestock are consuming more than their allocated forage due to a lack of proper implementation and monitoring of vegetation utilization guides and other Forest Plan or allotment standards and guidelines.

4. The effect of restocking vacant domestic sheep allotments on the potential for spreading diseases from domestic to wild sheep. Some people hold the risk for spreading disease causing agents is relatively high on some sheep allotments, while others hold it is relatively low.

5. The effects of commercial livestock grazing on endangered, threatened and sensitive species. The Forest provides suitable habitat for the endangered gray wolf (recently classified as an experimental population with reintroduction into the Yellowstone area) and peregrine falcon, and the threatened bald eagle and grizzly bear. The Forest may also provide suitable habitat for endangered whooping cranes, which have been documented infrequently as using the Forest during migration. The Regional Forester has identified additional plant and animal species whose population viability throughout the Region is of concern. These species are classified as "sensitive". Several people and organizations expressed concerns regarding the effects of grazing on one or more of these species. The effects of any proposed management actions on these species must be addressed as required by law or Forest Service Policy.

6. The effect of commercial livestock grazing on heritage (cultural) resources. The Forest contains many cultural resources which could potentially be impacted by livestock or other ungulate grazing.

7. The effect of commercial livestock grazing on Native American cultures. Livestock or other ungulate grazing may have impacts on traditional Native American cultural resources and values.

8. The effect of livestock grazing on the local economy and dependent ranching operations. Some people hold there is a need to provide for livestock grazing on the Forest to maintain local dependent ranching operations. If that privilege is denied, these operations could become unprofitable and ranchers may decide to sell or subdivide their deeded lands. These changes could have negative economic and social effects which in turn could affect the quality of life for current permittees and the communities of which they are a part. Of particular concern is the loss of open space. Other people hold the absence or lower levels of livestock grazing would create positive economic benefits from increases in recreation use, especially hunting and fishing.

Other issues that are within the scope of this analysis are:

1. **Do not issue permits for vacant allotments.** This issue is addressed via the No Action alternative.
2. **Eliminate season long grazing.** This issue is addressed during alternative formulation by considering alternative grazing strategies.
3. **Riparian utilization standards alone are insufficient.** This issue is addressed in each alternative. If found to be insufficient, supplemental mitigation and monitoring was developed.
4. **Eliminate livestock grazing in sensitive high elevation areas.** This issue is addressed via the No Action alternative.
5. **Understocking of allotments.** This issue is addressed through a review of available forage by allotment.
6. **Cumulative effects (mainly erosion) from recreation use and grazing.** This issue is addressed during cumulative effects analysis.
7. **Effects on natural aspen regeneration.** This issue is addressed through a review of existing mitigation for livestock use of aspen.
8. **Past application of Forest Plan standards and guidelines.** This issue is addressed during development of mitigation and monitoring requirements. Permit clauses that reflect Forest Plan standards and guidelines will be included in Part III of the grazing permit.
9. **Impacts of livestock grazing on other resources and development of a range of alternatives.** Numerous respondents stated the Forest Service must analyze the impacts of livestock grazing on other National Forest resources and develop a reasonable range of alternatives. Neither of these are issues, but rather declarations of NEPA requirements. Both concerns are carried through the entire EA.
10. **Effects of conifer encroachment/canopy closure on forage production.** This issue is addressed in the vegetation and transitory range analysis.
11. **Effects of livestock grazing on wildlife transitional ranges.** The Forest Plan did not specifically allocate forage for big game wildlife on these areas (see discussion in item 20 below - issues outside the scope of this analysis). Such ranges are not usually "crucial" or the determining factor in a population's ability to remain stable. However, important seasonal ranges, particularly for elk, occur on the Wind River Ranger District in areas of suitable livestock range. Where appropriate, the effects of allotment alternatives (Chapter III) relative to this issue are recognized and qualitatively discussed.

Other issues that are outside the scope or were dismissed from this analysis are:

1. **Close vacant allotments to grazing.** A determination on what allotments are available for commercial livestock grazing was made in the Forest Plan.
2. **Permissibility of grazing as an activity on forest lands.** This issue has already been resolved in some of the laws previously mentioned. Additionally, it was addressed at the Forest Plan level.
3. **Effects of grazing on biodiversity.** Some people hold grazing activities should be evaluated for their impacts to biodiversity and ecosystem management concepts. Any proposed action that involves grazing will include the necessary stipulations and mitigation measures to achieve Forest Plan desired conditions, and comply with Federal law. This includes providing the habitat needed for an array of fauna and flora including threatened, endangered, and sensitive species thereby providing biodiversity. Additionally, issuance of grazing permits is being addressed in an interdisciplinary fashion incorporating current ecosystem management concepts.
4. **Predator control.** Some people hold predator control is an issue and that predator control should not be allowed in conjunction with livestock grazing. While predator control may be related to livestock grazing, the decision to authorize predator control is not made by the grazing permit. Decisions relating to management of predators on National Forest System lands is a joint responsibility of the Forest Service and the Animal and Plant Health Inspection Service (APHIS) in cooperation with appropriate State agencies.
5. **Past permittee compliance/performance disclosure.** The Forest Service Manual provides direction on penalty assessment for permit and management plan violations. Range resource condition is documented through range trend studies and contained in public files. Other information on allotment management is also contained in public files.
6. **Below cost grazing (all costs of grazing should be considered).** Some people hold there should be an analysis of below cost grazing and grazing fees before permits are issued. Economic analysis is an important tool in allowing the deciding officers to distinguish economic differences between the alternatives. Below cost grazing and grazing fees are not issues relative to this analysis because there is no authority at the Forest level to establish fees for grazing permits.
7. **Impacts of grazing on forest indicator species.** The general issue of indicator species was addressed at the Forest Plan level.
8. **Increase number of small permits per allotment.** The Forest Service manual provides direction on permit issuance. The number of permits that are ultimately granted for an allotment is an administrative decision.
9. **Cattle/private homeowner conflicts.** Resolution of this problem is outside jurisdiction of the Forest Service because it relates to the Wyoming open range law.
10. **Reduce current elk populations to accommodate more livestock grazing.** Adjustment of elk herd population objectives lies within the jurisdiction of the Wyoming Game and Fish Department and the Wyoming Game and Fish Commission. The Forest coordinates with the State in balancing ungulates with habitat capability.
11. **Timber concerns (allowing more harvest, conversion of clearcuts to grasslands).** Forage that results from timber harvest is generally a by-product of the harvest rather than a designed result. Such forage is considered transitory range and is available for livestock/wildlife use until tree regeneration again occupies the site. Projects on the Forest that purposefully convert timber lands to grass lands do take place but are rare.

12. Forage allocation for recreation livestock. This issue was addressed at the Forest Plan level where a determination was made that recreation livestock use is minor and therefore considered incidental.

13. Potential for the spread of brucellosis from elk/bison to cattle. This issue has been addressed by recent court decisions. The courts decided the Forest Service is not liable for the impacts of brucellosis on permitted livestock.

14. Site specific analysis of suitability of lands for grazing. Suitability, as defined by law and regulation, is determined during the forest planning process. The Forest Plan and its Record of Decision made the determination that livestock grazing is a permissible activity on 51% of the Forest.

15. Range habitat improvement projects (mitigation on specific sites). Additional site specific, ground disturbing activities were not considered at this time. If monitoring indicates a need for range improvement projects, appropriate NEPA analysis will be conducted prior to project implementation.

16. Noxious weed management - These comments concerned the need to evaluate the spread of noxious weeds by livestock prior to issuing the grazing permit. Noxious weed management is an issue affecting all forest resources and is addressed annually in the Forest program CI work.

17. Grazing in Wilderness - Respondents indicated that the Forest needs to determine if grazing is an appropriate use of wilderness prior to issuing a grazing permit. Some people hold that there are no standards and guidelines to cover grazing in riparian areas within wilderness. Some also hold that livestock grazing is incompatible with the recreation experience expected while in wilderness areas. The decision that grazing is an appropriate use of wilderness was made in the Wilderness Act of 1964 and the Congressional Guidelines of 1979. The Forest Plan provided for grazing in some areas of wilderness within the context set by Congress. Forest Plan standards and guidelines for management activities in wilderness, including grazing, are found in Management Area Direction 8A, 8B, and 8C, and in Forestwide Direction for Wilderness Area Management.

18. Existing data - Scoping responses indicated a concern that existing data may not be sufficient to complete an environmental analysis. Rangeland management is an ongoing activity where data are continuously collected. Data exist to complete an environmental analysis for livestock grazing.

19. EIS is required - Some respondents asserted that an EIS is necessary. The type of NEPA document (EA versus EIS) prepared is not a scoping issue, but a function of the NEPA process. If a Finding of No Significant Impact (FONSI) cannot be made, then an EIS will be prepared.

20. The allocation of available forage between livestock and big game on crucial winter ranges. This issue was addressed in the Forest Plan where, in most instances, 100% of the available forage on the preferred part of crucial winter ranges (CFWR) was allocated for wildlife use. Significantly less forage (usually 10-25% on allotments where additional allocations for wildlife were made) was reserved for wildlife on winter range areas outside the boundaries of CPWR. Some people hold the current balance of forage allocation is skewed too heavily toward livestock, while some hold it is skewed too heavily toward wildlife. In addition, some people hold the forage allocation issue should be broadened to address other important wildlife seasonal ranges such as spring range or transitional range.

Chapter II Forestwide Discussions

There are many environmental factors relevant to the analysis in this EA which are common to all commercial livestock grazing allotments on the Forest. This chapter includes discussions that are meant to provide a better perspective on the affected environment, the alternative formulation and evaluation processes and the general nature of those environmental consequences that are similar across the Forest as a result of livestock grazing. The environmental consequences for specific allotments are discussed in Chapter III.

AFFECTED ENVIRONMENT

The affected environment described in this section is primarily limited to areas of the Forest that are within commercial grazing allotments. This comprises approximately 1,200,000 acres or about 50 percent of the Shoshone National Forest (Figure I-C). The analysis disclosed in this EA was focused on the 36 allotments listed in Table I-1. The analysis of cumulative effects encompassed larger areas where necessary, including lands not designated for commercial livestock grazing.

Watershed Condition and Water Quality

There are 142 major watersheds on the Shoshone National Forest (Appendix B). Of those, 113 contain suitable range within commercial livestock allotments. The two major geologic types influencing watershed types are the Absaroka volcanics and the Precambrian granitics. The middle two-thirds of the Forest are located in the Absaroka volcanics. They naturally consist of loose, unconsolidated soils and are highly erodible. General topography consists of steep sidehills with a long, narrow main stream bottom. The remaining northern and southern portions of the Forest are found primarily in the Precambrian granitics. They are by nature much less erodible and as a result are more gentle and less steep with many benches and terraces.

Watersheds have an upper level of tolerance to changes in geomorphic processes. Adverse effects on a watershed where the balance is shifting or approaching an upper limit of tolerance are evident in a number of ways including: excessive erosion, active channel cutting or filling, stream bank undercutting, increasing rates of mass wasting, excessive instream fine sediment deposition, and adverse changes in aquatic habitat and populations. These effects can result in long term adverse watershed cumulative effects and loss of ecological integrity. When cumulative effects begin to approach an upper level of tolerance in a watershed, susceptibility to damage from relatively normal rainfall or snowmelt events increase. The risk of adverse watershed effects is greatly increased when more extreme precipitation events occur. If this level is reached, they are regarded as watersheds of concern.

All watersheds are affected by ungulate grazing. Through previous watershed cumulative effects analysis, five watersheds of concern were identified that include livestock grazing as one of the primary reasons for meeting the criteria (Appendix B).

On the Forest, streams within wilderness areas and the Clarks Fork River are rated Class I waters and those outside wilderness are rated Class II waters as defined by the Wyoming Department of Environmental Quality (DEQ 1990). The Wyoming Water Quality Assessment (1994) contains a state-wide list of streams including those on the Forest that are being affected by various activities

including livestock. Waters are managed in accordance with the Clean Water Act, Executive Order 1190, Wyoming Water Quality Rules and Regulations and Draft Best Management Practices, Forest Plan standards and guidelines, and Management Area 9A (Riparian) direction where they apply.

Riparian Areas

Riparian areas within the Forest have basic characteristics that differ according to the primary geologic type in which they are located. Forestwide, there is approximately 41,000 acres of riparian habitat (not including lakes). Commercial livestock grazing allotments include about 16,738 acres of riparian or 41 percent of the total on the Forest. There are about 10,000 acres of wetlands on the Forest with roughly 50 percent found within commercial grazing allotments. These riparian and wetland areas are typically preferred by grazing ungulates due to the succulent vegetation and close proximity to water.

Riparian areas within the Absaroka volcanics typically have steep topography with naturally high erosion rates. As a result, tributary streams are narrow and incised, with a narrow riparian zone. Streams carry heavy sediment loads during spring runoff and after localized rain events. These sediment loads are deposited in the lower gradient mainstem stream bottoms. Subsequently, the main stem stream channels tend to be shallow, wide, and braided with few pools. These streams have a wide floodplain with the dominant surface substrate comprised mostly of cobbles and gravels. There is sparse stream bank vegetation comprised mostly of shrubs and trees (both deciduous and coniferous) with few grasses and forbs. Instream fish cover is primarily in the form of boulders with some large woody debris that has been carried downstream. This natural situation results in less favorable fish habitat compared to the granitics. Due to the steep terrain and soil porosity, there are few ponds, lakes and wetlands in this geologic type relative to the granitics.

In the granitic geologic types, streams have more stable, well defined channels. They are narrower and deeper with more pools and fewer riffle than streams in the Absaroka volcanics type. Riparian bottoms and floodplains, for both mainstem channels and side tributaries, are wide with diverse vegetation including shrubs, trees (typically more deciduous than coniferous), grasses and forbs. In good ecological condition, stream bank and overhanging vegetation is generally well established, dense, and stable, and provides excellent fish habitat. Due to the more gentle terrain and ability of this geologic type to store water, there are many lakes, ponds and wetlands relative to the volcanics.

The importance of riparian habitat in western states for numerous wildlife species has been well documented (Chaney and Platts, 1990; Kauffman and Krueger, 1984; and Bock, Saab, and Dobkin, 1993). Chaney and Platts (op. cit.) indicated 75-80% of western wildlife species are dependent on or use these stream side habitats. The relatively high productivity and diversity of wildlife species within riparian areas is due to the fact that all of the key habitat elements of food, cover, water, travel routes, and nesting or birthing areas are found within close proximity. For these reasons, riparian areas are important wildlife habitat.

In Chapter III, the conditions of the riparian and upland range on each allotment is described. The primary source of this information is the Forest's range (FSRAMIS) database, which was reviewed and updated by the IDT using the most current data available.

Aquatic Habitat

Diverse aquatic habitats are found throughout the Forest and are primarily due to different geologic origin, elevation and climatic changes. There are about 4,900 miles of perennial streams on the forest. Roughly 50 percent are within commercial grazing allotments. Kruse (in press) found that about 45 percent of the perennial streams in the Wood and Greybull River drainages contained fish.

Fish were found in stream reach gradients of less than 9 percent. Game fish species that are native to the Forest include Yellowstone cutthroat trout (YSC) and mountain whitefish. YSC have been reduced to a very small fraction of their historic range due to competition and hybridization from introduction of non-native fish species, habitat degradation and modification due to natural and unnatural cause, and past overfishing. As a result, they are currently found almost exclusively in headwater tributaries. They are included in the Rocky Mountain Region sensitive species list. A summary of the Biological Evaluation of the Yellowstone cutthroat is included in Appendix F. There are seven introduced trout species and four non-game fish found in Forest streams.

There are about 500 mountain lakes on the forest with the majority of these found in the precambrian granitic areas of the Beartooth Plateau and the Fitzpatrick and Popo Agie Wilderness areas. A very small percentage of these are within commercial grazing allotments. Most of these lakes were originally barren of fish because they were formed by uplifting and glacial activity which isolated them from lowland streams. Many of those lakes with suitable fish habitat have been stocked. There are about 10 species of trout and four non-game fish species found in the high mountain lake systems on the forest. Roughly 10 percent of the mountain lakes are within commercial livestock allotments.

Rangeland Vegetation

The compilation of existing range analysis data has identified the following broad vegetation types (as defined in the 1986 Range Analysis Handbook). These are the most common types found within commercial grazing allotments on the Shoshone National Forest:

- 1. Riparian.** Includes lands on which the vegetation is influenced by moving water and an elevated water table. Often, an overstory of willow, alder, birch or other deciduous brush is present with an understory of sedges, rushes, grasses and forbs.
- 2. Meadow.** Includes areas without trees where herbaceous vegetation grows during most of the season. Sedges, rushes, grasses, or forbs, singularly or in mixture, may be dominant.
- 3. Sagebrush/Grassland.** Includes areas without tree cover where shrubby species of sagebrush or rabbitbrush, or both predominate as an overstory for grasses.
- 4. Grassland.** Includes areas without trees, other than meadow, dominated by dry land perennial grasses. Forbs, sedges, and shrubs may occur in mixture with grasses.
- 5. Conifer with Forage.** Includes coniferous areas supporting an understory of grasses, forbs, and shrubs, either singularly or in combination.
- 6. Aspen/Forb.** Includes all range under an overstory of aspen trees. While commonly forbs, the herbaceous understory may vary from pure stands to mixtures of grasses, forbs, and shrubs.
- 7. Alpine/Grassland.** Includes lands above timberline dominated by grasses and perennial forbs.
- 8. Transitory Range.** Timber land that at present time provides some grazing forage and/or browse due to timber harvest or fire is classified as transitory range. While technically not a vegetation type of itself, this area may be utilized by livestock and wildlife until the canopy closes enough to choke out the understory of herbaceous growth.

While several other vegetation types are present on the forest they either occur in areas not addressed in this document or in such small amounts they have not been mapped. Chapter III

discusses the vegetation types and general vegetation condition found on each allotment analyzed in this EA.

Wildlife Habitat and Species

The Forest is known to provide habitat for 337 vertebrate wildlife species including 72 mammals, 230 birds, 9 reptiles, 7 amphibians, and 19 fish. Not all these species are associated with rangeland environments on commercial grazing allotments, but many are seasonally. Riparian habitats associated with rangelands are of particularly high value for many of these species as previously stated.

Important wildlife habitat exists in all of the primary vegetation types discussed earlier in this Chapter. The size, seral stage and arrangement of these vegetation types on the landscape contribute to the existing wildlife habitat situation. Climate, geology, site specific soil characteristics, wildfire and ungulate grazing have all had an effect in the creation of existing habitat conditions.

Sagebrush-grass and riparian habitat types dominate the foothill zone along the east flank of the Forest and in the mid to lower Wind River Valley. These areas and the adjacent lower environments comprise much of the Forest's big game crucial winter ranges. The total crucial winter range on the Forest for elk, bighorn sheep, and moose that occurs within suitable range is estimated at 207,480 acres (Figure II-A). For many of the big game herds using the Forest, a significant part of their winter range occurs on adjacent private or land of other ownership. The significant factors influencing winter wildlife range is the amount and quality of the habitat, not the ownership pattern. Wildlife populations relate to the totality of their crucial ranges, not just that occurring on public lands or the Forest. However, ownership patterns often complicate management coordination. The land management objectives and wildlife use patterns on lands adjacent to the Forest can have considerable influence on wildlife forage use patterns on Forest lands. Although recognizing the importance to wildlife of all their crucial winter range, this analysis was focused on the portion of each winter range that is located within the boundaries of Shoshone Forest commercial grazing allotments.

The Wyoming Game and Fish Department population objectives and current status of elk, bighorn sheep, and moose herds that are associated with commercial grazing allotments on the Shoshone Forest are shown in Table II-1. In some instances, the boundaries of these herd units extend beyond the boundaries of the Forest.

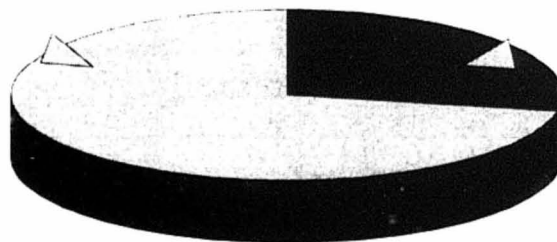
It is important to note that the Shoshone Forest does not have the responsibility or authority to change objectives or require reductions or increases in big game wildlife herds. The Wyoming Game and Fish Department and or the Wyoming Game and Fish Commission has the responsibility for setting and managing for wildlife herd objectives after receiving comments and recommendations from all interested parties including the Forest Service. There is generally insufficient data on allotments where problems currently exist to determine whether wildlife or livestock or both are the primary source of overuse of the vegetation resource. Utilization monitoring and appropriate mitigation measures have been incorporated into the alternatives to help insure attainment or maintenance of desired habitat conditions. Particular attention has been focused on crucial winter ranges within suitable range.

Figure II-A shows that 60 percent of the suitable livestock range is crucial big game winter range. The combined acres of crucial winter range (CWR) for elk, bighorn sheep, and moose occurring within suitable range for each allotment is shown in Chapter III under individual allotment discussions.

Forest Plan Acres Allocated to Commercial Grazing

Unsuitable Range
886,275 Ac
(72%)

Suitable Range
346,247 Ac
(28%)



Crucial Winter Range within Suitable Range

**Crucial Winter
Range - 207,480 Ac**
(60%)

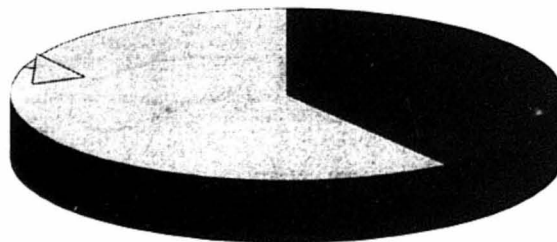


Figure II-A

**Table II-1
Status of Big Game Wildlife Herds**

Species	Herd Unit	Population Objective	1994 Post-Season Estimate		1994 Post-Season % of Objective		% Wintering on National Forest	
			Low	High	Low	High	Low	High
Elk	Clarks Fork	3000	3500	4000	117%	133%	60	70
Elk	Cody	5600	7000	8000	125%	143%	50	60
Elk	Gooseberry	2700	2250	2750	83%	102%	10	20
Elk	Wiggins Fork	4800	5500	6000	115%	125%	20	40
Elk	South Wind River	3300	3000	3500	91%	106%	10	20
Bighorn Sheep	Clarks Fork	500	500	500	100%	100%	100	100
Bighorn Sheep	Trout Peak	750	600	700	80%	93%	100	100
Bighorn Sheep	Wapiti Ridge	1000	1000	1200	100%	120%	80	90
Bighorn Sheep	Younts Peak	900	750	850	83%	94%	80	90
Bighorn Sheep	Francs Peak	1360	1200	1400	88%	103%	100	100
Bighorn Sheep	Whiskey Mountain	1350	900	950	67%	70%	40	40
Bighorn Sheep	Temple Peak	250	40	50	16%	20%	10	10
Moose	Clarks Fork	175	150	200	86%	114%	90	100
Moose	North Fork	75	75	100	100%	133%	100	100
Moose	South Fork	75	50	75	67%	100%	90	100
Moose	Greybull/Gooseberry	180	100	150	56%	83%	30	40
Moose	Dubois	400	350	400	88%	100%	75	75
Moose	Lander	450	400	450	89%	100%	25	35

/f

Forage projections for wildlife use as per the Forest Plan focused primarily on the preferred part of big game crucial winter range (CPWR). In most instances, 100% of the available forage within CPWR was tentatively allocated for wildlife. Outside of CPWR, wildlife forage reservations generally varied from 10% to 25% in allotments where additional forage needs for wildlife were projected (Forest Plan, Appendix J and associated planning records).

Endangered, Threatened, and Sensitive Species

There are four endangered or threatened species known to occur on the Shoshone National Forest. Those endangered are: the peregrine falcon (*Falco peregrinus anatum*), and whooping crane (*Grus americana*). Threatened species are the grizzly bear (*Ursus arctos horribilis*) and the bald eagle (*Haliaeetus leucocephalus*). The Northern Rocky Mountain Gray wolf (*Canis lupus*) was classified as endangered in this area, but now is classified as an experimental population since being reintroduced into the Yellowstone area in March of 1995.

A summary of biological assessments (BA's) of the impacts of livestock grazing on the endangered and threatened species found on the Forest have been completed (Appendix F). Mitigation measures resulting from the assessments are in Appendix G. The bald eagle and peregrine falcon populations are generally expanding on the Forest and moving in a positive direction toward recovered populations regionally. The status of the bald eagle was recently changed from endangered to threatened. The peregrine falcon is currently being considered for delisting.

Whooping cranes are possible as infrequent Forest occupants during migration but have not been observed in recent years. Similar to the peregrine falcon and bald eagle, the threatened grizzly bear is expanding in numbers and distribution on the Forest. The Yellowstone Ecosystem Subcommittee managers are currently developing a conservation strategy for consideration of the delisting of this species in the Yellowstone area. Reintroduced wolves have made brief visits to the Forest and reproduction has occurred, expanding the existing population size. Additional wolves are scheduled for release in 1996.

Sensitive species were designated in 1993 by the Regional Forester for the Rocky Mountain Region of the Forest Service. There are 51 sensitive species found within the Shoshone National Forest including 8 mammals, 21 birds, 4 amphibians, 1 fish, and 17 plants. A wide range of habitat types are used by these species. They encompass all of the vegetation types occurring on commercial grazing allotments. Biological evaluations (BE's) have been prepared assessing the effects of livestock grazing on all sensitive species. A summary is in Appendix F. Mitigation measures resulting from the evaluations are in Appendix G.

Heritage Resources

A number of heritage (cultural) resources can be identified that could be affected by grazing and related activities. Prehistoric cultural sites recorded on the Forest primarily contain archaeological values. Archaeological values means that the property contains intact archaeological data in the form of surface and/or subsurface deposits and materials that have scientific value in reconstructing past lifestyles. Historic sites may contain a combination of archaeological, architectural, representational, and/or associated cultural values, as well as recreational and interpretive values. These values may be present in some prehistoric sites as well. Native American sites could also be classified as historic.

Approximately one-half of the recorded sites found on the Forest occur within commercial grazing allotments. These sites are classified relative to the National Register of Historic Places (NRHP) as

registered, eligible, ineligible, and unevaluated. Unevaluated sites are viewed as potentially eligible and afforded appropriate protection.

A Memorandum of Understanding with the Wyoming State Historic Preservation Office (SHPO) has been developed covering site protection in relation to grazing permit issuance (Appendix C). In addition, there is a National Programmatic Agreement with the Advisory Council for Historic Preservation (ACHP) and the National Council of State Historic Preservation Officers (NCSHPO) which establishes the framework under which compliance with Section 106 of the National Historic Preservation Act will be accomplished.

Archaeological values alone can be preserved through scientific excavation and research with some acceptable losses. Historic site values may be mitigated by recording, archival research or by moving the structure or significant elements. It is more difficult to mitigate impacts on resources that are more representational of broad patterns of the past or retain cultural values for present populations, especially when they contain potential recreational, educational, and interpretive values that some feel override cultural concerns.

Native American Cultures

The Forest is an integral part of Native American cultures in the area. There are many Native American archaeological resources and traditional cultural properties. The Forest provides traditional raw materials and other uses and resources guaranteed under treaty. General issues of concern include significant heritage sites, graves, and traditional cultural properties. While archaeological and historic preservation law addresses archaeological concerns, they did not adequately protect or address other cultural values. The American Indian Religious Freedom Act (AIRFA) of 1978 and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 defined and strengthened the rights of Native Americans and clarified responsibilities of federal agencies regarding these additional cultural values (Appendix C). The Shoshone National Forest will further identify and address concerns through consultation with individual tribal governments.

Economics

The economic analysis focuses on the impacts of livestock grazing on employment and income, payments to counties, property tax income and the financial efficiency of the range management program. Items discussed are 1) county level employment and income, 2) Federal payments to counties, and 3) property taxes.

County Level Employment and Income

The analysis of impacts to jobs and income was done using a computer model (Taylor et al., 1993) developed specifically for the Shoshone National Forest. This model is based on a snapshot of the economic conditions and relationships between major sectors of the economy for the three counties primarily influenced by the Forest. The model simulates the effect of changes in Forest Service programs on employment and income at the county-wide level. The model is not able to analyze effects to individual communities, organizations or individuals.

The analysis of the impacts to jobs and income was done using two separate models; one for the north zone of the Forest which includes Park and Hot Springs counties, and one for the south zone which is included almost entirely within Fremont County. The Forest's economic impact zone is represented by two models, instead of only one model, because the economic effects of the Forest's range program are distinctly separate from one another in these two zones. In other words, the impacts of livestock grazing in the south zone are limited to Fremont county and the communities

and people in that area and have no significant effect on the economies of Park and Hot Springs counties in the north zone.

Park and Hot Springs counties are affected by livestock grazing on the Clarks Fork, Wapiti and Greybull Ranger Districts. Fremont County is affected by livestock grazing on the Washakie and Wind River Districts. The base year for both models was 1991 which means that the economic impacts projected for each alternative are based on conditions as they existed in that year. This "snapshot" of economic conditions in 1991 is the most recent available data.

Portions of the Forest lie within Teton and Sublette Counties, but the acreage is very small and livestock grazing activities on the Forest have little affect on the economies of those two counties.

Tables II-2 and II-3 show the economic situation as measured by employment and income within the agricultural and non-agricultural sectors of the economy of the two zones in 1991. They also show the jobs and income in the two zones that are directly attributable to the livestock grazing on the Forest. The jobs and income shown are based on the current use of 54,000 Animal Unit Months (AUMs). Based on the information in these two tables, one job is generated for every 490 AUMs of use on the Forest. Each job generated, in turn, creates about \$22,500 in personal income. These are averages for all three counties, but there is very little difference among the counties in terms of AUMs per job or average income per job.

Table II-2
North Zone(Park/Hot Springs Counties)
Economic Conditions in 1991
Income (\$1,000) and Employment (# of jobs)

Industry	Total Zone		National Forest	
	Income	Employment	Income	Employment
Agriculture	\$20,000	1,500	\$400	23
Non-agricultural	\$543,000	18,400	\$900	33
Total	\$563,000	19,900	\$1,300	56

Table II-3
South Zone (Fremont County)
Economic Conditions in 1991
Income (\$1,000) and Employment (# of jobs)

Industry	Total Zone		National Forest	
	Income	Employment	Income	Employment
Agriculture	\$19,000	1,400	\$400	23
Non-agricultural	\$394,000	14,900	\$800	32
Total	\$413,000	16,300	\$1,200	55

The economy of the communities in the tri-county area were based on mining, agriculture (including ranching) and military operations from about 1850 to 1950. People who engaged in mining and agriculture generally exported their products out of the region. These exports brought outside dollars back into the regions, and allowed the people earning them to buy goods and services they needed from within the region. In essence, these outside dollars formed the foundation of the economy: other people were able to settle here only because they could provide goods and services to people working in the base industries. Over time, each community developed an economy consisting of many layers, but the base industries continued to be those which exported goods or services to other regions.

In the 1950's, the base export industries of the region began to change to include a significant amount of tourism and recreation. Tourists earned their dollars in other regions, but came to these regions to spend them. As a result, many towns in the tri-county area began to diversify, while other towns in the region continued with ranching as a significant portion of their base export industry. In this area, Cody, Powell, Thermopolis, Riverton and Lander have more diversified economies than other communities such as Dubois and Meeteetse.

The Park/Hot Springs area is heavily weighted toward tourism, mining (including oil and gas), and government. Cody is a small regional trade center, as well as tourism center, which is why the service and trade industries account for over half of the employment, and about 30% of the area income. Although mining provides only 4% of area jobs, it accounts for nearly 7 times that amount of area income. This high income relative to employment is generally typical of the mining industry. Characteristic of the rural western U.S., the public sector accounts for a relatively high proportion of the local economy. All levels of government combined provide about 17% of all jobs and 14% of income in the area. The agriculture sector is small, relatively speaking, providing about 8% of area jobs and 4% of area income. Income, as reported here, includes wages, salaries, profits and rent.

The Fremont County area is more balanced than the counties in the northern zone of the Forest, having relatively fewer employees in the tourism and mining industries, and more in others. Service and trade sectors provide about 40% of the area jobs, and about a quarter of the area income. Government follows in size with 23% of area employment, and 22% of the income. The remaining sectors of the economy range from 2% to 10% of all jobs. Agriculture, like Park and Hot Springs Counties, provides 8% of the jobs and 4% of the area income.

The agriculture sector of the economic base includes the ranching industry as well as many other separate industries. The data used to build the IMPLAN models did not distinguish the ranching industry as a separate sector of the economy.

There are a total of 67 livestock grazing (commercial) permittees on the Forest. The north zone has 43 permittees and the south zone has 24 permittees. In the north zone, about 30 of the permittees graze 60% or more of all their livestock on the Forest. About 12 of those permittees graze 100% of their livestock on the Forest. In the south zone, or Fremont County, about 16 of the 24 permittees graze 60% or more of their livestock on the Forest. Thirteen of those permittees graze 100% of their livestock on the Forest. This analysis indicates that forty-six of the sixty-seven permittees, or about 70%, are currently grazing the majority of their livestock on the Forest and could be significantly impacted if these permits were not issued or if the permitted use were significantly reduced. This direct effect on the permittee would have an indirect effect on the communities and counties in which they live, both in terms of employment and income.

Federal Payments to Counties

Counties that have Shoshone National Forest land within their boundaries receive 25 percent of all the Forest's revenues, including grazing revenues. These counties, listed in Table II-4, received

anywhere from \$132,300 to \$233 from the 25 percent fund in 1994. The entire 25 percent fund from the Forest was \$845,950 of which \$79,640 (9%) came from livestock grazing fees in 1994.

Payments in lieu of taxes (PILT) is a separate source of Federal payments (Table II-4) to counties that varies according to the amount of other Federal payments, such as the 25 percent fund. In 1994, these payments ranged from \$607,740 to \$196,492. The total PILT payment made to the five county area in 1994 was \$1,678,200. All payments are made to the State of Wyoming which transfers the funds to the appropriate counties.

**Table II-4
Shoshone National Forest
Federal Payments to States/Counties, 1994**

County	Type of Payment	
	25% Fund	PILT Payment
Fremont	\$73,401	\$607,738
Park	\$132,293	\$367,622
Hot Springs	\$4,720	\$196,492
Teton	\$233	\$263,138
Sublette	\$842	\$243,216
Total Payments	\$211,488	\$1,678,206

The analysis of the effects of livestock grazing on payments to counties considered the effects of changes in revenues collected for livestock grazing on the total payments made by the Federal Government to the State of Wyoming.

Property Taxes

There is often a relationship between local private land practices and federal land management. Loss of agricultural lands has been a concern in Wyoming for many years. This is especially true in growing communities, such as Cody, Powell, Dubois and Lander, where the demand for developable land and high prices per acre often entice local ranch owners to sell their deeded lands. The decision on whether to graze livestock on the Forest, therefore, can have a significant effect on the property tax situation within Park, Hot Springs and Fremont Counties.

Table II-5 shows the number of acres within each county that is classified as primarily agricultural land, the total assessed value of that land and the average tax per acre in 1994. Table II-6 shows the number of acres by county that are classified as suburban/residential, the total assessed value and the average tax per acre in 1994. The tables clearly show that the property tax on land used for residential purposes is significantly higher than the tax on land used for agricultural purposes such as ranching.

**Table II-5
Property Taxes by County
for Agricultural Land, 1994**

County	Total Acres	Total Assessed Value	Average Tax/acre
Fremont	678,692	\$1,940,540	\$0.23
Park	568,800	\$1,379,922	\$0.20
Hot Springs	370,962	\$736,510	\$0.12

**Table II-6
Property Taxes by County
for Suburban/Residential Land, 1994**

County	Total Acres	Total Assessed Value	Average Tax/acre
Fremont	2,261	\$668,823	\$23.88
Park	1,711	\$600,875	\$29.06
Hot Springs	523	\$108,598	\$12.98

In evaluating the effects of issuing grazing permits on the Forest, the analysis considered the potential change in property tax rates if the deeded land owned by permittee's is sold and converted to a suburban/residential category. The analysis did not consider viability of individual ranching operations, but, instead, assumed the extreme situation where all deeded lands owned by permittees within the three affected counties is converted to a residential classification. In the discussion of the effects of the No Action (no livestock grazing) Alternative, the possible effects of a change in ownership of these deeded lands and the resultant change in property taxes is addressed.

Social Environment

The social effects considered for this environmental assessment have to do with the potential consequences of changes in livestock grazing on the Shoshone National Forest and on the way people live in the area. The analysis studied the potential effects of the proposed action and its alternatives on people holding Forest Service grazing permits and people engaged or employed in businesses related to ranching-based agriculture. The analysis also considered effects on communities, community institutions, and groups of communities in this area. This portion of the EA briefly summarizes the demographic characteristics of the people who live in the towns and counties of this area, recent patterns of demographic change and cultural patterns.

Population changes in these areas and the area around Yellowstone National Park have been relatively dramatic over the past five years. According to census data, the population of Park and Fremont counties declined slightly during the 1980's. This reduction was due largely to the departure of many commodity-based industries such as oil and gas drilling, mineral extraction, and timber processing. Populations have now increased with most of the increase occurring over the past three years. The general consensus is that people are locating in the area from all over the United States.

There have been significant increases in land and property values and associated property taxes as a result of this influx of new residents. Newcomers do not generally move here for job opportunities. The majority of the recent non-retiree emigrants brought their work with them. Most of the new residents are either retiree's, wealthy citizens buying land for building recreation residences and telecommuters, people who are able to conduct their business using computers and telecommunications links.

The recent demographic changes are affecting communities in the area and the roles and relative position of ranchers and ranching-based agriculture in the communities. In the towns which are experiencing significant population growth, ranchers are slowly becoming a smaller fraction of the community, and the communities are becoming more socially diverse as a whole.

Cultural patterns are an important facet of the communities in these areas. Many communities have strong traditional cultures that are often based on ranching and/or agriculture. Some of these communities are beginning to experience significant change under the impact of emigrants with different values, social norms, and attitudes toward land and the environment. In general, community culture has a strong historical tie to ranching and agriculture. A common observation is that past emigrants to these areas often adopted part or all of the set of local cultural customs within a generation, therefore, cultural change occurred very slowly, if at all, in some of these communities. This pattern appears to be changing in many communities. The attitudes, values and beliefs of the newcomers are beginning to affect the overall culture of the area.

The income of the more recent arrivals to the area is significantly higher than either the state and county medians. This fact could be used to make some value and attitude projections. For example, social studies have shown that people with higher incomes are more likely to favor environmental causes while those with lower incomes are more likely to favor utilization of natural resources. An older population would tend to favor different types of recreation, such as driving for pleasure or recreational vehicle camping, when compared to a younger population. This is probably not true for long-time residents who enjoy horseback riding, 4-wheeling, and snowmobiling regardless of their age.

The following chart examines selected demographic characteristics of the State of Wyoming compared to the tri-county area. The data is from the 1990 Census Bureau report on the Social, Economic, and Housing Characteristics of Wyoming.

	Wyoming	Tri-County Area
Median Age(Yrs.)	32.0	35.1
% born in Wyoming	43.6%	48.5%
Median Income	\$27,096	\$24,234

The idea of allowing some growth, while not becoming overly developed, is a goal of the majority of people living in the tri-county area. This is largely due to the high value placed on maintaining open spaces. There are strongly held opinions on how best to achieve this objective. Relative to grazing livestock on the Forest, this issue has been identified as a major concern of the local public. If permittee's are forced out of business, either through actions taken by the Forest Service or other factors, people are worried that the deeded lands of these permittee's will be sold and sub-divided thereby changing a significant part of the culture of the area. The natural setting of the area is already being affected in many areas by the appearance of new homes and small "ranchettes" in areas previously used for ranching or farming.

Park and Hot Springs Counties - the Northern Zone

The communities of this area that are the most significantly affected by livestock grazing on the Shoshone National Forest include Cody, Powell, Meeteetse, Clark, Emblem and Thermopolis. These are the communities where existing permittees live, recreate, socialize, and purchase food and supplies (see Figure I-A). There are several small communities of people, such as Meeteetse and Clark, with particularly pronounced cultural ties to traditional land uses, including livestock grazing on Forest lands. These communities may be more vulnerable to cultural disruption due to changes in Forest Service permits than other communities.

Fremont County - the Southern Zone

Communities in Fremont County affected by livestock grazing on the Shoshone National Forest include Riverton, Lander, Fort Washakie, Dubois, Kinneer, Crowheart and Lysite. Each of these communities are listed as primary residences by existing permittees and individuals who have expressed an interest in obtaining a livestock grazing permit on the Forest (see Figure I-B). There are several small communities, such as Dubois, Fort Washakie, Kinneer, Crowheart and Lysite, with particularly pronounced cultural ties to traditional land uses, including livestock grazing on Forest lands. These communities may be more vulnerable to cultural disruption due to changes in Forest Service permits than other communities.

ALTERNATIVES CONSIDERED

Alternatives in this EA were formulated to fulfill the Purpose and Need and address the significant issues.

Alternative A - No Action

For every allotment, Alternative A is the No Action Alternative. Under this alternative, no allotment management plan and no term grazing permit would be issued, thus no commercial livestock would be allowed to graze on the allotment. NEPA requires a No Action alternative.

This alternative responds to those publics that hold livestock grazing should be removed from the Forest.

Alternative B - Authorize Grazing Similar to that Most Recently Permitted

For every allotment, Alternative B represents the most recently permitted livestock use and grazing system. Alternative B allows for some level of commercial livestock grazing. Structural improvements

would be maintained by the permittee. Additional range improvements, either structural or non-structural, are not considered.

This alternative represents the Proposed Action and responds to those publics that hold commercial livestock grazing on the Forest should remain status quo.

Alternative C - Authorize Grazing Different than Most Recently Permitted.

For some allotments, an additional alternative was developed to address issues not addressed in either Alternative A or B. Alternative C authorizes some level of livestock grazing, but under different conditions than that most recently permitted. This alternative would also allow for some level of livestock grazing on some of the currently vacant or partially vacant allotments. Structural improvements would be maintained by the permittee. Additional range improvements, either structural or non-structural, are not considered.

This alternative responds to either or both of 1) those publics that hold commercial livestock grazing on the Forest should be changed from that most recently permitted or 2) those goals that the IDT hold are not being met at an acceptable rate.

Mitigation Measures Common to the Action Alternatives

All alternatives that include commercial livestock grazing include mitigation measures and monitoring requirements as outlined in Table III-1, the allotment specific discussions and Appendix G.

ENVIRONMENTAL CONSEQUENCES OF THE NO ACTION (NO LIVESTOCK GRAZING) ALTERNATIVE

The following is a general discussion, from a forestwide perspective, of the environmental effects that could occur on any allotment if livestock grazing were no longer permitted. Under the No Action alternative, all potential effects from livestock grazing would be removed. The rate of resource recovery on allotments where resource damage has occurred from livestock grazing would depend on the magnitude of those impacts. Overall, the majority of the allotments on the Forest are meeting or moving towards desired condition. On a few allotments or in specific, localized areas within an allotment that are not meeting desired condition, recovery will be sooner. The description below assumes big game ungulate populations are currently within or would be brought within the carrying capacity of the available habitat. If they exceed that capacity, potential effects could be reversed and result in a downward trend.

Effects on Watershed Condition, Riparian Areas, Aquatic Habitat and Water Quality.

In the absence of livestock grazing the following effects could occur:

- decreased stream bank trampling, hummocking, sediment introduction, and downcutting of stream channels with a gradual rising of the water table resulting in increased riparian vegetation, overhanging cover, and more stabilized stream banks,
- stream channels become more narrow and deeper resulting in more and deeper pools and more undercut banks,

- improved water quality (turbidity and water chemistry),
- increased fish habitat including hiding cover, spawning and rearing habitat, aquatic vegetation, and invertebrate populations,
- more vegetation in later seral stages, decreased vegetation diversity over time, increased willow density and vigor, and shifts in vegetation composition from less to more desirable species.
- the watershed becomes more resistant to other impacts, present and in the future.

Effects on Rangeland Vegetation.

In the absence of livestock grazing, the effects to vegetation, outside of riparian vegetation discussed above, are explained below:

- any desired manipulation of vegetation to reach desired future condition using grazing as the tool would rely on the actions of wildlife ungulates and recreation livestock,
- range vegetative condition and trend would cease to be affected by commercial livestock grazing, but could be affected negatively if wildlife populations exceed carrying capacity,
- commercial livestock grazing would not be available as a resource management tool to maintain certain vegetation types at earlier, more productive seral stages,

Effects on Big Game Wildlife Habitat and Species.

In the absence of commercial livestock grazing the following effects could occur to crucial winter ranges:

- any potential conflicts for forage between livestock and wildlife would be eliminated,
- AUMs of forage currently used by livestock would be available for use by wildlife,
- the ability to use livestock as a management tool to manipulate winter range habitat would be lost,
- the ultimate effects would depend on many other related factors including ecological succession, the type and rate of implementing habitat manipulation projects, other disturbances occurring on the landscape, and the success of agencies in balancing habitat capabilities and wildlife numbers,
- increased forage availability could, in some instances, result in increased wildlife populations.

Effects on Endangered, Threatened and Sensitive Species.

Commercial livestock grazing would no longer influence endangered, threatened and sensitive species found on the Forest except by the changes in habitat conditions that may occur as a result of no grazing. Such conditions would be dependent on numerous other factors including landscape and human disturbances and other natural processes.

Effects on Heritage Resources.

There would be no potential effect from livestock to cultural resource sites, including traditional cultural properties. No action would also negate potential impacts from associated management activities such as construction of improvements. Indirect impacts which might have been intensified by activities associated with grazing, such as increased erosion due to decreased ground cover, could be reduced but would not cease entirely as big game species would continue to utilize forage and any improvements retained within allotments in the absence of domestic stock.

Effects on Native American Cultures.

Potential for conflicts with traditional values from commercial livestock grazing would be eliminated. This alternative would also negate potential impacts from associated management activities such as construction of improvements. As with heritage resources, impacts from natural agents such as fire, erosion, natural decay, and wildlife would continue.

Effects on Economics.

In the absence of commercial livestock grazing the following effects could occur to the economy:

Employment and Income

If all livestock grazing under Forest Service permits were eliminated from the economy, Alternative A would result in a loss of about 55 jobs in both the north half and south half of the affected area. About 40% of the job losses would occur in the agriculture sector, with another 50% occurring in the service, trade, and financial sectors. Income losses would follow approximately the same pattern. Looking at the economies as a whole, these losses would amount to 0.3% of all jobs and income. While the losses would be difficult for those individuals directly affected, these estimates indicate that the Forest Service grazing allotments analyzed here do not support a major share of the local agriculture industry or area economy. Tables II-7 through II-10 summarize the impacts.

**Table II-7
North Zone (Park/Hot Springs Counties)
Employment Impacts - Alternative A**

Industry	Change from Base	
	Model Base	Alt. A
Agriculture	1,500	-23
Non-Agriculture	18,400	-33
Total	19,900	-56

**Table II-8
North Zone (Park/Hot Springs Counties)
Income Impacts - Alternative A
(\$1,000)**

Industry	Change from Base	
	Model Base	Alt. A
Agriculture	20,000	-400
Non-agriculture	543,000	-900
Total	563,000	-1300

**Table II-9
South Zone (Fremont County)
Employment Impacts - Alternative A**

Industry	Change from Base	
	Model Base	Alt. A
Agriculture	1,400	-23
Non-Agriculture	14,900	-32
Total	16,300	-55

**Table II-10
South Zone (Fremont County)
Income Impacts - Alternative A
(\$1,000)**

Industry	Model	Change from Base
	Base	Alt. A
Agriculture	19,000	-400
Non-agriculture	394,000	-800
Total	413,000	-1200

Federal Payments to Counties

Under Alternative A, the contribution to the 25 percent fund from the Forest's range program would no longer be available, therefore the 25% fund would decrease by \$20,000. This would be a decrease of approximately 9% in the Forest's 25% fund compared to 1994 revenues. This reduction in the 25% fund should be counter-balanced with an increase in the PILT payment, thereby, creating no reduction in the individual federal payments made to the affected counties (Schuster, Journal Of Forestry, August 1995). If the PILT is not increased, then individual counties would see their total payments decrease based upon the percentage of the payment that is dependent on the revenues the Federal government receives from the Shoshone National Forest. The decrease would be relatively small.

Property Taxes

Under Alternative A, there is a high probability that some of the deeded lands owned by permittee's would be sold and developed into residential property. If this happens, counties would see their income from property taxes increase. The magnitude of the increase is difficult to estimate. The number of acres of deeded lands owned by the permittee's is unknown. Neither can it be determined which permittee's would sell and which would not or to what use the sold land would be put to in the future. For these reasons, any estimate of the affect on property taxes would be highly speculative.

Effects of Livestock Grazing on the Social Environment.

In the absence of commercial livestock grazing the following effects could occur to the social environment:

Permittee's who depend upon grazing in the Forest to maintain a viable business could go out of the ranching business under this Alternative. The 30 permittee's who graze 60% or more of their livestock on the Forest are the most likely to no longer be able to continue ranching. They may switch to another type of business using the same deeded lands they own or they may sell the land and

move to another type of business. If they do sell the land, the new owners may use the land for agricultural purposes or develop the land and convert it to residential plots.

If there is a significant increase in the development of deeded lands owned or sold by the permittee's, then the natural appearing character of lands (open space) within the area could be compromised. The presence of homes scattered across the landscape would be viewed by many as "unnatural" and will detract from the current visual and aesthetic value of the landscape. There would also be effects on the wildlife in the area, which is another aspect of the area most current residents value so highly. The construction of new homes on these deeded lands would have a direct effect on many species of wildlife such as elk, deer, moose and bighorn sheep who are currently using parts of these deeded lands, as well as National Forest system lands, for winter range. If these animals are displaced, it could affect the current way of life to which current residents experience.

Under the No Grazing Alternative, the importance of ranching as a part of local lifestyle will be diminished. A significant number of ranchers in the area will be affected to the point where others will notice a change in traditional norms in the area. While the economic affects may not be significant when looking at the overall economy in the area, the social impacts under this alternative will be significant and the character of the area will be forever changed.

ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES THAT INCLUDE LIVESTOCK GRAZING

The following is a general discussion, from a forestwide perspective, of the environmental effects that could occur on any allotment if livestock grazing were permitted. Since they can occur on any allotment on the Forest they are discussed here rather than for each individual allotment. The magnitude of these effects are strongly dependent on the intensity of grazing. Site specific environmental effects that are unique to a given allotment are discussed as appropriate in Chapter III.

Effects on Watershed Condition, Riparian Areas, Aquatic Habitat and Water Quality

Riparian areas and wetlands are often preferred over uplands by grazing ungulates because they have more succulent vegetation, water, shade, and flatter terrain. Improper or excessive ungulate grazing has direct effects, of varying magnitude, upon the riparian areas and wetlands as described below:

- reducing, changing, or eliminating vegetation,
- trampling and bank shearing, and
- increasing soil compaction.

As a consequence of these direct effects, the following indirect effects can occur within riparian environments and wetlands as described below:

- increases in sediment deposition, turbidity and settleable solids,
- reductions in the number and depth of pools and aquifer recharge,
- changes in stream channel type,
- downcuts in the stream bank causing the water table to sink,
- hummocking, and

- loss of function as a filtering mechanism.

There are also potential indirect effects on aquatic habitat and water quality as described below:

- increases in sediment deposition,
- reductions in stream depth and reduction of overhanging vegetation, dissolved oxygen and an increase in pH levels, hiding cover due to the loss of overhanging vegetation, suitable spawning and rearing habitat for fish and depth and/or the number of pools that provide instream cover and critical overwintering habitat for fish,
- destabilized stream banks,
- reductions or changes in invertebrate communities, aquatic vegetation and photosynthesis, and
- increases in water temperature, bacteria, nitrogen and phosphorous, and susceptibility of streams for freezing during winter thus increasing the potential for fish winter-kill.

Excessive use by either big game wildlife or livestock use can result in the same effects as described above.

Overutilization of upland vegetation from ungulate grazing can create trampling, increased overland water flow, soil compaction, increased detachment of soil, and losses in site productivity and site condition. This can cause increased sediment delivery to streams.

For alternatives that propose continuation of livestock grazing at current levels, potential adverse impacts, as described above, will be mitigated to a non-significant level through compliance with Forest Plan standards and guidelines. Permit compliance and monitoring will ensure that the habitat meets or is moving toward desired conditions and that grazing use is within the carrying capacity of the range. Management practices will be adjusted as needed to meet these conditions.

Total ungulate grazing use, by both wildlife and livestock, will need to be kept within the carrying capacity of the suitable available habitat.

Effects on Rangeland Vegetation

The potential effects of ungulate grazing on vegetation must consider many aspects. Impacts to the plant may vary based on its palatability, tolerance to grazing, stage of development, climatic conditions, as well as physical factors such as soil type and natural disturbances. The timing, amount of herbage removal and re-occurrence of removal are probably the three most critical effects on the plant's ability to maintain its health and viability. The ability of the plant to reproduce is also a key element in determining grazing effects on vegetation.

Riparian

While occupying only a small percentage of the suitable range, riparian produces a high quantity and quality of forage and browse due to the constant influence of water. As a result it is a highly desirable site for ungulate foraging and wildlife habitat. Wildlife populations must be kept within carrying capacity to prevent its over use, degradation and possible loss. Likewise, limiting livestock grazing to early season use prevents impacts such as over-utilization of willow and cottonwood leaders. Livestock movements need to be monitored so they do not enter areas when soils are too wet, resulting in soil compaction, trampling and streambank damage. Other impacts from over use may include; a shift to less desirable herbaceous species (ie. bluegrass, noxious weeds) and injury and eventual loss of browse species (ie. willow, alder and birch). This vegetation type, because of its constant influence by water, can generally be subject to high intensity, short duration grazing and still maintain its resiliency while performing important hydrological and biological functions.

Meadow

This vegetation type responds to the impacts of grazing in many of the same ways as riparian. The vegetation itself is quite resistant to grazing pressure, however soil compaction, hummocking and drying of the site will quickly change the vegetation composition and lower herbaceous production. These areas are favored by wildlife in the spring and deferring livestock use enables the vegetation to recover and complete its growth cycle.

Sagebrush/Grassland

This type forms a large percent of the suitable range on many grazing allotments. Following proper livestock utilization guidelines is critical because these areas are generally dry and slow to recover if damaged. Often, this type is important to wildlife as winter and spring range thus receiving concentrated use during those seasons. Maintaining wildlife populations near objective numbers will help maintain the resource and prevent excessive loss of ground cover, vegetation, and soil movement. Over-utilization of the herbaceous component may result in an increase of the sagebrush overstory and possible introduction of undesirable species such as noxious weeds and cheatgrass. Likewise, overuse of the browse species could also result in an undesirable vegetation composition shift.

Grassland

Even though this upland type is highly desirable and important to ungulates, it is usually less impacted by grazing than vegetation associated with wetter sites. These areas are most susceptible to damage when grazed early (prior to range readiness) every year or throughout the grazing season. Drought also plays an important role on these sites, both long term and short term. Potential impacts are quite similar to those for sagebrush/grasslands.

Conifer With Forage

This type commonly occurs along the interface with mountain forests and are interspersed with shrublands, grasslands and meadows. Impacts to herbaceous vegetation from grazing are similar to those found in the sagebrush and grassland types. An additional management concern is the encroachment of additional conifer overstory that can reduce and/or eliminate the understory forage values for ungulates. This encroachment is primarily due to fire suppression.

Aspen/Forb

This is an important but limited vegetation type on the forest. They commonly occur where adequate soil moisture is found, and as such respond to grazing impacts in many of the same ways as wet meadows. An additional management concern is over use of suckers and retarding and/or preventing the regeneration of aspen stands. This situation is also compounded by the suppression of fire and the subsequent encroachment of conifers.

Alpine/Grassland

This type can be very sensitive to over grazing and grazing prior to range readiness because of the harsh climate, short growing season and shallow soils in which it is found. It is also very slow to recover from these impacts once they occur. Terracing and wind erosion may result from the impacts of over utilization and intensive physical disturbance. In some places, historic sheep overuse has resulted in a vegetation change from a dominant forb community (favored by sheep) to a grass type.

Transitory Range

Grazing has little impact on the this type unless it is so intensive that tree seedlings are damaged or browsed. The primary concern is for adjacent vegetation types that receive additional grazing pressure as the timber overstory closes and the herbaceous undergrowth is choked out and eventually lost to climax species. Forage from these sites should not be used to calculate forage capacity to support wildlife populations and livestock stocking rates.

Managing wildlife populations within habitat capabilities and proper livestock management is necessary to maintain each of these important vegetation types in the desired condition.

Each type has different environmental tolerances for temperatures, moisture, drought, growing season, soils and disturbances such as grazing and fire. These tolerances have been considered during the development of the mitigation measures in order to protect the health and vigor of the associated plant species and to maintain the desired condition needed to meet forest plan objectives.

Forest Plan direction spells out the management actions and practices (see Appendix D) to be used to meet these goals. Each livestock management system (such as rest-rotation, deferred-rotation, season long, etc.) allows for differing levels of forage utilization based on the existing condition of the site.

Alternatives that propose livestock grazing will incorporate measures that adequately mitigate below a level of significance the effects of such grazing on vegetation. These practices are designed to provide for the plants ability to maintain its health, viability and ability to reproduce.

Effects on Big Game Wildlife Habitat and Species

The potential effects of livestock grazing on rangeland wildlife habitats and species are numerous, variable, and dependent on many factors. Effects can be either negative or positive depending on site specific land management objectives, rangeland condition, the wildlife species involved, and the livestock grazing practices such as stocking rate, season of use, and level of utilization.

Some possible direct and indirect effects of livestock grazing on big game wildlife habitat and species include;

- competition for available forage on seasonal ranges
- changes in plant species composition within existing habitats
- changes in the overall condition and trend of rangeland
- changes in seasonal distribution patterns of wildlife in response to changes in forage availability caused by livestock
- the stage and rate of plant community succession,
- the stability of winter ranges,
- the desired wildlife population objectives as established by the Wyoming Game and Fish Department.

Properly managed, livestock grazing on the Forest is compatible with and can be beneficial to wildlife. However, overuse in relation to habitat carrying capacity can occur by either or both animal groups. The objectives for management of both in relation to overall habitat capability is an important consideration. Total ungulate grazing use, by both wildlife and livestock, will need to be kept within the carrying capacity of the suitable available habitat. In most instances, wildlife populations should approximate the existing population objectives established by the Wyoming Game & Fish Department as shown in Table II-1. Where ungulate use is adversely affecting habitat conditions,

the Forest Service will coordinate with the Wyoming Game & Fish Department, the permittees, and other interested parties to develop management strategies that will ensure commercial livestock stocking levels and big game populations are within the carrying capacity of the available habitat.

The allotment-specific environmental consequences section in Chapter III describes how forage available to wildlife would differ among the alternatives with particular attention to crucial winter range areas.

Effects on Endangered, Threatened and Sensitive Species

The effects of commercial livestock grazing, in general, on endangered and threatened wildlife and plant species was analyzed in several different biological assessments. In all instances, it was determined that livestock grazing is not likely to adversely affect any endangered or threatened species provided that appropriate mitigation measures are implemented. Mitigation measures are incorporated by allotment where appropriate.

The biological evaluations for sensitive species determined that livestock grazing could result in the loss of some individual plants or animals, however, the overall viability of the species population would remain intact. This conclusion is based on the assumption that all appropriate mitigation measures as outlined in the BE's would be applied during implementation. These measures are incorporated into all alternatives that permit livestock grazing.

Effects on Heritage Resources

While there could potentially be impacts to cultural resources nearly anywhere within a grazing allotment, the focus must be on areas where impacts are most likely to occur and result in damage. Studies have shown that the highest incidence and most serious impacts occur in locations that promote concentration of livestock or big game species (Willingham 1994, Horne and McFarland 1993, Roney 1977). Studies and observations from other disciplines support this interpretation, especially those related to impacts within riparian areas.

Grazing may impact cultural resources such as lithic and ceramic materials by breakage, abrasion, and displacement. Standing structures are sometimes damaged by animals rubbing against them. Other features, such as cairns, might be damaged by dislodging of stones or other construction material.

Indirect impacts to archeological sites and resources may include:

- increased erosion from reduced ground cover or alterations to existing watersheds creating a higher possibility of objects or sites being washed away,
- increased visibility, due to reductions in ground cover, with possible pilfering or vandalism,
- alteration in overall character

Effects on Native American Cultures

Direct effects to Native American cultural values is more difficult to assess. There may be potential for physical impacts such as visible damage to sites such as altars, cairns, other structures or burials. Improper grazing can result in the loss of individual traditional plants through consumption by cattle or trampling. Monitoring would reveal such impacts if they do occur.

Effects on spiritual qualities, however, can only be determined in close cooperation with appropriate tribal representatives. The Shoshone National Forest will seek a Memorandum of Understanding

(Appendix C) with the concerned tribal governments to recognize and reinforce the necessary consultation and clarify the procedure to be followed in the event of such impacts.

Effects on Economics

Current economic conditions would remain unchanged for the next 10 years under alternatives which allow livestock grazing to continue at or near current levels. No change in the 25% fund would be expected under the action alternatives over the next ten years (assuming grazing fees and other revenue sources hold constant). Property taxes would probably remain the same, except that more land may continue to be sold as residential property due to increases in the value of such real estate. This trend would be entirely outside the control of the Forest.

Effects on the Social Environment

The current trends in population changes, cultural patterns, values and lifestyles would not be affected under the action alternatives. The relative position of ranchers in the areas would continue to grow proportionately smaller as more people with non-ranching lifestyles move into the area. As more deeded land is sold, by both Forest permittee's and non-permittee's, the landscape will continue to change as more new homes and ranchette's are constructed. Property values will probably continue rising as the supply of deeded land offered for sale remains below the demand. Most permittees would retain their deeded land, instead of selling and possibly developing, because they can continue to graze their livestock on Forest land.

CUMULATIVE EFFECTS OF ALTERNATIVES THAT INCLUDE LIVESTOCK GRAZING

Cumulative effects can generally be described as those impacts and resulting consequences on environmental resources (such as vegetation, water, wildlife, cultural sites, or social/economic settings) which result from the impact of the action being proposed when added to other past, present and reasonably foreseeable activities. In this analysis, the combined effects of commercial livestock grazing, and other past, present and reasonably foreseeable natural and human activities, on various resource elements was considered. The IDT considered significant issues in this analysis and other recently completed analyses (e.g. - Oil and Gas Leasing EIS, Allowable Sale Quantity EIS). The present analysis considered watershed condition, wildlife habitat (particularly habitat for endangered, threatened or sensitive species), crucial big game winter range, forest vegetation, heritage resources, and social/economic settings.

Conclusions regarding cumulative effects would be quite difficult without relying on several key assumptions. The assumptions used for this analysis were:

- all commercial livestock grazing would be in compliance with permit conditions
- all mitigation measures and guidelines would be followed for all present and proposed management activities
- all monitoring requirements will be met
- big game populations would be at or moving toward levels that are within the carrying capacity of the habitat
- no new natural disturbances, such as major wildfires, would occur during the next 10 years

The existing situation or current conditions on the commercial grazing allotments for the resources of concern have resulted from a combination of past and present or ongoing actions. For the purposes of this analysis, the management activities and natural events considered as those of

primary concern or having significant influence during the past, present, or reasonably foreseeable future relative to cumulative effects analysis are identified below:

- Road and trail construction/reconstruction
- Timber harvest
- Mining (including oil and gas)
- Natural disturbances
- Wildlife populations
- Agricultural development
- Recreational livestock use
- Off-road vehicle use
- Heavy use sites
- Commercial livestock grazing
- Recreation use

The 1988 Clover-Mist and Unit 40 fires had significant effects on grazing allotments within the Clarks Fork, Wapiti and Wind River Ranger Districts. The fires changed the local landscape and wildlife habitat conditions to early plant successional stages on some allotments on the Clarks Fork District. The use of fire by Native Americans and fire suppression by the Forest Service the last century are significant factors in current vegetation.

In 1994, the Forest adopted a "no net increase in roads" policy (Allowable Sale Quantity Record of Decision) to help limit the overall amount of human intrusion and disturbance ongoing at any given time and thereby protect and maintain secure habitat for various wildlife species. This action will also limit potential adverse effects on watershed condition and stream health.

In 1994, the Forest reduced the allowable sale quantity of timber on the Forest from 11.2 million board feet (MMBF) to 4.5 MMBF.

Historic and present ungulate grazing has played a major role in maintaining vegetation in its present seral state. Past livestock grazing practices, from the late 1800's to the mid 1900's, allowed for significantly higher livestock numbers which created poor range conditions on some allotments. Historically, livestock numbers have decreased on the Forest while, concurrently, some wildlife species, especially elk, have increased. Forest and project level planning has been used to integrate livestock and wildlife grazing use with other resource uses to maintain a sustainable vegetation base. Considering the Forest as a whole, vegetation condition is in an upward trend and should continue to move in that direction if the assumptions described above remain valid.

The demand for recreational activities on the Forest continues to rise and may in some instances exceed that projected during the Forest Plan analysis.

A significant management concern for the future of wildlife habitat is the potential for higher private land values and subsequent development of open spaces, which could degrade existing wildlife habitat. Federal and State agencies with wildlife or habitat management responsibilities will find it necessary to monitor changes closely and work cooperatively with other private interests to arrive at reasonable solutions to avoid significant adverse effects of the area's highly valued wildlife and wildlife habitat resources.

A watershed cumulative effect is defined as the total impacts (positive or negative) on runoff, erosion, water yield, floods, and/or water quality. A watershed cumulative effects simulation model was used to estimate the effects of all reasonably foreseeable activities including an updated timber sale schedule. The results of this analysis indicate that no additional watersheds of concern would be created due to continued livestock grazing. Watersheds currently identified as watersheds of

concern would begin recovering and moving towards the desired condition during the planning period.

The definition of significant impacts in NEPA do not directly coincide or correlate to those of the National Historic Preservation Act (NHPA). If a historical or archeological site is mitigated to achieve a finding of no effect/no adverse effect by data recovery, the question of cumulative effects is no longer applicable.

When the Shoshone Forest Plan was developed, an analysis was made of the existing situation for all resource elements, including those discussed here. After considerable public involvement, a determination was made that the resource base could support the desired mix and level of multiple human uses that best responded to overall public needs. This level was similar to the level during the previous five years (1980-85). This level would maintain dependent local industry, while, at the same time, place an emphasis on non-commodities such as maintaining high quality fish & wildlife habitat, scenic qualities, and low density dispersed recreation opportunities.

The proposed actions for the allotments presented in this EA are in line with actions projected in the Shoshone Forest Plan. It is recognized, as discussed above, that some unforeseen changes such as the 1988 fires have occurred. However, after considering the changed conditions on and adjacent to the Forest, it is the IDT's conclusion that livestock grazing, as proposed in this EA, can be implemented in conjunction with other reasonably foreseeable activities without significant risk or sacrifice of the Forest's subject resources of concern.

BLANK PAGE

Chapter III Allotment Specific Discussions

This chapter discusses the affected environment, alternatives considered and environmental consequences for each of the 36 allotments included in this EA. Mitigation measures for the preferred alternative by allotment are summarized in Table III-1. Detailed descriptions of the mitigation measures are in Appendix G, as are monitoring requirements.

Forest Plan implementation involves moving from an existing condition toward a desired condition, which can provide opportunities for management. The alternatives (including the proposed action) discussed for each allotment are approaches for moving toward the desired future condition.

Forest Plan management areas that occur within each allotment are displayed in Table III-2. Each management area has specific goals, management practices, and standards and guidelines; these, together with the Forestwide goals discussed earlier, are the basis for defining the desired future condition of that management area. Management practices for all of the management areas allow grazing in order to achieve management goals. Achievement of the desired future condition in the allotment may require many years. It will have been reached by applying integrated management practices responsive to site-specific, on-the ground conditions.

More detailed descriptions of management area direction, including standards and guidelines by management activity, are found in Chapter III of the Forest Plan.

The following information sources were used to create the graphs displayed in this Chapter:

Riparian Acres and Riparian & Upland Condition	Forest Service Range Allotment Information Management System (FSRAMIS)
Vegetation Type	Grazing Allotment Files (2210), which includes the most recent range analysis information
Wildlife Winter Range	Shoshone National Forest Geographical Information System (GIS)

This information represents the general resource condition and trend of the allotment. There may however be specific sites within the allotment where conditions vary.

At the time of the analysis, this information was the most up to date available. In certain cases it may not reflect resource responses to recently changed management. Where these differences occur they are discussed in the narrative section.

Table III-1 Shoshone National Forest Commercial Grazing Allotments Mitigation Measures Summary for Preferred Alternatives

<u>North Zone</u>		
<u>Number</u>	<u>Name</u>	<u>Applicable Mitigation Measures</u> ¹
002	Basin	A-2, B-1, C
005	Face of the Mountain	A-2, B-1, C
007	Lake Creek	A-2, B-1, C
008	Little Rock	A-2, B-1, C
014	Deep Creek	A-2, B-1, C
017	Little Rock	A-2, B-1, C
041	Dick Creek	A-2, B-1, C
045	Kirwin	A-2, B-1, C
049	Sugarloaf	A-2, B-1, C
050	Timber Creek	A-2, B-1, C
051	Wood River	A-2, B-1, C
054	Carter Mountain	A-4, B-1, C
057	East Fork	A-2, B-1, C
059	Francs Peak	A-2, B-1, C
061	Meeteetse Creek	A-4, B-1, C
072	Yellowsteer	A-2, B-1, C
079	Sunshine	A-2, B-1, C
134	Bobcat	A-2, B-1, C
135	Community	A-2, B-1, C
143	Hardpan	A-2, B-1, C
144	Hunter Creek	A-2, B-1, C
145	Ishawooa Hills	A-2, B-1, C
156	Valley/Boulder	A-2, B-1, C

<u>South Zone</u>		
<u>Number</u>	<u>Name</u>	<u>Applicable Mitigation Measures</u>
092	Dickinson Park	A-2, C
095	Hays Park	A-4, B-1, C
097	Meadow Creek	A-4, B-1, C
102	Squaw Creek	A-2, C
180	Doby Cliff	A-4, B-1, C
182	Fish Lake	A-4, B-1, C
183	Horse Creek	A-2, B-1, C
184	Parque Creek	A-2, B-1, C
185	Ramshorn	A-2, B-1, B-2, C
189	Whiskey Mountain	A-4, B-1, C
190	Wiggins Fork	A-2, B-1, C
192	Bear Creek	A-2, B-1, C
196	Salt Creek	A-2, B-1, C

A-2 Pasture rotation type grazing management system and associated mitigation measures.

A-4 Season long type grazing management system and associated mitigation measures.

B-1 Grizzly Bear mitigation measures

B-2 Bald Eagle mitigation measures

C Other mitigation measures

More details on the mitigation measures can be found in Appendix G.

**Table III-2
Forest Plan Management Areas**

Allotment	2A	2B	3A	4B	5A	5B	7E	8A	8B	8C	8E	9A
Basin (002)	XX	XX	XX	XX	XX		XX		XX	XX		XX
Face of the Mountain (005)	XX		XX									XX
Lake Creek (007)	XX	XX	XX						XX	XX		XX
Little Rock (008)	XX		XX									XX
Deep Creek (014)	XX		XX									XX
Little Rock (017)			XX									XX
Dick Creek (041)		XX	XX	XX								XX
Kirwin (045)	XX	XX	XX	XX					XX			XX
Sugarloaf (049)			XX						XX			XX
Timber Creek (050)		XX	XX	XX								XX
Wood River (051)		XX	XX	XX								XX
Carter Mountain (054)	XX		XX	XX			XX					XX
East Fork (057)	XX								XX			
Francs Peak (059)		XX	XX	XX					XX			XX
Meeteetse Creek (061)	XX		XX									XX
Yellowsteer (072)	XX		XX	XX					XX	XX		XX
Sunshine (079)		XX	XX	XX								XX
Dickinson Park (092)	XX	XX	XX						XX	XX		XX
Hays Park (095)									XX	XX		
Meadow Creek (097)									XX	XX		
Squaw Creek (102)	XX						XX					XX
Bobcat (134)	XX		XX		XX							XX
Community (0135)		XX	XX		XX					XX		XX
Hardpan (143)			XX		XX		XX		XX			XX
Hunter Creek (144)	XX			XX	XX					XX		XX
Ishawooa Hills (145)	XX	XX	XX	XX	XX					XX		XX
Valley-Boulder (156)		XX		XX	XX					XX		XX
Doby Cliff (180)					XX		XX					XX
Fish Lake (182)	XX	XX					XX					XX
Horse Creek (183)	XX	XX			XX		XX		XX			XX
Parque Creek (184)	XX	XX			XX		XX		XX			XX
Ramshorn (185)	XX		XX		XX	XX	XX		XX			XX
Whiskey Mountain (189)		XX						XX	XX	XX	XX	XX
Wiggins Fork (190)	XX	XX	XX	XX	XX		XX		XX			XX
Bear Creek (192)	XX		XX		XX				XX			XX
Salt Creek (196)	XX	XX					XX					XX

BASIN ALLOTMENT (002)

Affected Environment

Permit Information: This allotment is located in the Clarks Fork River drainage of the Clarks Fork Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	4
Number of Livestock:	335 Cattle, 52 Horses
Kind and Class of Livestock:	Cattle, Cow/calf & Horses
Season of Use:	6/16 to 10/31
Expiration Date:	12/31/95
Management System:	9-pasture, modified deferred-rotation
Existing Improvements:	14 miles fence, 19 water developments, 14.3 miles of pipeline
Historically AUMs have:	Decreased (Figure 1)
Total Acres:	83,910 (Figure 2)
Suitable Acres:	19,148 (Figure 2)

Watershed: Based on the cumulative effects analysis, the following watersheds are currently identified as **validated** watersheds of concern primarily due to the effects of the 1988 wildfires:

- Watershed C15, the Elk Creek drainage.
- Watershed C17, the Huff Gulch and Gravel Bar Creek areas.
- Watershed C20, the Little Sunlight and Little Sulphur Creek drainages.
- Watershed C21, the Painter Gulch area.

Watershed C16, the Beem Gulch area is considered an **unvalidated** watershed of concern and met the criteria primarily due to wildfire.

Riparian: There are about 1,340 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3). Recent observations and examinations for this analysis indicate that a few areas on this allotment are moving away from desired conditions.

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except stream reaches above natural migration barriers. The lower Clarks Fork near the Forest boundary has a series of falls that are impassable. As a result, all fish species upstream have been stocked. Within this allotment, the Clarks Fork River contains rainbow trout, Yellowstone cutthroats and their hybrids, and brook trout. Sunlight Creek contains brook trout and Yellowstone cutthroats. Dead Indian Creek contains rainbow trout, Yellowstone cutthroats and their hybrids.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian with a minor component of conifer with forage (Figures 4 and 5). Vegetation is influenced by a Absaroka basin landscape between 6500 to 7500 feet above sea level. Annual precipitation varies from 14 inches at the lower elevations to 18 inches at the upper elevations, the majority of that occurring in the winter.

The upland range condition is moving toward desired condition, primarily because winter range forage is used during the dormant period and the summer livestock are under a deferred system

of grazing that provides for adequate plant rest, vigor and reproduction. This is based on the present ungulate numbers.

The Wyoming Game and Fish Department owns and operates the Sunlight Management Unit which provides winter and spring forage for wildlife in this winter range complex. The allotment permittees also own and operate base property in this winter range complex, which is providing forage for wintering wildlife.

Elk populations in this herd unit (Table II-1) are presently slightly over objective. Additionally, observations indicate that livestock and wildlife may be creating some localized overuse.

Crucial Winter Range (CWR): This allotment contains crucial winter range for elk, bighorn sheep, and moose. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened, and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). Most of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are eighteen cultural resource sites within this allotment, only eleven of which are on Forest administered lands. These breakdown as follows:

- 1 NRHP Listed
- 2 Eligible for nomination
- 7 Unevaluated
- 1 Not eligible

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, four grazing permit(s) will be issued for a 10 year term that authorizes the grazing of 335 cow/calf pair and 52 horses from 6/16 to 10/31 (2321 total AUMs). Livestock will continue to be managed under a 9-pasture, modified deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, four grazing permits will be issued for a 10 year term that authorizes the grazing of 335 cow/calf pair and 52 horses from 6/16 to 10/31 (2321 total AUMs). The Wyoming Game and Fish Department proposes to add an additional 180 acres (Beem Gulch pasture) from their Sunlight Unit to the allotment. The Beem Gulch pasture would be integrated with the Firor and Riddle units making the allotment into a 10-pasture modified deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and occasional recreation livestock grazing. Vegetation may move toward climax, rather than be maintained in a seral stage, depending on the use of other vegetation management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There are concerns if elk populations remain above objective, there could be overuse on browse, aspen, and spring range, which may begin moving some areas away from desired condition.

There is also a possibility that some permittee's could go out of the cattle business. This may lead to development of private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity of the available habitat.

Crucial Winter Range: The 2,321 AUMs of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since a substantial part of the suitable livestock range is also crucial elk winter range (11,788 of 17,146 acres) a considerable amount of this forage would likely be available in the area of most concern for wildlife. However, there has been no determination that additional winter forage is needed in most years to maintain current elk herd population objective numbers. Forage needs for wildlife on crucial winter range is obviously heavily dependent on winter severity.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. Winter range habitat conditions for wildlife could improve at a faster rate in comparison to other alternatives since the allotment would be rested in the summer. However, the effects of no livestock grazing on habitat conditions would depend on many other factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce potential impacts from grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from grazing on vegetation below the level of significance. However, there is a concern that unless elk populations are maintained at or below carrying capacity, a downward trend in some vegetation species such as willow and aspen may occur in some areas.

Crucial Winter Range: The estimated 2,321 AUMs of forage consumed by domestic livestock, including that consumed on crucial winter range, would continue to be unavailable for use by wildlife.

The analysis conducted for the Forest Plan determined this allotment could provide approximately this amount of forage for domestic livestock and still maintain adequate reserves for the needs of wintering wildlife and plant health. This assumed appropriate mitigating measures would be implemented. Recent observations and examinations for this analysis indicates a few areas may be moving away from desired conditions. Unauthorized livestock use and overutilization is one area of concern. In addition, the elk herd that depends in part on winter range on this allotment is over objective. A reduction in the amount of plant utilization by wildlife or livestock or both, or an expansion of habitat capability may be necessary to address the problem areas.

In order for the effects of domestic livestock grazing on crucial winter habitat to remain within acceptable limits, the mitigating measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangelwide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no observed adverse effects from livestock grazing on the one NRHP site and the one evaluated eligible site. The remaining unevaluated sites have not been examined for impacts.

Native American Cultures: No concerns have been identified at this time.

Alternative C - Change From Current Management - Preferred Alternative

Watershed (including riparian and fisheries): An additional pasture of 180 acres will reduce grazing intensity and duration on the Firor and Riddle units and result in achieving desired conditions sooner than Alternative B. Application of appropriate mitigation measures in Appendix G will reduce potential impacts from livestock grazing below the level of significance.

Vegetation: By adding the 180 acre pasture there will be additional plant deferral on these three units. This will move these units towards desired condition faster than alternative B. Application of the appropriate measures in Appendix G will reduce potential impacts from grazing on vegetation below the level of significance. However, there is a concern that unless elk populations are maintained at or below carrying capacity, a downward trend in some vegetation species such as willow and aspen may occur in some areas.

Crucial Winter Range/Endangered Threatened and Sensitive Species: The effects of this alternative would generally be the same as for Alternative B except that additional forage would be available for wildlife on the Firor and Riddle Units which are very important crucial elk winter range.

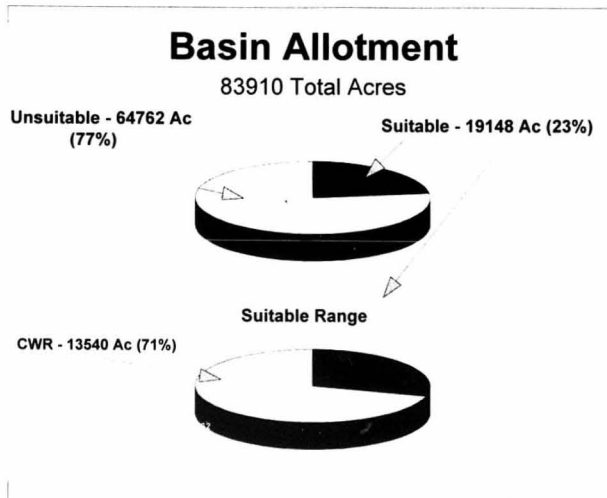
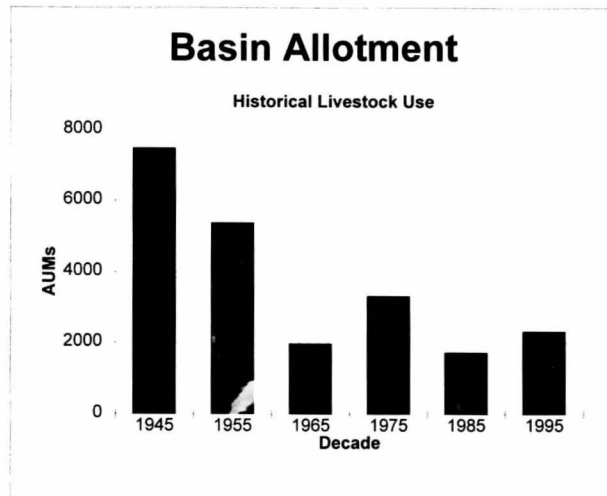
Heritage Resources: There are no observed adverse effects from livestock grazing on the one NRHP site and the one evaluated eligible site. The remaining unevaluated sites have not been examined for impacts.

The addition of the new unit will likely reduce the potential for adverse effects to both known and undiscovered sites by distributing livestock over a larger area.

Native American Cultures: No concerns have been identified at this time.

Cumulative Effects

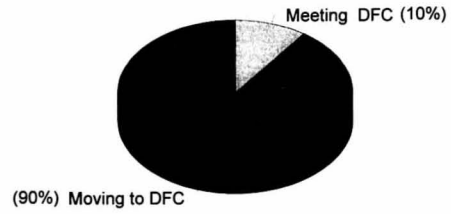
Cumulative effects is discussed in Chapter II.



Figures 1 & 2

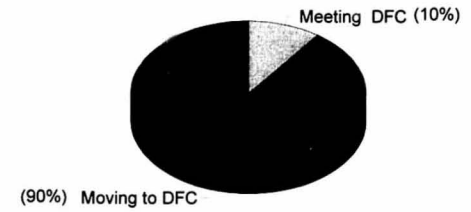
Basin Suitable Range

Riparian Range Condition



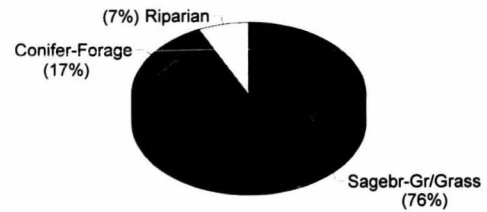
Basin Suitable Range

Upland Range Condition



Basin Allotment

Vegetation Ecological Types



Figures 3 & 4

Figure 5

**FACE OF THE MOUNTAIN ALLOTMENT (005)
DEEP CREEK (014)
LITTLE ROCK (017)**

Affected Environment

Permit Information: These allotments are located in the Bennett Creek, Deep Creek and Line Creek drainages of the Clarks Fork Ranger District on the Shoshone National Forest (Figure I-A). The allotments are managed together for use as a 5 unit modified deferred-rotation grazing system for cattle. Some dual use (sheep and cattle) grazing occurs on portions of the Little Rock and Deep Creek allotments. The following facts pertain to these allotments:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	3
Number of Livestock:	206 Cow/calf pair, Sheep - 800 Ewe/lamb pair & 800 Yearling Sheep
Kind and Class of Livestock:	Cattle, Cow/calf pair; Sheep, Ewe/lamb pair and Yearling Sheep
Season of Use:	6/1 to 9/15 cattle; 8/22 to 9/10 sheep
Expiration Date:	12/31/95 (cattle only)
Management System:	5 unit, modified deferred-rotation (cattle). Open herded rotation (sheep)
Existing Improvements:	4.75 miles fence, 4 water developments, 0.5 miles of pipeline
Historically AUMs have:	Data available but cannot be graphed
Total Acres:	21,359 (Figure 2)
Suitable Acres:	15,913 (Figure 2)

Watershed: Through cumulative effects analysis, watersheds C09 and C08 are not currently identified as watersheds of concern (Appendix B).

Riparian: There are 159 acres of riparian within the suitable range. In general, the riparian is meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the Bennett, Line and Deep Creek drainages contain primarily rainbow trout and eastern brook trout with the possibility of some Yellowstone cutthroat trout in decreasing order of dominance.

Vegetation: The dominant suitable range vegetation type and condition on these allotments is grassland and alpine/grassland with a minor component of conifer with forage and riparian (Figures 4 and 5). Vegetation is influenced by mountainous landscapes between 5000 and 10,000 feet above sea level. Annual precipitation varies from 10 inches at the lower elevations to 20 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in these allotments is meeting and/or moving towards desired condition because of a modified deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Adjoining private lands, including the permittees, are providing some supplemental forage for wildlife that use these allotments.

Crucial Winter Range: This allotment complex does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue for this analysis.

Endangered, Threatened, and Sensitive Species: Addressed in biological assessments/evaluations at the Forest or larger geographic area. (Appendix F). This allotment complex is outside the grizzly bear recovery zone. A modification in the area grazed by domestic sheep in the Beartooth Mountains was made in 1993 to resolve grizzly bear/sheep conflicts. That decision resulted in moving sheep grazing onto the Little Rock and Deep Creek allotments.

Heritage Resources: There are six prehistoric sites recorded within the allotment. Five of these are unevaluated. One has been determined eligible to the NRHP.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

This alternative is required by NEPA. There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, two grazing permit(s) would be issued for a 10 year term that authorizes the grazing of 200 cow/calf pairs and 6 horses from 6/1 to 9/15 (968 AUMs). The permit to allow sheep grazing will be modified to reflect the changes as a result of this analysis and will occur as follows: 800 ewe/lamb pair for 19 days on even years (152 AUMs) or 800 ewe/lamb pair and 800 yearling sheep for 19 days on odd years (254 AUMs). This results in a total of 1120 AUMs of use in even years and a total of 1212 AUMs of use in odd years. Cattle will continue to be managed under a 5-pasture, modified deferred-rotation grazing system and the sheep will continue to be managed under an open herded rotation system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is a possibility that the permittees may go out of the livestock business. This could lead to development of private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 1212 AUMs or 1120 AUMs (depending on the year) of forage currently allocated for domestic livestock would be available for use by wildlife. Since the allotment does not contain crucial winter range for elk, bighorn sheep, or moose, any potential benefits to these species would occur in non crucial areas and during non crucial time periods. The allotment does contain some crucial winter range for mountain goats and mule deer, but competition with livestock for forage for these species has not been identified as a significant issue. This alternative would eliminate any possibility for forage competition of livestock with any big game wildlife species.

Endangered, Threatened, and Sensitive Species: Potential effects of grazing by domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will help maintain or achieve desired condition and reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of appropriate mitigation measures in Appendix G and the current intensive livestock grazing systems would reduce the potential impacts from livestock and wildlife on vegetation below the level of significance. Vegetation will continue to move toward desired conditions if ungulate numbers are kept within carrying capacity.

Crucial Winter Range: Under this alternative the 1212 AUMs or 1120 AUMs (depending on the year) of forage consumed by domestic livestock would remain unavailable for use by wildlife. However, as previously stated, no significant forage competition problems between livestock and wildlife have been identified, and the condition and trend of vegetation on this allotment, including the important riparian areas, is moving toward desired conditions. The proposed amount of forage use by domestic livestock is within the allocation projected by the analysis for the Forest Plan.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

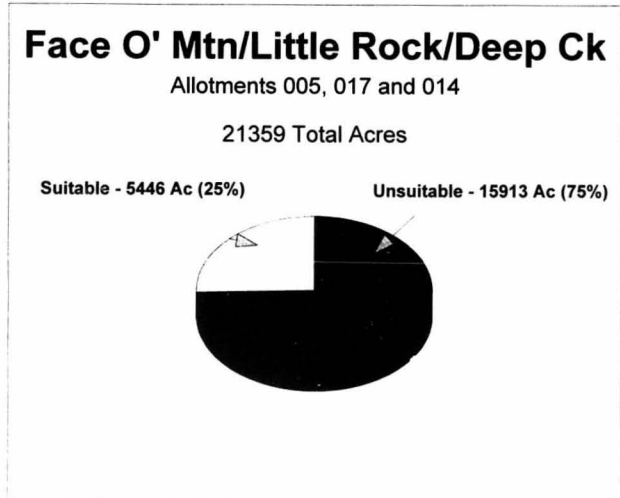
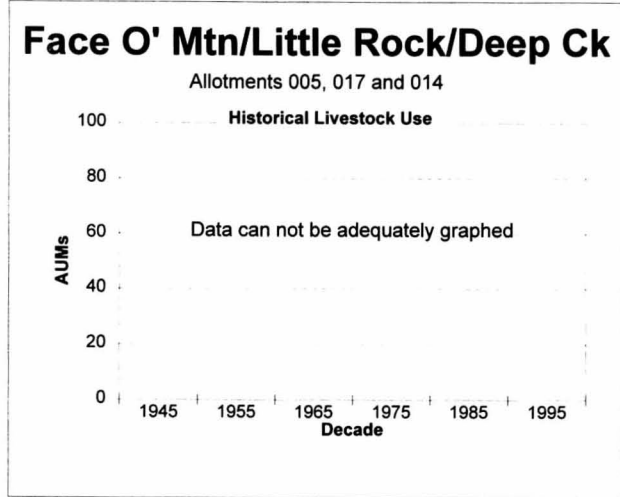
Heritage Resources: It is not known if or to what extent known sites are being impacted by grazing activities.

Native American Cultures: No potential conflicts would occur.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

54



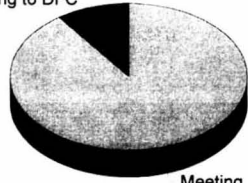
Figures 1 & 2

55

Face O' Mtn/Little Rock/Deep Ck

Riparian Suitable Range Condition

(10%) Moving to DFC

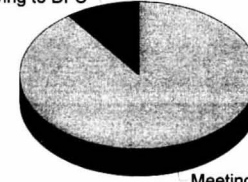


Meeting DFC (90%)

Face O' Mtn/Little Rock/Deep Ck

Upland Suitable Range Condition

(10%) Moving to DFC

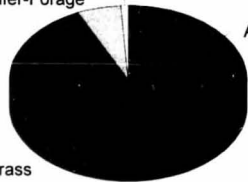


Meeting DFC (90%)

Face O' Mtn/Little Rock/Deep Ck

Vegetation Ecological Types

(1%) Riparian
(6%) Conifer-Forage



Alpine-Grass (30%)

Sagebr-Gr/Grass
(63%)

LAKE CREEK ALLOTMENT (007)

Affected Environment

Permit Information: This allotment is located in the Clarks Fork River drainage of the Clarks Fork Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	2
Number of Livestock:	345
Kind and Class of Livestock:	Cattle, Cow/calf, Horses
Season of Use:	6/21 to 10/31
Expiration Date:	12/31/95
Management System:	5-pasture, deferred-rotation
Existing Improvements:	4.75 miles fence
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	23,572 (Figure 2)
Suitable Acres:	13,116 (Figure 2)

Watershed: Through watershed cumulative effects analysis, watersheds C02 and C03 were not identified as watersheds of concern. Watershed C29 was identified as a watershed of concern primarily due to past logging related activities, domestic livestock grazing and wildfire.

Riparian: There are 918 acres of riparian within the suitable range. In general, all the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. The Clarks Fork River drainage and lakes were originally barrier of fish. Currently, this portion of the river and its tributaries primarily contain Yellowstone cutthroat, rainbow, their hybrids and eastern brook trout in decreasing order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by a granitic mountain landscape between 7500 and 8500 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past reductions in livestock use on the allotment and because of a deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Adjoining private lands, including the permittees, are providing some supplemental forage for wildlife that use this allotment and open green space.

Crucial Winter Range: This allotment contains crucial winter range for elk, bighorn sheep, and moose. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is within the grizzly bear recovery zone.

Heritage Resources: There are two historic cultural resource sites in the allotment. The Cody-Sunlight-Cooke City Wagon Road was determined eligible to the NRHP. The second site is an unevaluated lodge on private land.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, two grazing permit(s) will be issued for a 10 year term that authorizes the grazing of 315 cow/calf pair and 30 horses from 6/21 to 10/31 (1821 AUM's). Livestock will continue to be managed under a 5-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects from livestock grazing other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 1,821 AUM's of forage currently allocated for domestic livestock, including that occurring on crucial winter range could be available for use by wildlife. All of the suitable range acres that are also crucial winter range are winter range for moose and thus most of the area of potential forage competition would be in the riparian areas.

The effects of no livestock grazing on habitat conditions would depend on many other factors including plant succession and conifer encroachment in riparian areas, the rate of implementation of habitat improvement projects, natural and prescribed fire, and the success of agencies in balancing habitat capability with wildlife numbers. Currently the moose herd of which this population is a part is at objective levels.

This alternative would eliminate any potential for forage conflict between livestock and moose and the possibility of combined overuse on riparian shrubs, particularly willows, that occur along the drainages.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: There would be no potential for impacts to known sites.

Native American Cultures: There have been no concerns identified at this time.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (Including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 1,821 AUM's of forage consumed by livestock, including that consumed on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide more than the proposed amount of forage for livestock and still maintain adequate reserves for wintering wildlife and plant health. This assumed appropriate mitigating measures would be implemented. The current condition and trend of the allotment appears to validate that at least the proposed amount of use for domestic livestock is compatible with needs by wildlife. The moose herd which depends in part on winter habitat in the suitable range of this allotment is estimated to be at the population objective thus contributing to the favorable conditions.

In order for the effects of domestic livestock grazing on crucial winter range to remain within acceptable limits, the measures in Appendix G need to be implemented. More emphasis is needed on monitoring utilization by livestock as well as wildlife.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

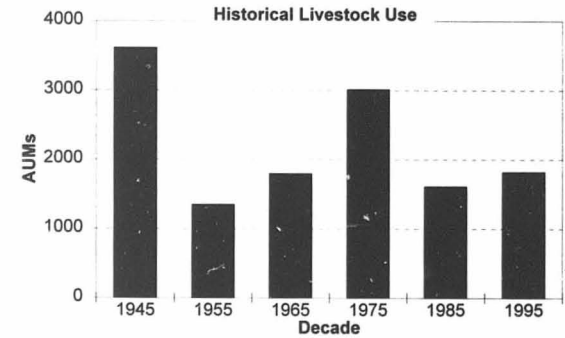
Heritage Resources: The two historic cultural resource sites are not being impacted by grazing operations.

Native American Cultures: There have been no concerns identified at this time.

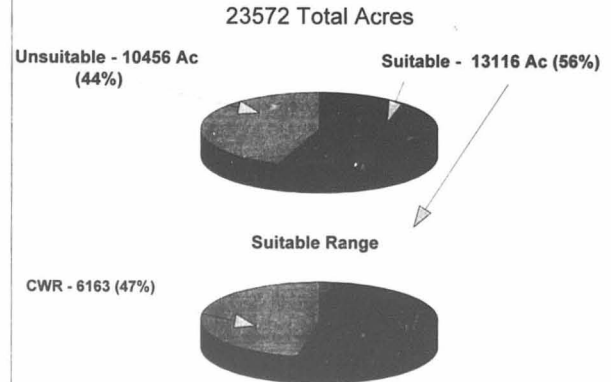
Cumulative Effects

Cumulative effects is discussed in Chapter II.

Lake Creek Allotment



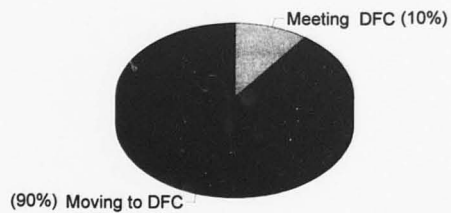
Lake Creek Allotment



Figures 1 & 2

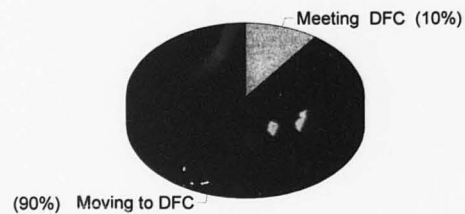
Lake Creek Suitable Range

Riparian Range Condition



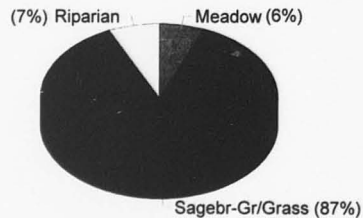
Lake Creek Suitable Range

Upland Range Condition



Lake Creek Allotment

Vegetation Ecological Types



LITTLE ROCK ALLOTMENT (008)

Affected Environment

Permit Information: This allotment is located in the Little Rock Creek drainage of the Clarks Fork Ranger District on the Shoshone National Forest (Figure I-A)

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	35
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	5/16 to 10/31
Expiration Date:	12/31/95
Management System:	5-pasture, deferred-rotation
Existing Improvements:	8.9 miles fence, 8 water developments
Historically AUM's have:	Remained Stable (Figure 1)
Total Acres:	4,878 (Figure 2)
Suitable Acres:	2,768 (Figure 2)

Watershed: The cumulative effects analysis did not identify this watershed (C08) as a watershed of concern (Appendix B).

Riparian: There are about 55 acres of riparian within the suitable range. In general, the riparian is moving towards or meeting desired condition. (Figure 3)

Fisheries: Historically, this stream contained Yellowstone cutthroat trout. Currently, Little Rock Creek contains rainbow trout and eastern brook trout, in decreasing order of dominance.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass with a minor component of riparian (Figure 4 and 5). Vegetation is influenced by a granitic foothills landscape between 4500 and 6500 feet above sea level. Annual precipitation varies from 10 inches at the lower elevations to 16 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past reductions in livestock use on the allotment and because of a deferred management system that is providing for rest, vigor and reproduction for plant species. This is based on present livestock and wildlife numbers.

Adjoining private lands, including the permittees, are providing some supplemental forage for wildlife that use this allotment.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue for this analysis.

Endangered, Threatened, and Sensitive Species: These species are addressed in biological assessments/evaluations at the Forest or larger geographic area (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are two cultural resource sites recorded in the allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 35 cow/calf pair from 5/16 to 10/31 (260 AUM's). Livestock will continue to be managed under a 5-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forest level under the no action alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is also a possibility that the permittee may go out of the livestock business. This could lead to development of private lands which are providing forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 260 AUM's of forage currently allocated for domestic livestock would be available for use by wildlife. Since the allotment does not contain crucial winter range for elk, bighorn sheep, or moose any potential benefits to these species would occur during the non crucial period of time. Forage conflicts with livestock during such periods have not been identified. The allotment does contain some crucial winter range for mountain goats and mule deer. This alternative would eliminate any possibility for forage competition with these species, although there has been no determination that such competition exists.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock impacts would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (Including riparian and fisheries): Application of appropriate measures in Appendix G will help maintain or achieve desired condition and reduce potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions if ungulate numbers are kept within carrying capacity.

Crucial Winter Range: Under this alternative the estimated 260 AUM's of forage consumed by livestock would remain unavailable for use by wildlife. As previously noted, this allotment does not contain wildlife crucial winter range for species where forage competition with livestock has been identified as a concern. The condition and trend of vegetation, including the all important riparian areas, is toward desired conditions. The proposed amount of forage use by livestock is also within the allocation projected by the analysis for the Forest Plan.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are base on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

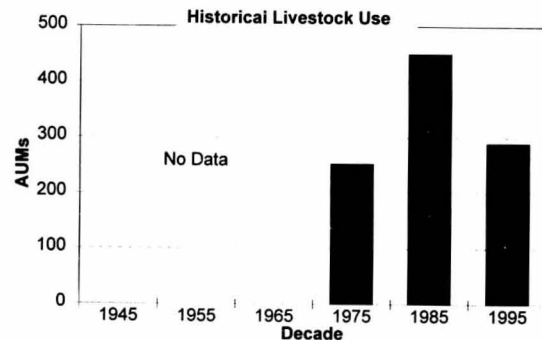
Heritage Resources: Potential for adverse impacts is very low as both sites are in locations that are not attractive to livestock. The physical character of the historic site further protects it.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Little Rock Ck Allotment 008

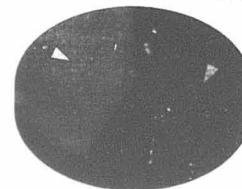


Little Rock Ck Allotment 008

4879 Total Acres

Unsuitable - 2111 Ac
(43%)

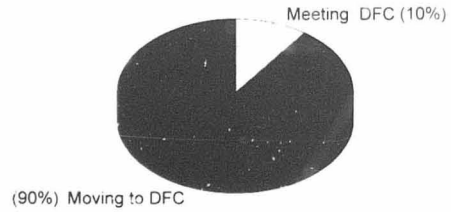
Suitable - 2768 Ac (57%)



Figures 1 & 2

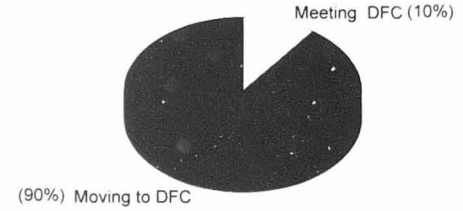
Little Rock Ck Suitable Range

Riparian Range Condition



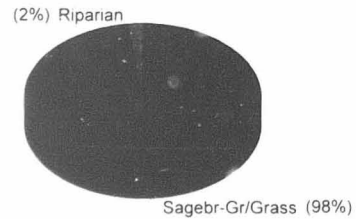
Little Rock Ck Suitable Range

Upland Range Condition



Little Rock Creek Allotment

Vegetation Ecological Types



DICK CREEK ALLOTMENT (041)

Affected Environment

Permit Information: This allotment is located in the Dick Creek drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	286
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/1 to 10/15
Expiration Date:	12/31/95
Management System:	4-pasture, modified deferred-rotation
System in effect since:	1980
Existing Improvements:	10.25 miles fence, 4 water developments
Historically AUMs have:	Decreased (Figure 1)
Total Acres:	10,815 (Figure 2)
Suitable Acres:	2,472 (Figure 2)

Watershed: Through cumulative effects analysis, watershed G11 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are 49 acres of riparian within the suitable range. In general, the riparian is meeting desired condition (Figure 3). About 20 acres of riparian has been fenced to help the area recover faster from past overuse and move towards desired condition. These enclosures are temporary (i.e. - once the desired condition is reached the fences will be removed).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the Dick Creek drainage contains Yellowstone cutthroat trout and eastern brook trout in decreasing order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush-grass and conifer-forage with a minor component of meadow, aspen and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape between 7000 and 8000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving toward or meeting desired condition because of past reductions in livestock use on the allotment and because of a modified deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. Certain riparian areas were not moving towards desired future condition as quickly as desired, so these areas have been fenced (temporarily) to accelerate recovery. This is based on present ungulate numbers.

Adjacent private lands, including the permittees, and the Sunshine Habitat Unit of the Wyoming Game and Fish Department are providing some supplemental forage for wildlife that use this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and moose. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There is one prehistoric cultural resource site recorded. It has been evaluated as not eligible to the National Register of Historic Places.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit would be issued for a 10 year term that authorizes the grazing of 286 cow/calf pair from 7/1 to 10/15 (1346 AUMs). Livestock would continue to be managed under a 4-pasture, modified deferred-rotation system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is also the possibility that the permittee could go out of business. This may lead to development of private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity of the available habitat.

Crucial Winter Range: The 1,346 AUMs of forage currently allocated for cattle use would be available for use by wildlife. Since a substantial part of the suitable livestock range is also crucial elk winter range (1,030 of 2,472 acres), a considerable amount of this forage would likely be available in the area of most concern for wildlife. However, there has been no determination that additional winter forage is needed to maintain current elk herd population objective numbers. The donation of the Sunshine Ranch to the Wyoming Game & Fish Department by the Mellon Foundation in 1993 also helped provide for the relative security of elk winter range in this area.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate with this alternative in comparison to others. However the effects of no livestock grazing on habitat conditions

would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: There would be no potential for conflicts.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance and help achieve desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The estimated 1,346 AUMs of forage consumed by the 286 cow/calf pair, including that consumed on crucial wildlife winter range, would continue to be unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide the above amount of forage for domestic livestock and still maintain adequate reserves for the needs of wintering wildlife and plant health. This assumed appropriate mitigating measures would be implemented. The existing trend and condition of rangelands on the allotment appears to validate the Forest Plan projections at least for the first decade. The elk and moose herds which depend in part on winter habitat in this allotment are also at or slightly below objective levels thus contributing to the existing favorable allotment conditions (Table II-1).

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures contained in Appendix G need to be implemented.

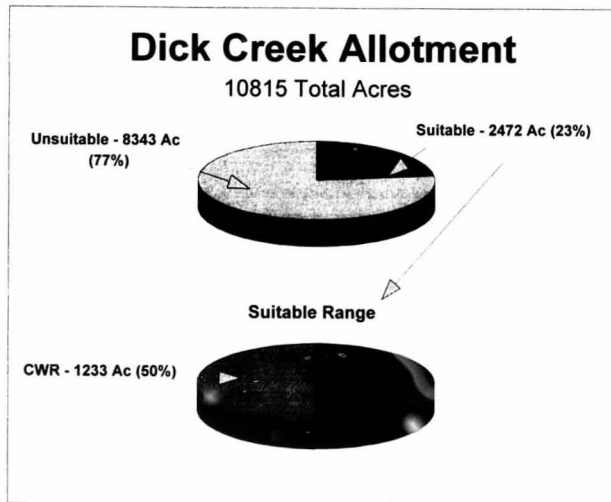
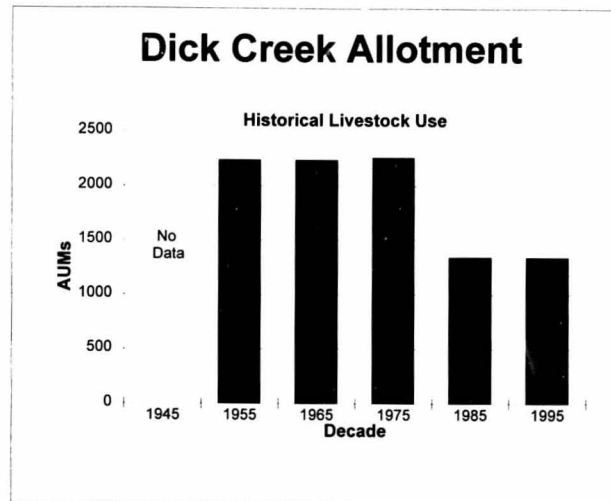
Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There have been no impacts observed to the site from grazing activities.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

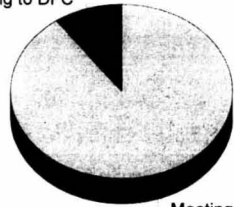
Cumulative effects is discussed in Chapter II.



Dick Creek Suitable Range

Riparian Range Condition

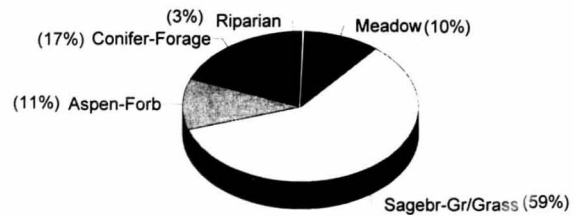
(10%) Moving to DFC



Meeting DFC (90%)

Dick Creek Allotment

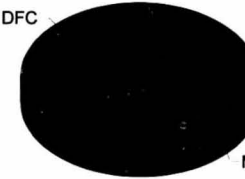
Vegetation Ecological Types



Dick Creek Suitable Range

Upland Range Condition

(25%) Moving to DFC



Meeting DFC (75%)

KIRWIN ALLOTMENT (045)

Affected Environment

Permit Information: This allotment is located in the Wood River drainage of the Greybull Ranger District on the Shoshone National Forest (Figure 1-A). This area was a part of the original forest reserve lands. Through mining claims filed in the early 1990's the land was patented. In 1993 the Conservation Fund purchased the land from the AMAX corporation and donated it to the Forest Service. The following facts pertain to this allotment:

Allotment Status:	Vacant since 1985
Permit(s) Type:	On-off
Number of Permittees:	1
Number of Livestock:	10 cow/calf and 70 yearlings
Kind of Livestock:	Cattle
Season of Use:	7/16 to 9/15
Expiration Date:	
Management System:	open season long
Existing Improvements:	none
Historical Use:	Decreased (Figure 1)
Total Acres:	15,285 (Figure 2)
Suitable Acres:	789 (Figure 2)

Watershed: Through cumulative effects analysis, watersheds G12 and G13 are not currently identified as watersheds of concern.

Riparian: There are 284 acres of riparian within the suitable range. In general, the riparian is meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the Wood River above Double D Meadow is barren of fish but has been identified by Kruse et al. (1995) as having the potential to support a cutthroat trout fishery.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka bottom (braided stream) landscape between 7000 and 9000 feet above sea level. Annual precipitation ranges between 20 and 30 inches, the majority of that occurring in the winter.

The vegetation in this allotment is meeting or moving towards desired condition because of past reductions in livestock use on the allotment. This has provided for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Crucial Winter Range: This allotment contains crucial winter range for bighorn sheep and moose. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: The Kirwin allotment contains the Kirwin townsite associated with mining activity in the late 19th and early 20th centuries. The allotment also contains the Double D Ranch,

a former dude ranch operation. Both of these have been determined eligible to the National Register of Historic Places. There is one ineligible historic site recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, public notice would be made that a vacant cattle allotment is available and applications will be accepted. A grazing permit would be issued for a 10 year term that authorizes the grazing of 10 cow/calf pair and 70 yearlings from 7/16 to 9/15 (128 AUM's). Livestock would be managed under a season long system. The area within the allotment associated with this alternative is from Double D Meadow to just below the town site of Kirwin.

Selection of this alternative would preclude the selection of Alternative C for the Wood River Allotment (051).

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, that portion of the Kirwin Allotment from JoJo Creek to Meadow Creek would be used as an early season unit of the Wood River Allotment (051). Specifically this use would be 76 cow/calf pair from 7/11 to 7/25 for 50 AUM's. Livestock grazing on the Wood River and Kirwin Allotments would consist of 76 cow/calf pair from 7/1 to 9/30 under a 5-pasture, modified deferred-rotation system. There would be a net reduction of 78 AUM's of livestock use on the Kirwin Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific livestock effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 128 AUM's of forage estimated to be consumed by cattle under Alternative B would remain available for use by wildlife. Since 248 acres of the 788 acre suitable range area is crucial winter range for either moose or bighorn sheep, a considerable amount of this forage would be available in the areas of most concern for wintering wildlife.

This alternative would continue to eliminate any potential for forage conflicts between livestock and wildlife. The important riparian habitat in this allotment would likely continue to remain in its current desired condition. However, the effects of no livestock grazing on habitat conditions would depend

on many factors including the success of agencies in balancing habitat conditions with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (Including riparian and fisheries): Season long grazing would have the potential for the most adverse impacts to the watershed, riparian, and potential fish habitat of the action alternatives. If a permit were issued the cattle will tend to spend most of their time in the riparian bottoms. Permit compliance and adherence to appropriate measures in Appendix G need to be implemented to insure that the current desired condition is maintained.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The estimated 128 AUM's of forage consumed by livestock, including that consumed on crucial wildlife winter range would become unavailable for use by wildlife. The proposed amount of use by livestock is within the amount determined allowable by the analysis for the Forest Plan while still maintaining adequate reserves for the needs of wintering wildlife and plant health.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There have been no adverse impacts to the Kirwin townsite or the the Double D Ranch site from grazing or associated activities. Effects to the ineligible historic site are unknown.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): Of the action alternatives, light spring grazing would have the least impact to the riparian areas and help reduce the duration and intensity of livestock use.

Vegetation: Application of the appropriate mitigation measures in Appendix G would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance and would provide for the best management of the riparian bottom. This alternative also reduces AUM's and precludes livestock grazing in the upper reaches of the Wood River drainage to livestock

grazing. Vegetation would continue to move toward desired conditions much faster than alternative B.

Crucial Winter Range: Under this alternative, only a small part of the allotment would be grazed as an additional early pasture with the Wood River Allotment (051). The forage consumed by livestock during the time they were in this pasture would become unavailable for use by wildlife. This includes forage on moose crucial winter range areas. However, leaving the pasture early would give time for summer regrowth on the important crucial winter range areas. The total forage available for wildlife consumption would be considerably more when compared with that available under Alternative B.

The proposed amount of use by livestock is within the allowable use projected by the Forest Plan while still maintaining adequate reserves for the needs of wildlife and plant health. Implementing the mitigation in Appendix G should help insure that adequate forage for wintering wildlife is maintained while providing some forage for the local livestock industry.

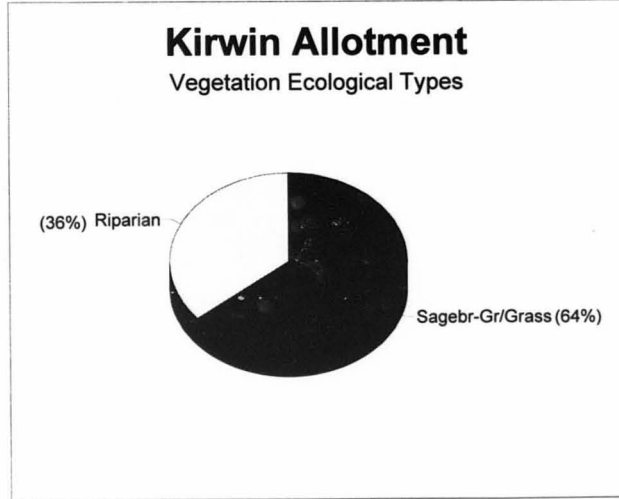
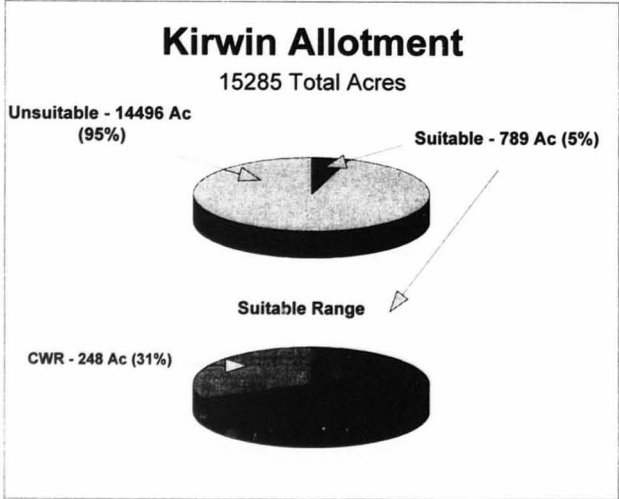
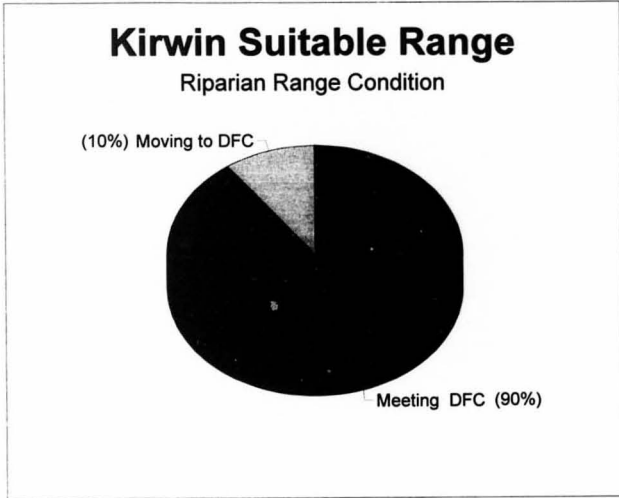
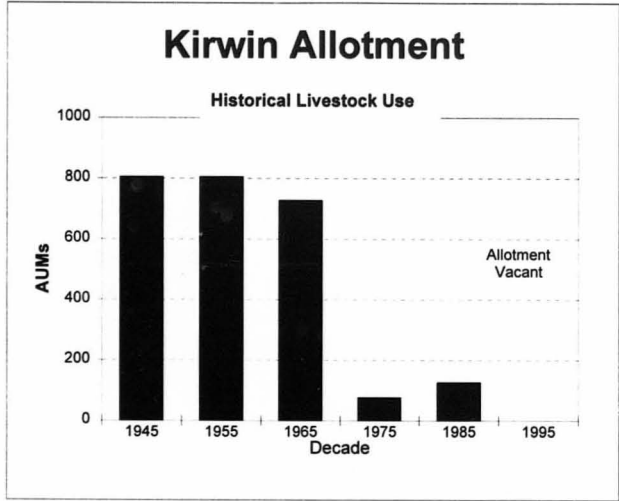
Endangered, Threatened and Sensitive Species: The effects of this alternative would be similar to Alternative B except that the risk for adverse effects on any such species would be even lower.

Heritage Resources: There would be no adverse impacts to the Kirwin townsite or the the Double D Ranch site from grazing or associated activities. Potential for effects to the ineligible historic would be less under this system.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.



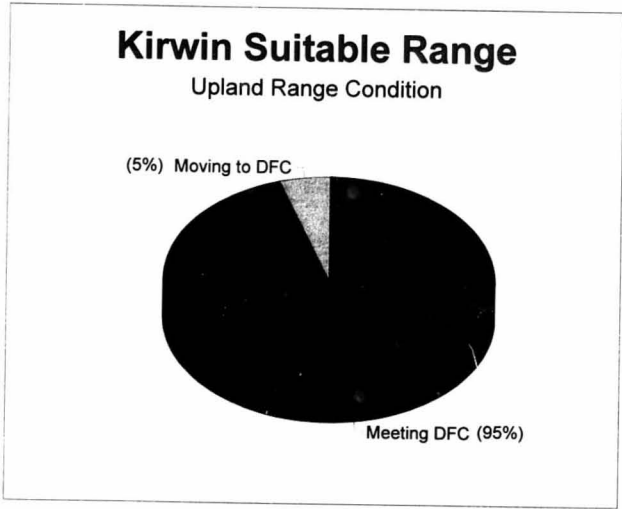


Figure 5
42

SUGARLOAF ALLOTMENT (049)

Affected Environment

Permit Information: This allotment is located in the Owl Creek drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term and Term Private Land
Number of Permittees:	1
Number of Livestock:	200
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/1 to 9/30
Expiration Date:	12/31/95
Management System:	4-pasture, modified deferred-rotation
Existing Improvements:	1.1 miles fence
Historically AUM's have:	Remained Stable (Figure 1)
Total Acres:	10,422 (Figure 2)
Suitable Acres:	1,657 (Figure 2)

Watershed: Through cumulative effects analysis, watershed G20 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are 17 acres of riparian within the suitable range. The majority of the riparian is moving towards or meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the South Fork of Owl Creek does not contain suitable fish habitat.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass with a minor component of conifer with forage, aspen, meadow and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka foothill landscape between 7000 and 9000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of some past reductions in livestock use on the allotment and because of a modified deferred-rotation system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on the species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, two grazing permits (FS & private land) will be issued for a 10 year term that authorizes the grazing of 200 cow/calf pair from 7/1 to 9/30 (810 AUM's). Livestock will continue to be managed under a 4-pasture, modified deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, 2 of the 3 units of the vacant East Fork allotment would be entered into the management rotation of the Sugarloaf allotment (4 units). Use on the East Fork allotment would consist of 200 cow/calf pair rotating through 2 units from 8/1 to 8/20 for 176 AUMs. Grazing on the East Fork/Sugarloaf allotments would consist of 200 cow/calf pair from 7/1 to 9/30 under a 6-pasture, modified deferred-rotation grazing system (810 AUM's). This alternative would result in the reduction of 176 AUMs of livestock use on the Sugarloaf allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 648 AUM's (this figure is less the capacity of the associated private land) of forage estimated to be consumed by livestock in Alternative B would be available for use by wildlife. However, since the allotment does not contain crucial winter range for elk, bighorn sheep, or moose, in suitable livestock range, any benefits to these species would occur in non crucial winter range areas.

This alternative would eliminate any potential for livestock/wildlife forage conflicts.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance. Under this alternative, rangelands will continue to slowly move towards desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance, however the vegetation would continue to move toward desired conditions, but at a slower pace than other alternatives.

Crucial Winter Range: Under this alternative the estimated 810 AUM's of forage consumed by livestock would remain unavailable for use by wildlife. However, as previously noted, no significant forage competition problems between livestock and wildlife have been identified, and the allotment does not contain crucial winter range in suitable range. The proposed amount of forage use by livestock is above the amount projected for such use by the analysis for the Forest Plan. However, range improvements or other site specific factors subsequent to the Plan analysis led to consideration for a higher rate of use. Since bighorn sheep are being proposed for reintroduction by the Wyoming Game and Fish Department into former ranges in this area, it is desirable to continue utilization monitoring to assure moving toward desired allotment conditions.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): An increased number of units with the same number of cattle as currently grazing on the Sugarloaf allotment would reduce the intensity and duration of livestock use and help reach desired condition sooner than under Alternative B. Applicable mitigation measures in Appendix G would insure that the Sugarloaf allotment moves toward desired condition.

Vegetation: Application of the appropriate mitigation measures in Appendix G, a reduction of 176 AUM's and creating a 6-pasture system would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. This would result in vegetation moving toward desired conditions much faster than Alternative B.

Crucial Winter Range/Endangered Threatened and Sensitive Species: The effects of this Alternative on these issues would be similar to those described under Alternative C for the East Fork Allotment. Crucial Winter Range is not an issue on this allotment, however reducing the intensity and duration of livestock grazing would facilitate reaching desired habitat conditions faster than Alternative B.

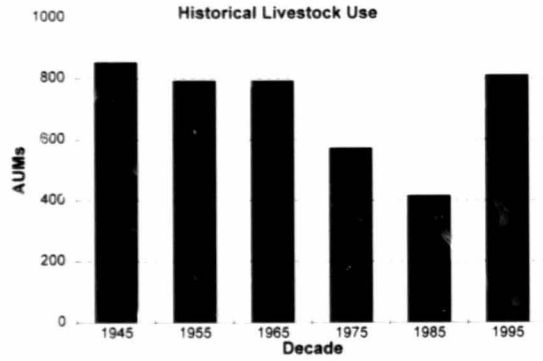
Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

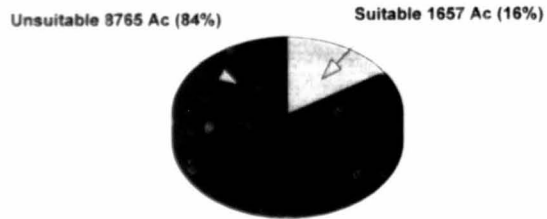
Cumulative effects is discussed in Chapter II.

Sugarloaf Allotment



Sugarloaf Allotment

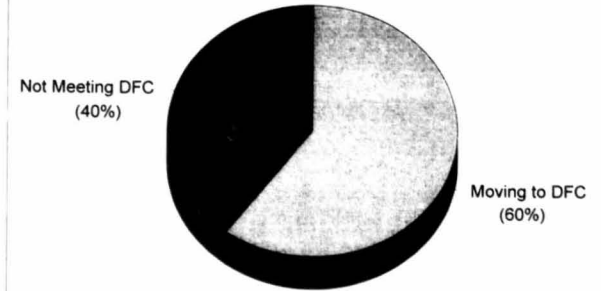
10422 Total Acres



Figures 1 & 2

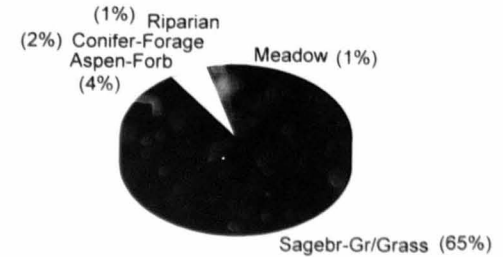
Sugarloaf Suitable Range

Riparian Range Condition



Sugarloaf Allotment

Vegetation Ecological Types



Figures 3 & 4

Sugarloaf Suitable Range

Upland Range Condition

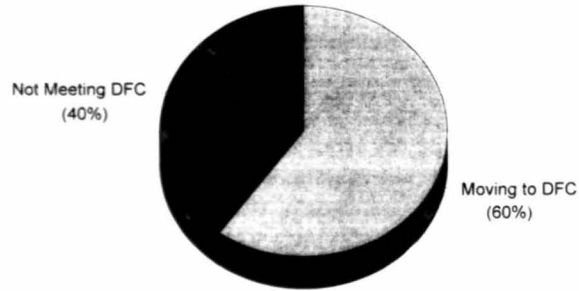


Figure 5

51

TIMBER CREEK ALLOTMENT (050)

Affected Environment

Permit Information: This allotment is located in the Timber Creek drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	2
Number of Livestock:	102
Kind and Class of Livestock:	Cattle, Cow/calf and Yearling
Season of Use:	7/1 to 9/30
Expiration Date:	12/31/95
Management System:	4-pasture, modified deferred-rotation
System in effect since:	1980
Existing Improvements:	6.5 miles fence, 3 water developments
Historically AUM's have:	remained stable (Figure 1)
Total Acres:	6,517 (Figure 2)
Suitable Acres:	1,179 (Figure 2)

Watershed: Based on the cumulative effects analysis, watershed G10 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are about 24 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Timber Creek is the only tributary on the allotment that contains game fish. Yellowstone cutthroat are found in the very lowest reach near the Forest boundary.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with forage (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape between 7000 and 9500 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of a modified deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Nearby private and State lands and the Wyoming Game and Fish Habitat Unit are providing some supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and moose. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

52

Heritage Resources: There are three cultural resource sites within this allotment. Two have been determined not eligible to the National Register of Historic Places. The third site is eligible.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, two grazing permits will be issued for 10 year terms that authorizes the grazing of a total of 62 cow/calf pair and 40 yearlings from 7/1 to 9/30 under a 4-pasture modified deferred-rotation system (337 AUM's).

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Francs Fork and West Timber Creek units of the Francs Peak/Yellowsteer Allotment would be included in and used as units of the Timber Creek Allotment (62 c/c and 40 yearlings for 15 days, 55 AUM's). Livestock grazing would consist of 62 cow/calf pair and 40 yearlings from 7/1 to 9/30 and managed under a 5-pasture, modified deferred-rotation system. There would be a net reduction of 55 AUM's of livestock use on the Timber Creek Allotment.

Environmental Consequences

Alternative A - No livestock grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is also a possibility that the permittee may go out of business. This could lead to development of private lands which are providing forage for wildlife and open space.

Crucial Winter Range: The 337 AUM'S of forage currently allocated for cattle use would be available for use by wildlife. Over two-thirds of the suitable livestock range (708 of 983 acres) is also crucial elk winter range and thus a considerable amount of this forage could be available in an area of most concern for wildlife. However, there has been no determination that additional winter forage is needed to maintain current objective numbers of elk or that the availability of additional winter forage would result in increased numbers of elk. As previously discussed under the Dick Creek and Sunshine allotments, donation of the Sunshine Ranch for winter range purposes in this area helped provide a large measure of elk winter range habitat.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions could improve at a faster rate with no livestock grazing, however the indirect effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (Including riparian and fisheries): Currently, most of the riparian is moving towards desired condition. Application of appropriate measures in Appendix G will gradually move riparian towards desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: Under this alternative the estimated 337 AUM'S of forage consumed by the 62 cow/calf pair and 40 yearlings, including that consumed on crucial wildlife winter range would remain unavailable for use by wildlife.

The analysis for the Forest Plan determined that this allotment could provide this amount of forage for domestic livestock and still maintain adequate reserves for the needs of wintering wildlife and plant health. The current condition and trend of the allotment appears to validate the Forest Plan projection. The elk herd which depends in part on winter habitat in this allotment is also at or slightly below the objective level thus contributing to the existing favorable allotment habitat conditions.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the mitigating measures contained in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: The three sites are not presently sustaining adverse impacts under this system.

Native American Cultures: No concerns have been identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): A 5-pasture system with implementation of mitigation measures contained in Appendix G would help alleviate some of the cattle grazing pressure on riparian areas in the Timber Creek allotment and help attain desired condition sooner than Alternative B.

Vegetation: Application of the appropriate mitigation measures in Appendix G and 55 fewer AUM's of livestock use (additional units from Yellowsteer) would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will move toward desired conditions faster than under Alternative B.

Crucial Winter Range: The effects of this alternative on wildlife concerns would be similar to those described for Alternative B above except that livestock grazing intensity on winter range areas in the Timber Creek allotment would be slightly less. In addition, forage consumed by livestock in the Francs Fork and West Timber Creek units of the Francs Peak/Yellowsteer allotment would become unavailable for use by wildlife. Although this additional unit does contain some crucial wildlife winter range, this level of use would still be compatible with management objectives for wildlife and associated habitat.

Endangered, Threatened and Sensitive Species: The effects would be the same as for Alternative B described above (Appendix F and G).

Heritage Resources: Potential for damage to known sites would be further reduced by decrease in the time period livestock are present. Potential impacts to undiscovered sites would be reduced as well.

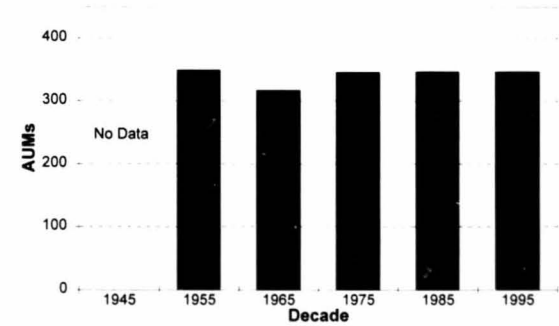
Native American Cultures: No concerns have been identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Timber Creek Allotment

Historical Livestock Use



Timber Creek Allotment

6517 Total Acres

Unsuitable - 5338 Ac
(82%)

Suitable - 1179 Ac
(18%)



Suitable Range

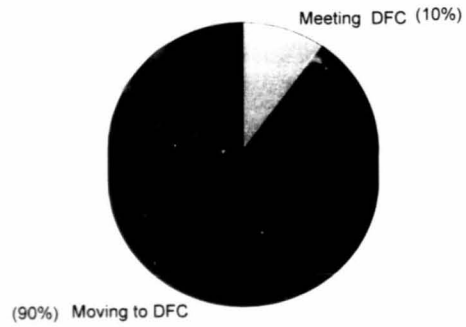
CWR - 708 Ac (60%)



Figures 1 & 2

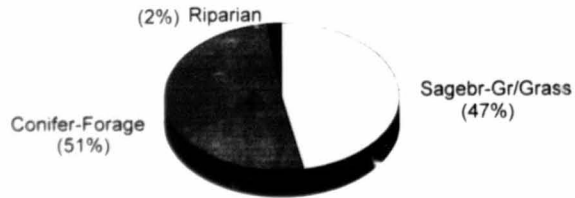
Timber Creek Suitable Range

Riparian Range Condition



Timber Creek Allotment

Vegetation Ecological Types



Figures 3 & 4

Timber Creek Suitable Range

Upland Range Condition

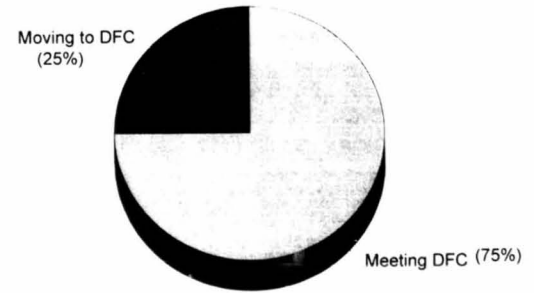


Figure 5

WOOD RIVER ALLOTMENT (051)

Affected Environment

Permit Information: This allotment is located in the Wood River drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permits:	1
Number of Livestock:	76
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/11 to 9/25
Expiration Date:	12/31/95
Management System:	4-pasture, modified deferred-rotation
System in effect since:	1985
Existing Improvements:	5.75 miles fence, 10 water developments
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	5,767 (Figure 2)
Suitable Acres:	1,071 (Figure 2)

Watershed: Through cumulative effects analysis, watershed G13 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are 182 acres of riparian within the suitable range. About 40 acres of riparian have been fenced and is managed as a special riparian unit for moose habitat. In general, the riparian is meeting the desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the Wood River drainage contains Yellowstone cutthroat and Snake River cutthroat trout within the allotment. It is barren upstream of Double D meadows but does contain suitable trout habitat for potential introduction.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with forage with a minor component of conifer with forage (Figures 4 and 5). Vegetation is influenced by a Absaroka foothill landscape between 7000 and 8000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of fenced riparian, past reductions in livestock use on the allotment and a deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Nearby private lands are providing supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for moose. Figure 2 shows the acres of crucial winter range occurring within suitable range for this wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There is one prehistoric cultural resource site recorded within this allotment that has not been evaluated.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 76 Cow/calf pair from 7/11 to 9/25 (257 AUM's). Livestock will continue to be managed under a 4-pasture, modified deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, that portion of the Kirwin Allotment from JoJo Creek to Meadow Creek would be used as a riparian unit with the Wood River Allotment (051). This use would be 76 cow/calf pair from 7/11 to 7/25 for an 50 AUM's. Livestock grazing on the Wood River and Kirwin Allotments would consist of 76 Cow/calf pair from 7/1 to 9/30 under a 5-pasture, modified deferred-rotation system for a total of 307 AUMs.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific livestock effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is also a possibility that the permittee may go out of business. This could lead to development of private lands which are providing some forage for wildlife and open space.

Crucial Winter Range: The 257 AUM's of forage currently allocated for cattle, including that occurring on crucial winter range would be available for use by wildlife. The 228 acres of suitable range that is also crucial winter range is winter range for moose and thus most of the area of potential forage competition is likely in the riparian area along the Wood River. Part of the area has been fenced to hasten moving to desired conditions. The competition for forage between livestock and wildlife on this winter range may be minimal given that some riparian areas have been fenced, the existing trend and condition of allotment rangelands is good, and current forage utilization levels by livestock and moose are within acceptable limits.

This alternative would eliminate any potential for forage conflicts between livestock and moose and the possibility of combined overuse on riparian shrubs, particularly willows, that occur along the drainage.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: There would be no potential for impacts to known cultural resource sites.

Native American Cultures: There would be no potential conflicts.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Permit compliance and implementation of measures in Appendix G will insure that cattle grazing impacts will be kept within acceptable limits. Riparian conditions will move more slowly towards desired condition in the Wood River allotment than under Alternative C.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 257 AUM's of forage consumed by livestock, including that consumed on wildlife winter range would remain unavailable for use by wildlife. However, as indicated under Alternative A, the potential forage conflict is relatively small provided that livestock are moved before they graze the riparian shrub communities that lie outside the riparian enclosure.

A determination was made during the analysis for the Forest Plan that this allotment could provide the above amount of forage for domestic livestock and still maintain adequate reserves for the needs of wintering moose and and plant health. This assumed implementation of appropriate mitigating measures. The current condition and trend of rangelands in this allotment appears to validate the Forest Plan projection. The moose herd which depends in part on winter habitat in this allotment is slightly below the population objective thus contributing to the existing favorable habitat conditions.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: Impacts to the site are not known at this time but it is possible that grazing or location of improvements could result in direct and/or indirect impacts.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): Of the action alternatives, light spring grazing would have the least impact to the riparian areas and help reduce the duration and intensity of livestock use on the Wood River allotment.

Vegetation: Application of the appropriate mitigation measures in Appendix G, along with the additional spring pasture from the Kirwin allotment would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance.

Crucial Winter Range: The estimated 257 AUM's of forage consumed by livestock, including that consumed on wildlife winter range would not be available for wildlife use. The portion of the Kirwin allotment included in this alternative also contains crucial moose winter range and thus the potential effects on wildlife from grazing by livestock would be similar to that described in Alternative B.

Endangered Threatened and Sensitive Species: The effects of this alternative would be similar to those described for Alternative B above.

Heritage Resources: Potential for adverse impacts would probably be less as this alternative would expand grazing area and reduce presence in the vicinity of the site.

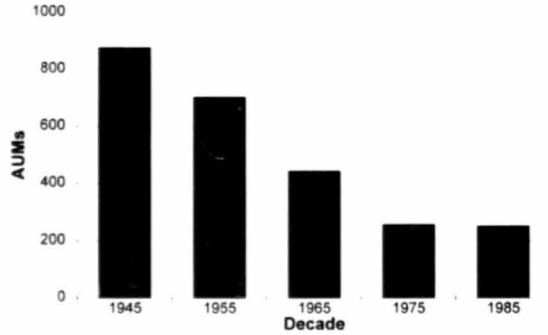
Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Wood River Allotment

Historical Livestock Use



Wood River Allotment

5767 Total Acres

Unsuitable - 4696 Ac (81%) Suitable - 1071 Ac (19%)



Suitable Range

CWR - 228 Ac (21%)



Figures 1 & 2

Wood River Suitable Range

Riparian Range Condition

(5%) Moving to DFC



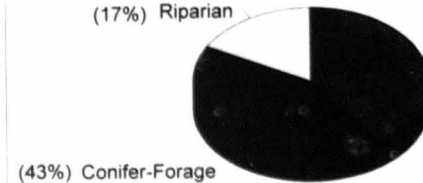
Meeting DFC (95%)

Wood River Allotment

Vegetation Ecological Types

(17%) Riparian

Sagebr-Gr/Grass
(40%)



(43%) Conifer-Forage

Figures 3 & 4

Wood River Suitable Range

Upland Range Condition

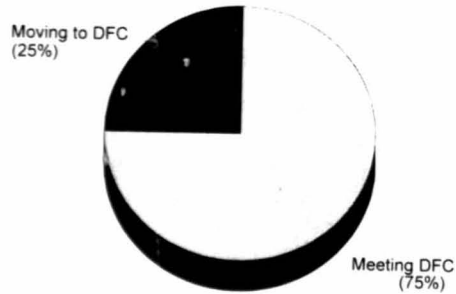


Figure 5

CARTER MOUNTAIN/MEETEETSE CREEK ALLOTMENTS (054/061)

Affected Environment

Permit Information: These allotments are located in the Meeteetse Creek drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to these allotments:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permits:	1
Number of Livestock:	2400
Kind and Class of Livestock:	Sheep, Ewe/lamb
Season of Use:	7/11 to 9/10
Expiration Date:	12/31/95
Management System:	Open Herded
System in effect since:	1975
Existing Improvements:	8 miles fence, 8 water developments
Historically AUMs have:	Remained Stable (Figure 1)
Total Acres:	7,037 (Figure 2)
Suitable Acres:	3,972 (Figure 2)

Watershed: Through cumulative effects analysis, watershed G01 is not currently identified as a watershed of concern.

Riparian: There are about 63 acres of riparian within the suitable range. In general, the riparian is moving towards or meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Meeteetse Creek contains brook trout in the upper reaches and Yellowstone cutthroat trout at the lower end near the Forest boundary.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is alpine/grass with a minor component of meadow and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka landscape between 7500 and 10500 feet above sea level. Annual precipitation varies from 15 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

Currently the vegetation is moving toward desired condition because of proper use through a deferred management system that is providing adequate rest, vigor and reproduction for plant species.

Crucial Winter Range: The Carter Mountain allotment contains crucial winter range for elk and bighorn sheep and the Meeteetse Creek allotment contains crucial winter range for bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species on these allotments.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). These allotments are outside the grizzly bear recovery zone. However, conflicts with bears have occurred in the recent past.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been some concerns raised in the past concerning accessibility for traditional ceremonies and presence of traditional plants.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 2400 Ewe/lamb pair from 7/11 to 9/10 (1488 AUMs). Livestock will continue to be managed under an open herded grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, livestock use would be converted from sheep to cattle and stocked with 200 cow/calf pair (264 AUMs). Livestock would be managed under a coordinated resource management system with adjacent Bureau of Land Management and private lands. The stocking rate is based on the availability, condition and production of the suitable cattle range. This alternative would result in the reduction of 1224 AUMs of livestock use.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

There is also a possibility that the permittee could go out of business. This may lead to development of private lands which are providing some forage for wildlife and open green space. This could displace wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 1,488 AUMs of forage currently allocated for domestic sheep, including that occurring on crucial winter range would be available for use by wildlife. The primary wildlife species that could benefit from this action is bighorn sheep since 1,441 acres of the 1,693 acres of suitable range is also crucial winter range for this species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate with this

alternative in comparison to other alternatives. However the ultimate effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Disease Risk: This alternative would eliminate any potential for spreading diseases between domestic sheep and wild sheep.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will insure the allotment continues to move towards desired condition. Of the action alternatives, this one would minimize potential impacts to riparian the most.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The estimated 1,488 AUMs of forage consumed by the domestic sheep, including that consumed on crucial wildlife winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that these allotments could provide the above amount of forage for domestic sheep and still maintain adequate reserves for the needs of wintering wildlife and plant health. This assumes appropriate mitigating measures would be implemented. The overall trend and condition of the allotment currently appears to validate Forest Plan tentative use allocations. The bighorn sheep herd which depends in part on winter habitat in this allotment is also estimated to be near objective levels thus contributing to the existing favorable conditions.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: Conflicts between grizzly bears and sheep have occurred in the recent past. A determination has been made that the proposed type and amount of sheep grazing either will not affect any endangered or threatened species, or may effect but is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Disease Risk: Although there is some potential for the transmission of disease from domestic to wild sheep with this proposal, the existing seasonal use patterns of wild and domestic sheep minimizes this concern.

Heritage Resources: There are no cultural resource sites recorded within these allotments.

Native American Cultures: There have been concerns raised in the past concerning accessibility for traditional ceremonies and presence of traditional plants.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative has the potential for increased impacts on riparian areas since cattle tend to use these areas more heavily than sheep. Application of appropriate mitigation measures in Appendix G would insure the allotment attains desired condition and potential impacts are mitigated below the level of significance.

Vegetation: The reduction of 1224 AUM's of livestock use and the application of the appropriate mitigation measures in Appendix G would reduce potential impacts from livestock grazing on vegetation below the level of significance. However, with cattle grazing, impacts to upland range lands would be reduced. This would result in moving towards desired condition faster than alternative B.

Crucial Winter Range: The estimated 264 AUMs of forage consumed by cattle, including any consumed on crucial winter range would become unavailable for use by wildlife. Crucial winter range areas for elk that also occur in riparian areas would likely receive higher utilization because of the tendency of cattle to concentrate in these areas. Removing domestic sheep would result in the availability of an additional 1224 AUM's of forage being left for bighorn sheep.

Disease Risk: This alternative would eliminate any concern for the transmission of diseases from domestic to wild sheep.

Endangered Threatened and Sensitive Species: Converting to sheep from cattle will significantly reduce the potential for grizzly/livestock conflicts. A determination has been made that the proposed type and amount of grazing either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

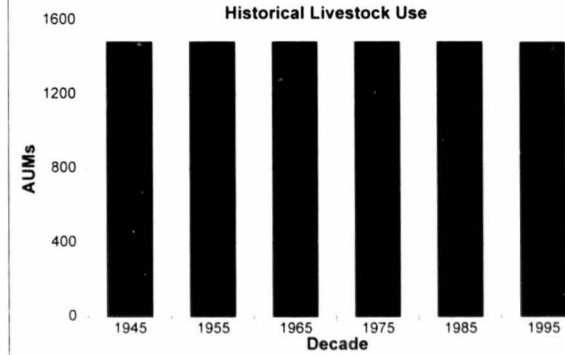
Heritage Resources: There are no cultural resource sites recorded within these allotments.

Native American Cultures: There have been some concerns raised in the past concerning accessibility for traditional ceremonies and presence of traditional plants.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Carter Mtn/Meeteetse



Carter Mtn/Meeteetse

7037 Total Acres

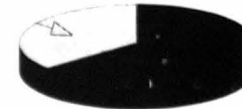
Unsuitable - 3065 Ac (44%)

Suitable - 3972 Ac (56%)



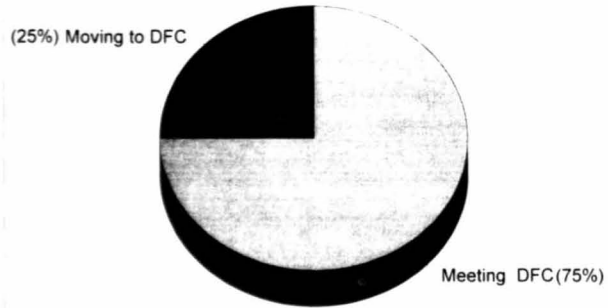
Suitable Range

CWR - 1441 Ac (36%)



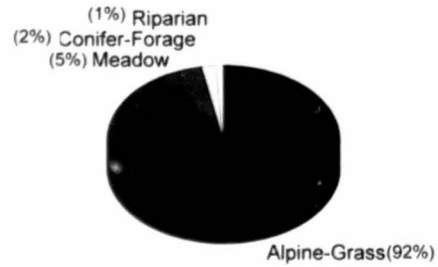
Carter Mtn/Meeteetse

Riparian Suitable Range Condition



Carter Mtn/Meeteetse

Vegetation Ecological Types



Figures 3 & 4

Carter Mtn/Meeteetse

Upland Suitable Range Condition

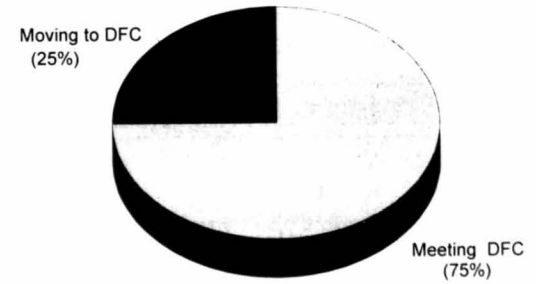


Figure 5

EAST FORK ALLOTMENT (057)

Affected Environment

Permit Information: This allotment is located in the South Fork of the Wood River drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Vacant
Permit(s) Type:	Sheep
Number of Permittees:	1
Number of Livestock:	1200
Kind and Class of Livestock:	Sheep, ewe/lamb
Season of Use:	7/16 to 9/5
Expiration Date:	
Management System:	3-pasture, modified deferred-rotation
Existing Improvements:	none
Historically AUMs have:	Decreased (Figure 1)
Total Acres:	11,095 (Figure 2)
Suitable Acres:	2,452 (Figure 2)

Watershed: The cumulative effects analysis did not identify watersheds G15 and G16 as watersheds of concern (Appendix B).

Riparian: There are 49 acres of riparian within the suitable range. The majority of the riparian is currently meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the upper South Fork Wood River does not contain fish due to an impassable falls although there is potential Yellowstone cutthroat trout habitat upstream in the mainstem South Fork.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is alpine-grass with a minor component of sagebrush-grass and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka mountain landscape between 8500 and 10,000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is meeting or moving towards desired condition because of past reductions in sheep use on the allotment and because the allotment has been in vacant status since the early eighties. This has provided rest, vigor and reproduction for plant species.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, public notice would be made that a vacant sheep allotment is available and applications would be accepted. A grazing permit would be issued for a 10 year term that authorizes the grazing of 1200 ewe/lamb pair from 7/16 to 9/5 (624 AUMs). Livestock would be managed under a 3-pasture, modified deferred-rotation system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, 2 of the 3 units of the vacant East Fork allotment would be entered into the management rotation of the Sugarloaf allotment (4 units). Use on the East Fork Allotment would consist of 200 cow/calf pair rotating through 2 units from 8/1 to 8/20 for 176 AUMs. Stocking on the East Fork and Sugarloaf allotments would consist of 200 cow/calf pair from 7/1 to 9/30 under a 6-pasture, modified deferred-rotation grazing system (810 AUMs). This alternative would result in the reduction of 448 AUMs of livestock use on the East Fork Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 624 AUMs of forage estimated to be available for domestic sheep in Alternative B would continue to be available for use by wildlife. However, since the allotment does not contain crucial winter range for elk, bighorn sheep, or moose within suitable range, any benefits to these species would occur in non crucial winter range areas.

This alternative would eliminate a potential for livestock/wildlife forage conflicts.

Disease Risk: This alternative would eliminate any potential for spreading diseases between domestic sheep and bighorn sheep.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from sheep grazing below the level of significance and continue to move the allotment toward desired condition. Riparian areas will remain at desired condition due to how sheep graze. However, this would not help resource concerns on the Sugarloaf allotment.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 624 AUMs of forage estimated to be used by domestic sheep would be unavailable for wildlife. However, as no crucial winter range for species at issue occurs in the area, only forage on other wildlife seasonal ranges would be affected and these were not identified as significant issues for this analysis.

Disease Risk: Of greater concern than forage competition on this allotment is the potential for the spreading of *Pasteurella* bacteria and other disease agents from domestic to wild sheep. Under this alternative the potential would be relatively high as suitable range would occur in seasonal bighorn sheep range. As indicated by Coggins (1988), where separation of domestic and wild sheep is not possible, serious disease problems can be expected.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change From Current Management - Preferred Alternative

Watershed (including riparian and fisheries): Managing the East Fork and Sugarloaf allotments together and maintaining the current level of AUMs would reduce the intensity and duration of livestock use and help achieve desired condition sooner than Alternative B. Application of appropriate mitigation measures in Appendix G will insure that the currently vacant East Fork allotment will move toward desired condition.

Vegetation: The addition of two units will allow for longer grazing deferral for vegetation. This, with the application of the appropriate mitigation measures in Appendix G would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward or be maintained on the East Fork allotment.

Crucial Winter Range: Since no CWR occurs within suitable range on either the East Fork or Sugarloaf allotments, this alternative would not affect such areas. The primary effect to wildlife would be to decrease competition for forage with cattle on the Sugarloaf allotment and increase forage competition on the East Fork allotment in non crucial winter range areas. However, implementing this alternative should greatly facilitate reaching desired habitat conditions on the Sugarloaf allotment sooner, while still managing for acceptable and compatible use with wildlife on the East Fork allotment.

Disease Risk: This alternative would eliminate the potential for spreading diseases from domestic to wild sheep.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

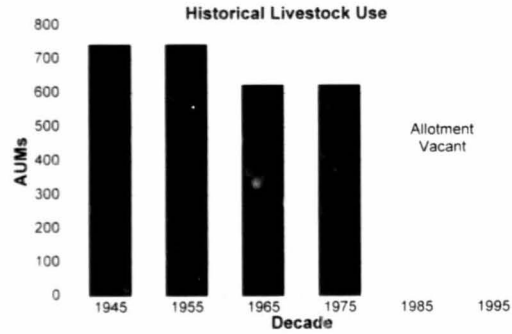
Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

East Fork Allotment



East Fork Allotment

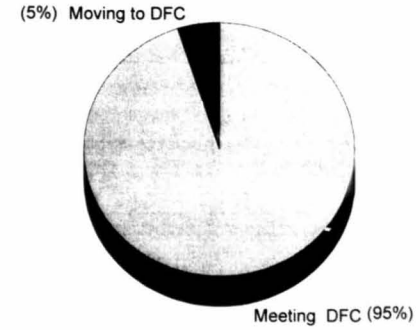
11095 Total Acres



Figures 1 & 2

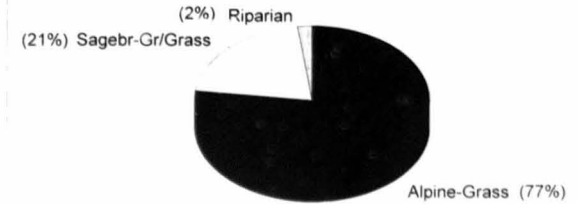
East Fork Suitable Range

Riparian Range Condition



East Fork Allotment

Vegetation Ecological Types

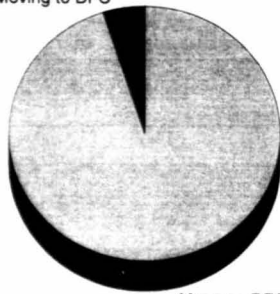


Figures 3 & 4

East Fork Suitable Range

Upland Range Condition

(5%) Moving to DFC



Meeting DFC (95%)

Figure 5

117

FRANCS PEAK/YELLOW STEER ALLOTMENTS (059/072)

Affected Environment

Permit Information: These allotments are located in the Greybull River and Wood River drainages of the Greybull Ranger District on the Shoshone National Forest (Figure 1-A). Both allotments are currently vacant. The following facts pertain to these allotments:

Allotment Status:	Vacant since 1990
Permit(s) Type:	term
Number of Permittees:	1
Number of Livestock:	1500
Kind and Class of Livestock:	sheep, yearling
Season of Use:	7/10 to 9/10
Expiration Date:	
Management System:	7-pasture, modified rest rotation
Existing Improvements:	0.5 miles of fence, 1 cabin
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	48,391 (Figure 2)
Suitable Acres:	4,631 (Figure 2)

Watershed: Based on the cumulative effects analysis, the watersheds in which these allotments are located (G06, G07, G09, G12 and G13) are not currently identified as watersheds of concern.

Riparian: There are about 185 acres of riparian within the suitable range. In general, the riparian is meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the upper Greybull River and the Franks Fork contain Yellowstone cutthroat, Snake River cutthroat and their hybrids.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is alpine-grass and sagebrush-grass with a minor component of meadow and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka mountain landscape between 7000 and 12,000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in these allotments is meeting or moving towards desired condition because of past reductions in livestock use on the allotments and because the allotments have been vacant since 1990.

Crucial Winter Range: The Francs Peak allotment contains crucial winter range for elk, and bighorn sheep and the Yellowsteer allotment contains crucial winter range for bighorn sheep and moose. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife species considered in the issues.

Endangered, Threatened, and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). The Francs Peak allotment is outside the grizzly bear recovery zone but the Yellowsteer allotment is partially inside the recovery zone.

118

Heritage Resources: There are two historic sites associated with the privately owned Gold Reef Mining Region recorded on private property within the allotment. There is one unevaluated historic site recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, public notice would be made that a vacant sheep allotment is available and applications will be accepted. A grazing permit could be issued for a 10 year term that authorizes the grazing of 1500 yearling sheep from 7/10 to 9/10 (630 AUM's). Livestock would be managed under a 7-pasture modified rest-rotation system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative the Franks Fork and West Timber Creek units of this allotment would be managed with the Timber Creek Allotment (62 cow/calf pair and 40 yearling cattle for 15 days, 55 AUM's). The Upper Jack Creek unit of this allotment would be managed with the Greybull Allotment (150 cow/calf pair for 10 days, 66 AUM's). The remainder (majority) of the Franks Peak/Yellowsteer allotment would be available for domestic sheep grazing, should the demand for such use arise. Upon approval of a qualified applicant a ten year term grazing permit would be issued for sheep to graze from 7/15 to 9/10 under a 5-pasture modified rest-rotation system (456 AUM's). The reduced number of sheep would be the result of three fewer units. There will be a net reduction of 53 AUM's of livestock use on the Franks Peak/Yellow Steer Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the Forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the Forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 630 AUM'S of forage estimated to be used by domestic sheep on the Franks Peak/Yellowsteer allotment would continue to be available for use by wildlife. This would not necessarily result in significant benefits to wildlife on the Franks Peak allotment as relatively small amounts of suitable range for livestock are also crucial wildlife winter range (88 acres for bighorn sheep and 159 acres for elk). For the Yellowsteer allotment the potential forage benefits would be greater with significantly increased crucial winter range for bighorn sheep (625 acres) occurring

within livestock suitable range. There has been no determination that additional wildlife winter forage is needed to maintain current objective numbers of big game wildlife.

This alternative would eliminate any potential for livestock/wildlife forage conflicts on winter ranges.

Disease Risk: This alternative would eliminate any potential for spreading diseases between domestic sheep and wild sheep.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will help achieve or maintain desired condition over time and reduce the potential adverse impacts from livestock grazing below the level of significance. This alternative would take longer to achieve desired condition since it is a season-long system, cattle prefer riparian areas and the potential for impacts is greatest.

Vegetation: Application of the appropriate mitigation measures (see below) will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 630 AUM's of forage estimated to be used by domestic sheep, including that consumed on wildlife winter ranges, would become unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that these allotments could provide at least this amount of forage for domestic sheep and still maintain adequate reserves for the needs of wintering wildlife and plant health. This assumed implementation of appropriate mitigating measures. The current condition and trend of the allotments are toward the desired forest conditions. Elk and bighorn sheep herds, which depend in part on winter habitat in these allotments, are estimated to be near the objective levels. This helps account for the existing favorable habitat conditions.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented. The mitigation measure of leaving a minimum of 4' ungrazed stubble height on crucial winter range should help insure that forage allocated for wildlife in the Forest Plan is made available for that purpose.

Disease Risk: Of greater concern than forage competition for these allotments is the potential for the spreading of pasteurilla bacteria and other disease agents from domestic to wild sheep. Under this alternative the potential would be relatively high as suitable range occurs in seasonal bighorn sheep range. As indicated by Coggins (1988), where separation of domestic and wild sheep is not possible, serious disease problems can be expected.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on

or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There is one unevaluated historic site recorded within the allotment. Impacts from grazing activities are unknown at this time.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): Managing additional units with the Timber Creek and Greybull allotments will reduce the intensity and duration of the livestock use and achieve desired condition sooner than Alternative B. Issuance of a new sheep permit would include all pertinent mitigation to ensure desired condition in this currently vacant allotment is maintained. Potential impacts would be mitigated below the level of significance by the application of appropriate mitigation measures.

Vegetation: Adding additional suitable range to the Timber Creek and Greybull allotments from this allotment will help improve vegetation condition in those allotments faster. Application of the appropriate mitigation measures in Appendix G on the remainder of this allotment will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

If this allotment remains vacant and there is no interest in stocking it with sheep, the vegetation will remain at desired condition. Long term vacancy will have the same impacts as the no grazing alternative.

Crucial Winter Range: The primary effect to wildlife would be to decrease competition for forage on the Timber Creek Allotment and increase forage competition on the Francs Fork and West Timber Creek pastures of the Francs Peak/Yellowsteer Allotment. The proposed amount of use would still be compatible with crucial winter range objectives for wildlife if appropriate mitigation measures in Appendix G are followed and desired conditions are reached. This action should help facilitate reaching desired conditions sooner on the Timber Creek allotment because the same number of cattle would be grazed during the same time period over a larger area.

Disease Risk: The concern of spreading disease from domestic sheep to wild sheep would be eliminated in the Jack Creek, Francs Fork, and West Timber Creek units but would remain a significant concern in the remaining parts of these allotments grazed by domestic sheep.

Endangered, Threatened and Sensitive Species: The effects would generally be the same as described for Alternative B above (Appendix F and G).

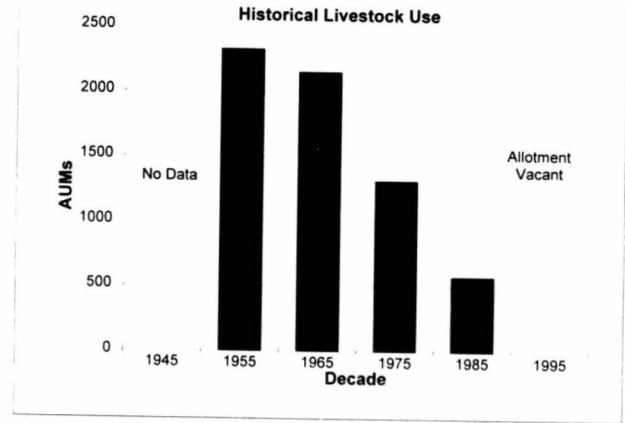
Heritage Resources: There is one unevaluated historic site recorded within the allotment. Potential for impacts to the unevaluated site from grazing activities is unknown at this time.

Native American Cultures: There have been no concerns identified at this time.

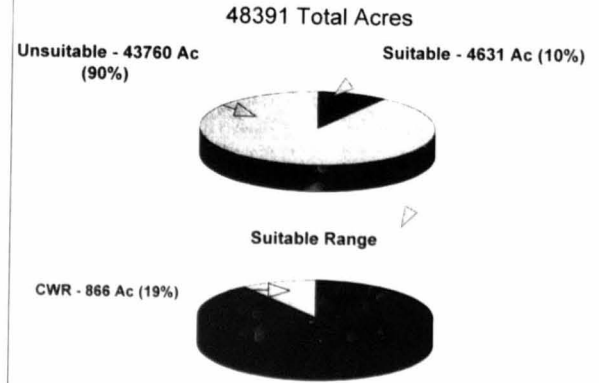
Cumulative Effects

Cumulative effects is discussed in Chapter II.

Franc's Peak/Yellowsteer



Franc's Peak/Yellowsteer

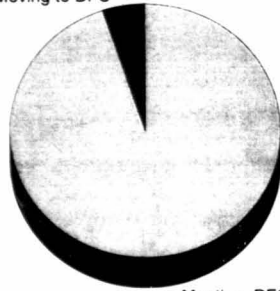


Figures 1 & 2

Franc's Peak/Yellowsteer

Riparian Suitable Range Condition

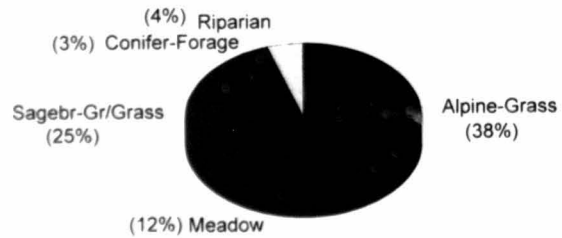
(5%) Moving to DFC



Meeting DFC (95%)

Franc's Peak/Yellowsteer

Vegetation Ecological Types



Figures 3 & 4

123

Franc's Peak/Yellowsteer

Upland Suitable Range Condition

(5%) Moving to DFC



Meeting DFC (95%)

Figure 5

124

SUNSHINE ALLOTMENT (079)

Affected Environment

Permit Information: This allotment is located in the Sunshine Creek drainage of the Greybull Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term, Private Land
Number of Permittees:	1
Number of Livestock:	166
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/1 to 10/10
Expiration Date:	12/31/95
Management System:	2-pasture, deferred-rotation
System in effect since:	1985
Existing Improvements:	6.5 miles fence, 7 water developments
Historically AUM's have:	remained stable (Figure 1)
Total Acres:	2,305 (Figure 2)
Suitable Acres:	1,815 (Figure 2)

Watershed: Through watershed cumulative effects analysis, watershed G10 is not currently identified as a watershed of concern.

Riparian: There are about 36 acres of riparian within the suitable range. In general, the riparian is moving towards or meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the streams on the Forest within this allotment do not contain suitable fish habitat.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with forage with a minor component of aspen and riparian/meadow (Figures 4 and 5). Vegetation is influenced by a Absaroka foothill landscape averaging 7500 feet above sea level. Average annual precipitation is 30 inches, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past range improvements and a deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Adjoining private lands and the Wyoming Game and Fish Sunshine Unit, are providing some supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk. Figure 2 shows the acres of CWR occurring within suitable range for this wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, two grazing permits will be issued (1 FS and 1 private land) for a 10 year term that authorizes the grazing of 166 cow/calf pair from 7/1 to 10/10 (745 AUM's). Livestock will continue to be managed under a 2-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the Forestwide level under the No Action Alternative in Chapter II.

Vegetation: Range and vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 745 AUM's of forage currently allocated for cattle use would be available for use by wildlife. Since most of the suitable livestock range is also crucial elk winter range (1,344 of 1,815 acres), most of this forage would be available in an area that could be of primary importance to wintering elk. However, there has been no determination that additional winter forage is needed to maintain current objective numbers of elk. The donation of the Sunshine Ranch to the Wyoming Game & Fish Department for winter range purposes provided for the relative security of elk winter range in the area.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife, particularly improvement of declining aspen stands, could improve at a faster rate under this alternative. However, that would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (Including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The estimated 646 AUM's (this figure does not include the capacity of the associated private land) of forage consumed by livestock, including that consumed on crucial wildlife winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide the above amount of forage for domestic livestock and still maintain adequate reserves for the needs of wintering wildlife and plant health. This assumed implementation of appropriate mitigating measures. The current condition and trend of the allotment suitable rangelands appears to validate the Forest Plan projection. The elk herd which depends in part on winter habitat in this allotment is at or slightly below the objective level thus also contributing to the existing favorable habitat conditions. As indicated under Alternative A, a large tract of private land was recently donated in this area to provide forage and security for wintering elk.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

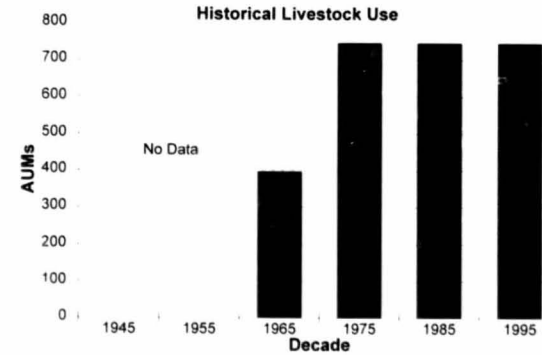
Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Sunshine Allotment

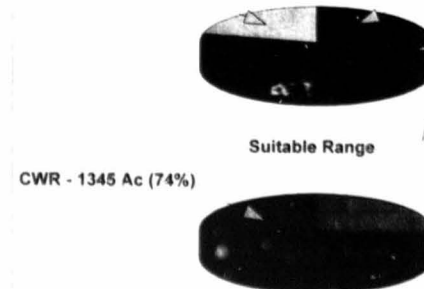


Sunshine Allotment

2305 Total Acres

Unsuitable - 490 Ac (21%)

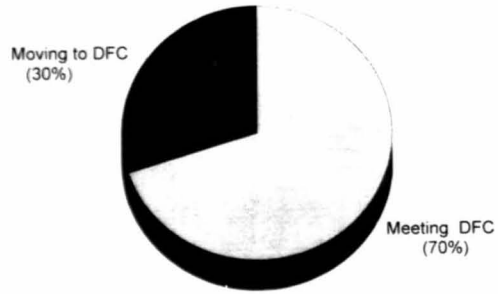
Suitable - 1815 Ac (79%)



Figures 1 & 2

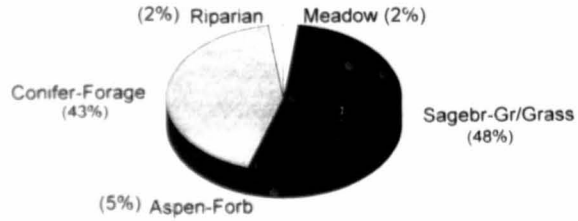
Sunshine Suitable Range

Riparian Range Condition



Sunshine Allotment

Vegetation Ecological Types



Figures 3 & 4

Sunshine Suitable Range

Upland Range Condition

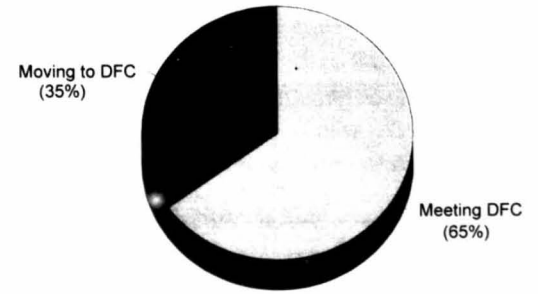


Figure 5

BOBCAT ALLOTMENT (134)

Affected Environment

Permit Information: This allotment is located in the Bobcat Creek drainage of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	25
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/16 to 10/15
Expiration Date:	12/31/95
Management System:	3-pasture, deferred-rotation
Existing Improvements:	2.75 miles fence, 1 water developments
Historically AUMs have:	Decreased (Figure 1)
Total Acres:	5,135 (Figure 2)
Suitable Acres:	1,152 (Figure 2)

Watershed: Through cumulative effects analysis, watershed W24 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are 252 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: There is no suitable fish habitat on Bobcat or Houlihan Creeks within the National Forest.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian (Figures 4 and 5). Vegetation is influenced by an Absaroka foothill landscape at 6500 feet above sea level. Annual precipitation is approximately 16 inches, mostly occurring in the winter.

The upland vegetation is slowly moving toward desired condition because of historic livestock reductions and because the winter use occurs during dormancy and the deferred rotation system for livestock allows for adequate rest, vigor and reproduction of plant species. This is based on present ungulate numbers. Elk populations in this herd unit (Table II-1) are presently over objective. Additionally, observations indicate that livestock and wildlife may be creating some overuse.

Adjoining private lands are providing supplemental forage for wildlife wintering on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). Some of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 25 cow/calf pair from 6/16 to 10/15 (135 AUMs). Livestock will continue to be managed under a 3-pasture, deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Bobcat Allotment and Ishawooa Hills Allotment would be managed together as a 6 unit deferred-rotation system. The allotments would be stocked with 55 cow/calf pair from 6/15 to 10/15 for 298 AUMs. The 55 pair results from a combination of the existing 25 head on the Bobcat Allotment and 30 head from the Community Allotment. The 80 pair currently on the Ishawooa Hills Allotment would be moved to the Community Allotment. Overall, this results in 64 fewer AUMs being grazed on the Bobcat allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than those described in detail at the Forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the Forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation if wildlife overuse spring range prior to range readiness.

There is also a possibility that the permittee could go out of the cattle business. This may lead to development of private lands which are providing some forage for wildlife and open space. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity of the available habitat.

Crucial Winter Range: The 135 AUMs of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since all of the suitable

livestock range is also crucial winter range for elk and bighorn sheep, the additional forage would be available in areas of most concern for these species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate in comparison to other alternatives. However, the effects of no livestock grazing on habitat conditions would depend on many other factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Under this alternative all of the riparian is moving towards desired condition. Implementation of mitigation measures within this document will result in the allotment gradually meeting desired condition in the future.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions. However, if wildlife numbers remain over objective and overgraze spring range prior to range readiness, some downward trend in range condition may occur.

Crucial Winter Range: The estimated 135 AUMs of forage consumed by domestic livestock, including that consumed on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment would provide slightly less forage for domestic livestock than is currently being used and still maintain adequate reserves for the needs of wintering wildlife and plant health. Range improvements, or other site specific factors subsequent to the Plan analysis led to consideration for a higher rate of use for livestock. Although detailed data or observations were not available for the current analysis, the importance of this allotment to wintering wildlife warrants continued careful management of grazing by domestic livestock.

In addition to the possibility of some overgrazing by livestock, the elk herd that depends in part on winter range on this allotment is over the objective level by a considerable margin. The bighorn sheep population is estimated to be at or slightly above objective levels. While it is recognized there are many difficulties in establishing and estimating wildlife population objectives and numbers, a reduction in the existing amount of plant utilization by both wildlife and livestock is necessary to continue moving toward desired condition. If this alternative is selected, the allotment should become a high priority for wildlife habitat monitoring.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G should be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on

or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative would reduce the duration, intensity and impacts of livestock use on the Bobcat and Ishowoo Hills Allotments. It would move both allotments towards desired condition sooner than Alternative B.

Vegetation: Application of the appropriate mitigation measures in Appendix G will reduce potential impacts from grazing on vegetation below the level of significance. Vegetation will move toward desired conditions much faster because the livestock use has been reduced by 64 AUMs (but would not result in the reduction of any existing permit numbers). The management system will be changed to a 6-pasture deferred-rotation system. This will provide longer deferral, with increased vigor and reproduction for the forage species. If wildlife numbers remain over objective and overuse of spring range occurs prior to range readiness, some downward trend in range condition may occur.

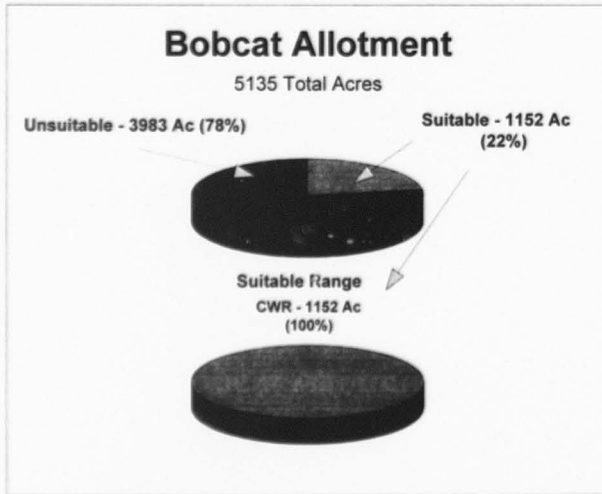
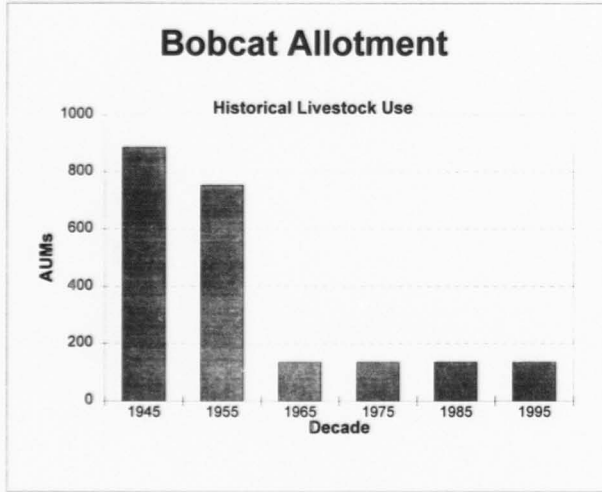
Crucial Winter Range/Endangered Threatened and Sensitive Species: The effects of this alternative on CWR and TES species would be similar to those described under Alternative C for the Ishowoo Hills allotment. The intensity and duration of livestock use on crucial winter range would be reduced. Desired habitat conditions on both allotments would be reached sooner than with alternative B.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

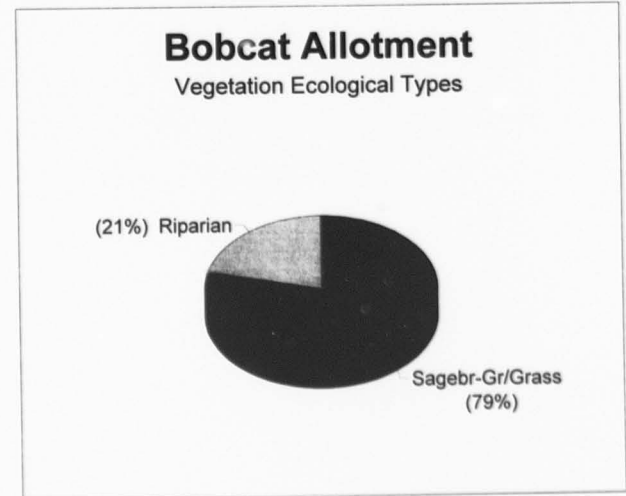
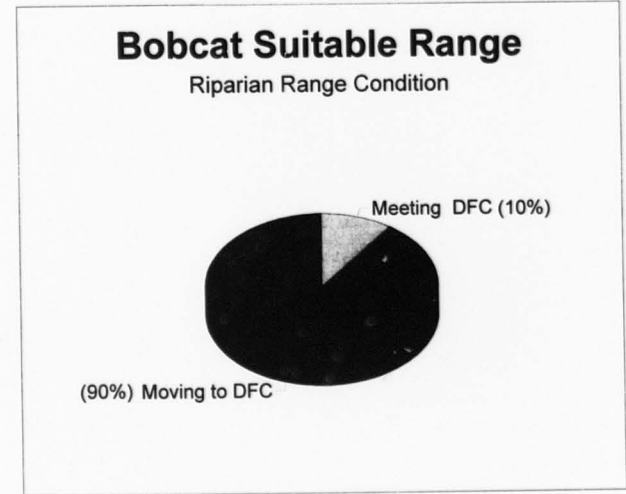
Native American Cultures: There have been no concerns identified at this time in the allotments involved in this proposed alternative.

Cumulative Effects

Cumulative effects is discussed in Chapter II.



Figures 1 & 2



Figures 3 & 4

Bobcat Suitable Range

Upland Range Condition

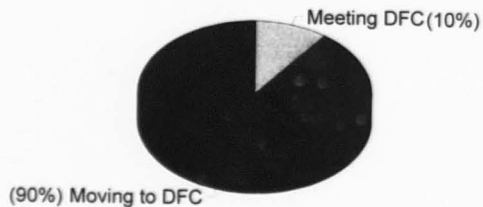


Figure 5

COMMUNITY ALLOTMENT (135)

Affected Environment

Permit Information: This allotment is located in the South Fork of the Shoshone River drainage of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	4 (one permit vacant)
Number of Livestock:	117
Kind and Class of Livestock:	Cattle, Cow/calf and Horses
Season of Use:	6/15 to 9/15, 6/16 to 8/15, 7/1 to 9/15
Expiration Date:	12/31/95
Management System:	3-pasture, deferred-rotation
Existing Improvements:	5.8 miles fence, 7 water developments
Historically AUMs have:	increased (Figure 1)
Total Acres:	1,005 (Figure 2)
Suitable Acres:	6,514 (Figure 2)

Watershed: Through watershed cumulative effects analysis, these watersheds are not currently identified as watersheds of concern.

Riparian: There are about 276 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Currently, there are no fish present in the tributaries on this allotment.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass with a minor component of riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape averaging 7000 feet above sea level. Average annual precipitation is approximately 19 inches, the majority of that occurring in the winter. Presently, adjacent private land is providing supplemental forage for wildlife using the allotment.

Vegetation in this allotment is moving toward desired condition because of historical use (Figure 1), implementation of a deferred-rotation system, and partial vacancy. This is allowing for adequate rest, vigor and reproduction for plants. This is based on present ungulate numbers.

Elk populations in this herd unit (Table II-1) are presently over objective. Additionally, observations indicate that wildlife are creating some localized overuse.

Crucial Winter Range: This allotment contains crucial winter range for elk. Figure 2 shows the acres of crucial winter range occurring within suitable range for this wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). Part of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, the existing 4 permits will be reissued for 10 years as follows: (1) 28 cow/calf pair from 6/15 to 10/15, (2) 56 cow/calf pair from 6/15 to 10/15, (3) 16 cow/calf pair from 6/16 to 8/15 and (4) 17 horses from 7/1 to 9/15 (550 total AUMs). In addition, the remaining vacant 839 AUMs would be allocated for livestock grazing for a total of 1389 AUMs. The existing management will continue: cattle will be managed under a 3-pasture, deferred-rotation grazing system and the horses will graze open season long on one unit.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative stocking would be as follows: 80 cow/calf pair from 6/15 to 10/15, 56 cow/calf pair from 6/15 to 10/15, 16 cow/calf pair from 6/16 to 8/15 and 17 horses from 7/1 to 9/15 (832 total AUMs). This change from the current stocking level is the result of 28 cow/calf pair (152 AUMs) being moved to the Ishawoo Hills Allotment from the Community Allotment, 80 cow/calf pair (433 AUMs) being moved from the Ishawoo Hills to the Community Allotment, partially restocking the 839 AUM vacancy. The overall livestock use on the Community Allotment would decline from 1389 AUMs (in 1990) to 832 AUMs for an overall reduction of livestock use of 557 AUMs. In the long term the cattle would be grazed under a 3-pasture, deferred-rotation system. In the interim each permittee will go on to a separate unit, so that adjustments may be made in their respective calving and breeding programs to accommodate "common herd" grazing.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the Forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective there could be a downward trend in vegetation.

There is also a possibility that some of the permittees could go out of the livestock business. This may lead to development of private lands which are providing some forage for wildlife and open space. This could displace those wildlife onto the allotment in greater numbers and for extended

periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 1389 AUMs of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since all of the suitable livestock range is also crucial winter range for elk, the additional forage would be available in areas of most concern for this species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate in comparison to other alternatives. However, the effects of no livestock grazing on habitat conditions would depend on many other factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Under this alternative all of the riparian is moving toward desired condition. Implementation of appropriate measures in Appendix G will result in the allotment meeting desired condition.

Vegetation: Application of the appropriate mitigation measures in Appendix G will reduce potential impacts from livestock grazing and wildlife on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a slower rate than alternative C. If wildlife numbers remain over objectives, some downward trend in some species may occur.

Crucial Winter Range: The estimated 1389 AUMs of forage consumed by domestic livestock, including that consumed on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide more than the proposed amount of forage for livestock under this alternative. This assumed the implementation of appropriate mitigating measures and still maintaining adequate reserves for the needs of wintering wildlife and plant health. The current condition and trend of the allotment appears to validate the existing amount of use by livestock is compatible with needs for wildlife. Therefore, prior to implementation of this alternative, elk numbers need to be reduced to herd unit objectives. Although detailed site specific data or observations were not available for this analysis, the importance of this allotment to wintering wildlife warrants continued careful management of livestock grazing.

The elk herd that depends in part on winter range on this allotment is over the objective level by a considerable margin. While range condition and trend may be generally moving in the desired direction, a significant improvement in the rate of movement in the direction of desired conditions, calls for detailed attention to the use and numbers of both wildlife and livestock.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative would result in reduced intensity and duration of livestock use. This would help reduce impacts on the allotment and reach desired condition sooner than Alternative B.

Vegetation: Maintaining a reduction in livestock use by 557 AUMs, the application of appropriate mitigation measures in Appendix G and maintaining a deferred rotation grazing system will move vegetation towards desired conditions at a faster rate than alternative B. If wildlife numbers remain over objective and/or carrying capacity, some downward trend in range conditions may occur. There would be no stocking reductions to existing permittees.

Crucial Winter Range/Endangered, Threatened and Sensitive Species: The effects of this alternative on big game and TES wildlife would be similar to Alternative B except that 282 additional AUMs of forage would be allocated to domestic livestock and thus unavailable for wildlife. However, the proposed use by livestock would still be below that projected as allowable in the analysis for the Forest Plan. The intensity and duration of livestock use on crucial winter range would be below historic use.

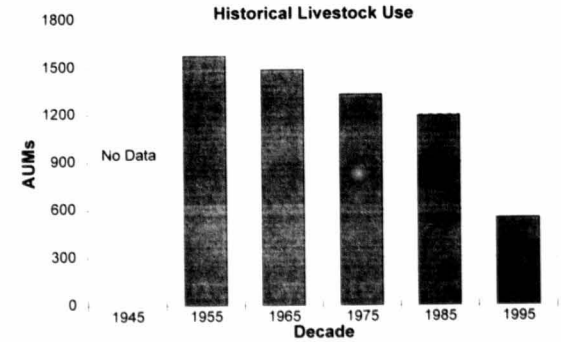
Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

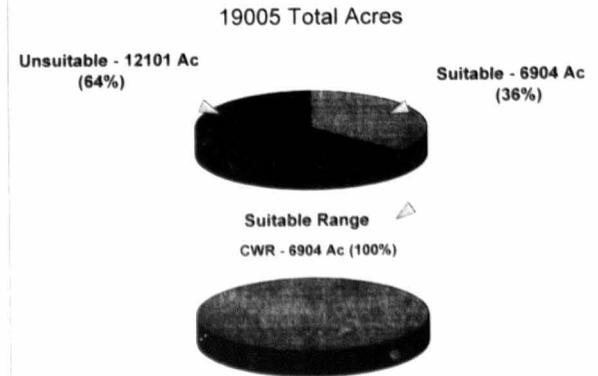
Cumulative Effects

Cumulative effects is discussed in Chapter II.

Community Allotment

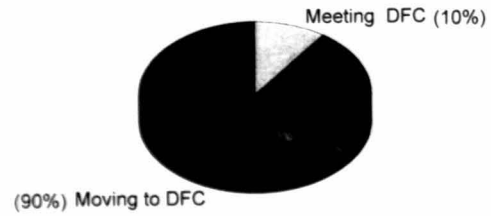


Community Allotment



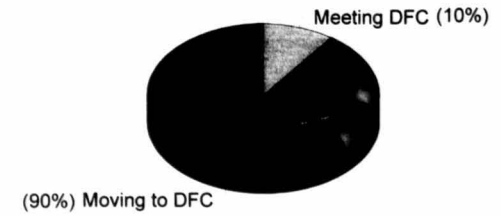
Community Suitable Range

Riparian Range Condition



Community Suitable Range

Upland Range Condition



Community Allotment

Vegetation Ecological Types



Figures 3 & 4

143

Figure 5

144

HARDPAN ALLOTMENT (# 143)

Affected Environment

Permit Information and History: This allotment is located in the Hardpan Creek, Twin Creek and Whit Creek drainage of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	492
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/1 to 10/15
Expiration Date:	12/31/95
Management System:	Deferred Season Long
Existing Improvements:	1.5 miles fence
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	14,903 (Figure 2)
Suitable Acres:	5,078 (Figure 2)

Watershed: Through cumulative effects analysis, the Twin Creeks drainage (W23) was identified as an unvalidated watershed of concern primarily due to livestock grazing.

Riparian: There are 102 acres of riparian within the suitable range. In general, the riparian is slowly moving towards or meeting desired condition (Figure 3).

Fisheries: The Hardpan and Twin Creek drainages do not contain fish.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass with a minor component of riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape between 7000 and 9000 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is slowly moving towards desired condition because of past reductions in livestock use on the allotment. This is based on present ungulate numbers, and allowable use standards set during Forest Planning. Elk populations in this herd unit (Table II-1) are presently over objective.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). Part of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 492 cow/calf pair from 7/1 to 10/15 (2317 AUM's). Livestock will continue to be managed under a deferred season long grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, stocking would be for 492 cow/calf pair from 7/1 to 10/15 (2317 AUM's). Livestock management would be changed to a 3-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation if overuse of spring range occurs prior to range readiness.

There is also a possibility that the permittee may go out of business. This could lead to development of his private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 2,317 AUM's of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since all of the suitable livestock range is also crucial winter range for elk or bighorn sheep, the additional forage would be available in areas of most concern for these species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate in compari-

son to other alternatives. However, the effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Culture: There would be no potential for conflicts.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (Including riparian and fisheries): Season long grazing has the potential for the most adverse impact to riparian, stream banks and sediment introduction since cattle prefer these areas and tend to congregate here season long.

Vegetation: Application of the appropriate mitigation measures (see below) will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a much slower rate than Alternative C. If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation if wildlife overuse spring use prior to range readiness.

Crucial Winter Range: The estimated 2,317 AUM's of forage used by domestic livestock, all of which is on crucial winter range, would remain unavailable for use by wildlife. Continued season long and late season use could result in a further deterioration of riparian habitat conditions because of preference by cattle and thus concentrated use in these areas.

A determination was made during the analysis for the Forest Plan that the capacity of this allotment for domestic livestock is less than is currently being used and proposed in this alternative. Range improvements or other site specific factors subsequent to the Plan analysis led to consideration of a higher amount of permitted livestock use. Although detailed data or observations were not available for the current analysis, the importance of this allotment to wintering wildlife warrants continued caution in grazing utilization by domestic and wild herbivores.

In addition to the possibility of some overgrazing by livestock, the elk herd that depends in part on winter range on this allotment is substantially over objective levels. The bighorn sheep population is estimated to be at or slightly above objective levels. While it is recognized there are many difficulties in establishing and estimating wildlife population objectives and numbers, a reduction in the existing amount of plant utilization by wildlife or livestock or both or an expansion of habitat capability could be necessary in the near future if conditions begin to deteriorate. If this alternative is selected, this allotment should become a high priority for wildlife habitat monitoring.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of

any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): A 3-pasture, deferred-rotation system will help reduce the intensity and duration of livestock to riparian and stream banks and help move the allotment toward desired condition sooner than Alternative B.

Vegetation: The application of a deferred-rotation grazing system and the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance and will move the allotment toward desired condition much faster than Alternative B. However, if elk numbers remain over objectives and/or habitat carrying capacity some downward trend in rangeland conditions may occur.

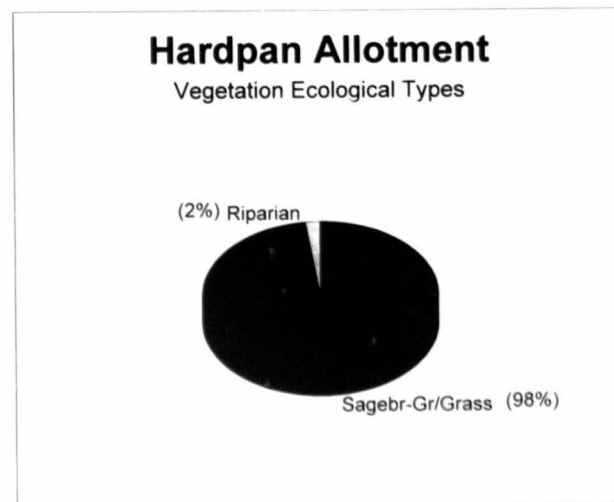
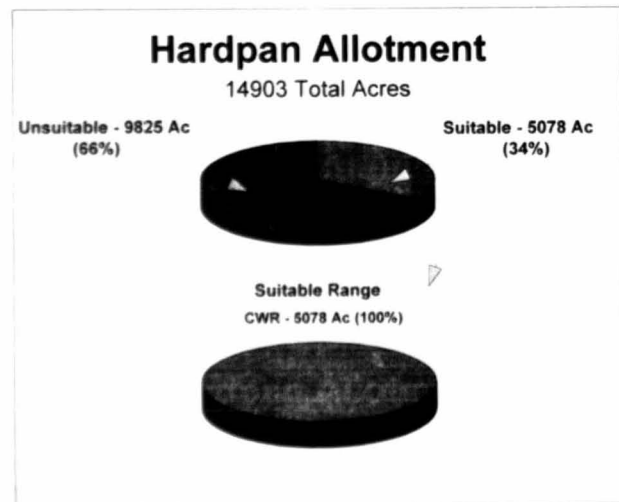
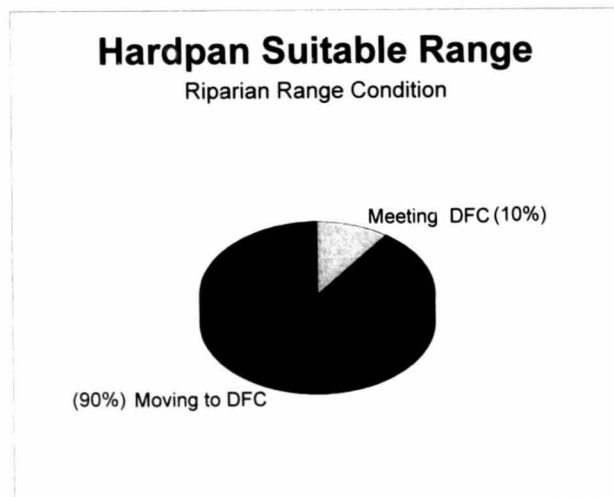
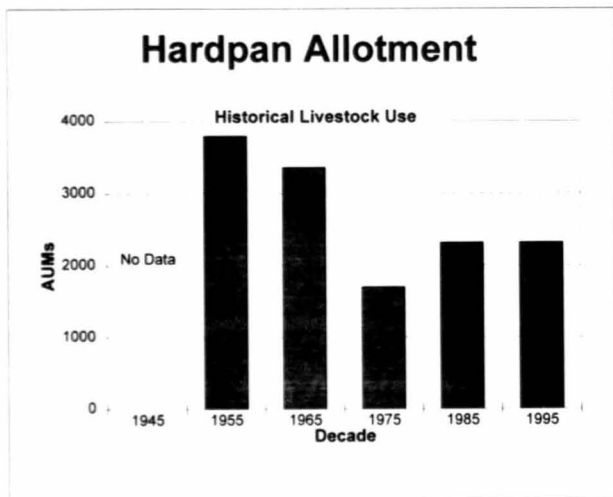
Crucial Winter Range/Endangered, Threatened and Sensitive Species (TES): The effects of this alternative on crucial winter range and TES wildlife would be somewhat similar to those described for Alternative B. However, the implementation of a deferment system should result in reduced duration and intensity of livestock use. Riparian wildlife habitats in particular should move toward desired conditions faster than alternative B by implementing this alternative.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.



Figures 1 & 2

Figures 3 & 4

Hardpan Suitable Range

Upland Range Condition

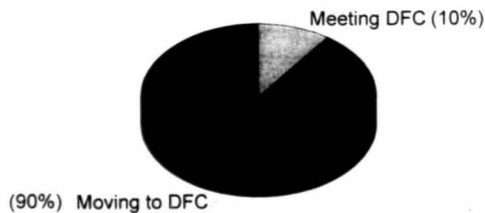


Figure 5

100

HUNTER CREEK ALLOTMENT (144)

Affected Environment

Permit Information: This allotment is located in the South Fork of the Shoshone River drainage of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	32
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/16 to 10/15
Expiration Date:	12/31/95
Management System:	3-pasture, deferred-rotation
Existing Improvements:	5.15 miles fence, 1 water development
Historically AUM's have:	Remained Stable (Figure 1)
Total Acres:	2,516 (Figure 2)
Suitable Acres:	800 (Figure 2)

Watershed: Through cumulative effects analysis, these watersheds are not currently identified as a watersheds of concern.

Riparian: There are 184 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the South Fork Shoshone River in the area of this allotment contains brown trout, eastern brook trout, mountain whitefish, rainbow trout, Yellowstone cutthroat trout and their hybrids in decreasing order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass, riparian and meadow (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape at about 7000 feet above sea level. Annual precipitation is about 16 inches, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of a deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Adjoining private lands, including the permittees, are providing some supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). A small part of this allotment is within the grizzly bear recovery zone.

152

Heritage Resources: One historic cultural resource, the South Fork Ranger Station, has been determined eligible to the National Register of Historic Places.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 32 cow/calf pair from 6/16 to 10/15 (171 AUM's). Livestock will continue to be managed under a 3-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation if wildlife, especially elk overuse spring range prior to range readiness.

There is also a possibility that the permittee may go out of business. This could lead to development of private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 171 AUM's of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since all of the suitable livestock range is also crucial winter range for elk, the additional forage would be available in areas of most concern for this species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate in comparison to the other alternative. However, the effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat conditions with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G under a deferred system of grazing will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions. However, if elk numbers remain over objective, and this is also beyond the habitat capability, the resulting early spring range use prior to range readiness, could cause some downward trend in some species may occur.

Crucial Winter Range: The estimated 144 AUM's (this figure does not include the capacity of the associated private land) of forage used by domestic livestock, all of which is on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide less than the amount of forage for livestock being proposed under this alternative. This assumed the implementation of appropriate mitigating measures and still maintaining adequate reserves for the needs of wintering wildlife and plant health. Range improvements or other site specific factors subsequent to the Plan analysis led to consideration of a higher amount of permitted livestock use. Although detailed site specific data or observations were not available for the current analysis, the importance of this allotment to wintering wildlife warrants monitoring of grazing by domestic livestock.

In addition to the possibility of some overgrazing by livestock, the elk herd that depends in part on winter range on this allotment is substantially over objective levels. The bighorn sheep population is estimated to be at or slightly above objective levels. While it is recognized there are many difficulties in establishing and estimating wildlife population objectives and numbers, a reduction in the existing amount of plant utilization by wildlife or livestock or both or an expansion of habitat capability could be necessary in the near future if conditions begin to deteriorate. If this alternative is selected, this allotment should become a high priority for wildlife habitat monitoring.

In order for the effects of livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: The South Fork Ranger Station is fenced and protected from any impacts connected with grazing activities.

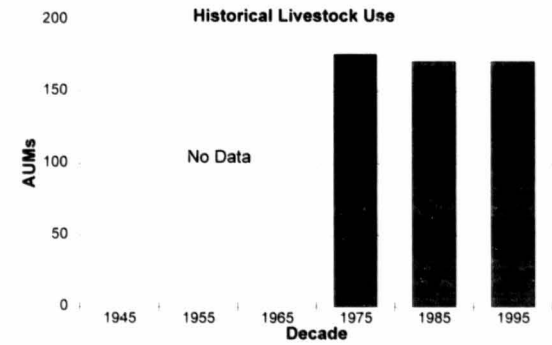
Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

155

Hunter Creek Allotment



Hunter Creek Allotment

2516 Total Acres

Unsuitable - 1716 Ac
(68%)

Suitable - 800 Ac
(32%)



Suitable Range

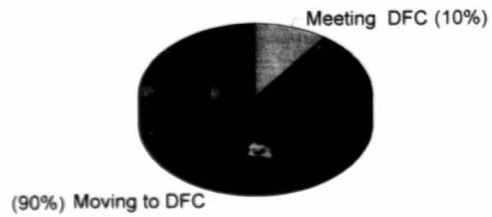
CWR - 800 Ac (100%)



Figures 1 & 2

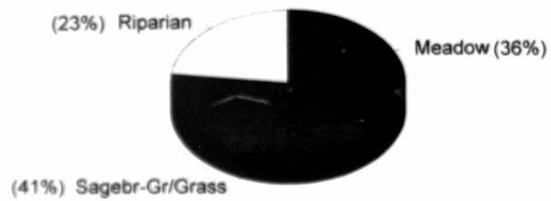
Hunter Creek Suitable Range

Riparian Range Condition



Hunter Creek Allotment

Vegetation Ecological Types



Figures 3 & 4

107

Hunter Creek Suitable Range

Upland Range Condition

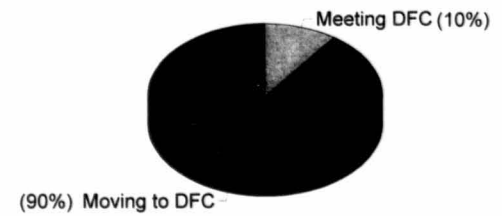


Figure 5

108

ISHAWOOA HILLS ALLOTMENT (145)

Affected Environment

Permit Information: This allotment is located in the Ishawooa Creek and South Fork of the Shoshone River drainages of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term, Private Land
Number of Permittees:	1
Number of Livestock:	80
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/6 to 10/5
Expiration Date:	12/31/95
Management System:	3-pasture, deferred-rotation
Existing Improvements:	3.9 miles fence, 8 water developments
Historically AUM's have:	Remained Stable (Figure 1)
Total Acres:	4,984 (Figure 2)
Suitable Acres:	2,042 (Figure 2)

Watershed: Based on the cumulative effects analysis, these watersheds (W26 & W25) are not currently identified as watersheds of concern (Appendix B).

Riparian: There are about 306 acres of riparian within the suitable range. About half of the riparian is moving towards desired condition, the remainder of the riparian is not (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. In Ishawooa Creek there currently are Yellowstone cutthroat, rainbow trout and their hybrids, and brown trout (in decreasing order of dominance).

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian (figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape at 7000 feet above sea level. Average annual precipitation is 18 inches, the majority of that occurring in the winter.

Some vegetation in this allotment is not meeting desired condition because of ungulate overuse. Recent observations indicate current livestock use, combined with higher than objective wildlife populations (Table II-1), is causing vegetation to move away from desired condition. This is based on present livestock and wildlife numbers.

Adjoining private lands, including the permittees, are providing some supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: The Ishawooa Hills allotment contains crucial winter range for elk, and bighorn sheep. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). Part of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, two grazing permits will be issued for a 10 year term (FS and Private) that authorizes the grazing of 80 cow/calf pair from 6/6 to 10/5 (429 AUM's). Livestock will continue to be managed under a 3-pasture, deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Ishawooa Hills and Bobcat Allotments would be managed together as a 6 unit deferred-rotation system. The allotments will be stocked with 55 cow/calf pair from 6/15 to 10/15 (298 AUM's). The 55 pair will come from a combination of the existing 25 head on the Bobcat Allotment with 30 head from the Community Allotment. The 80 pair currently on the Ishawooa Hills Allotment would be moved to the Community Allotment. There would be 202 fewer AUMs of livestock use on the Ishawooa Hills Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation.

There is also a possibility the permittee may go out of the cattle business. This could lead to development of private lands which are providing some forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 402 AUM's (this figure is less the capacity of the private land) of forage currently allocated for domestic livestock, including that occurring on crucial winter range, would be available for use by wildlife. Since nearly all of the suitable livestock range is also crucial winter

range for elk and bighorn sheep, the additional forage would be available in areas of most concern for these species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. Winter range habitat conditions for wildlife could improve at a faster rate in comparison to other alternatives which permit livestock grazing. The effects of no livestock grazing on wildlife habitat conditions would depend on many other factors including the success of agencies in balancing habitat conditions with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (Including riparian and fisheries): About half of the riparian is not currently meeting desired conditions. Implementation of appropriate measures in Appendix G will result in the allotment slowly moving toward desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a very slow rate. However, if wildlife numbers remain over objective and carrying capacity, and heavy spring range use continues prior to range readiness, a downward trend in some vegetation species is very probable. The trend and condition of this allotment will likely be slow to improve or perhaps even deteriorate under the existing use by livestock and wildlife populations.

Crucial Winter Range: Under this alternative, the estimated 429 AUM's of forage consumed by domestic livestock, including that consumed on crucial winter range, would remain unavailable for use by wildlife.

Forest Plan analysis determined that this allotment would provide substantially less forage for domestic livestock than is currently being consumed and still maintain adequate reserves for the needs of wintering wildlife and plant health. Range improvements or other site specific information subsequent to the Plan analysis apparently led to consideration for a higher rate of use for livestock. However, recent observations and examinations for this analysis indicates that much of the allotment, including riparian areas, is not meeting desired conditions.

In addition to the possibility of overgrazing by livestock, the elk herd that depends in part on winter range on this allotment is substantially over objective levels. The bighorn sheep population is estimated to be at or slightly above objective levels. A reduction in current forage utilization by wildlife and/or livestock may be shortly needed to move faster in the direction of desired conditions.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on

or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): Reducing 131 AUMs and using a 6-pasture deferred rotation grazing system would decrease the intensity and duration of livestock use and move the allotment toward desired condition sooner than Alternative B.

Vegetation: Application of the appropriate mitigating measures in Appendix G, reducing livestock use by 131 AUM's (with no reduction to existing permittees) and initiating a 6-pasture deferred-rotation grazing system will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will move toward desired conditions at a much faster rate than Alternative B. However, if wildlife numbers remain over objective and/or carrying capacity, some downward trend in some vegetation species may occur.

Crucial Winter Range: Under this alternative the intensity and duration of livestock use on crucial winter range would be reduced. 131 more AUM's of forage would be available for elk and bighorn sheep. Winter range habitat conditions would improve at a faster rate when compared with Alternative B. The effect of reduced livestock grazing on habitat conditions on the Ishawooa Hills allotment would depend on other factors including the success of agencies in reducing wildlife populations, particularly elk, to desired objectives. Such a reduction would likely be necessary in order to significantly improve the rate of recovery in habitat trend and condition.

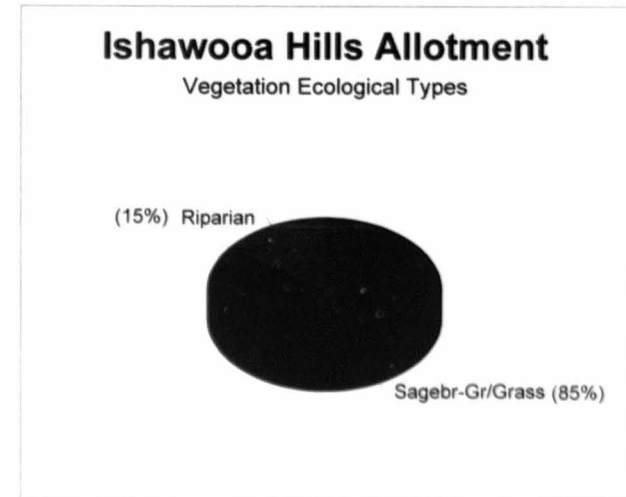
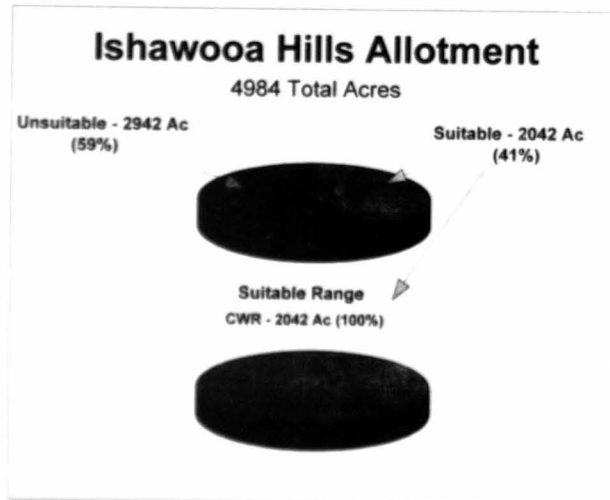
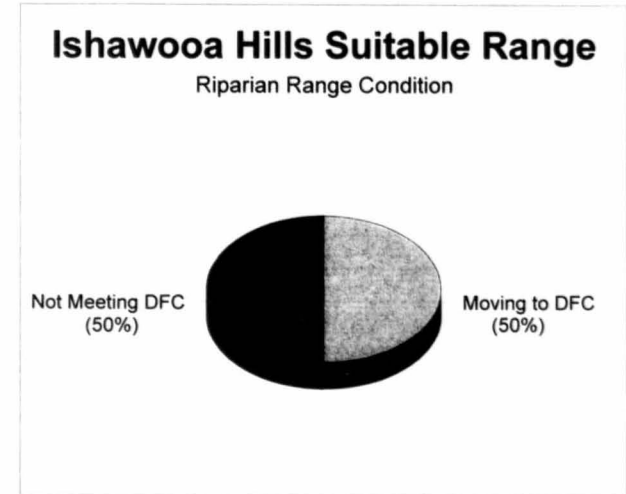
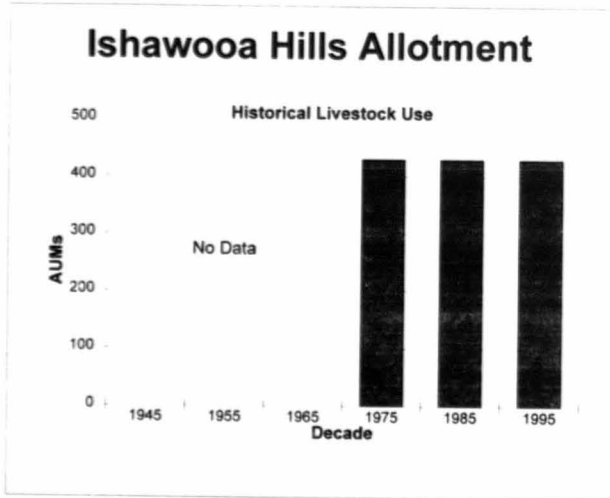
Endangered, Threatened and Sensitive Species: The effects would be the same as described for Alternative B above (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.



Figures 1 & 2

Figures 3 & 4

Ishawooa Hills Suitable Range

Upland Range Condition

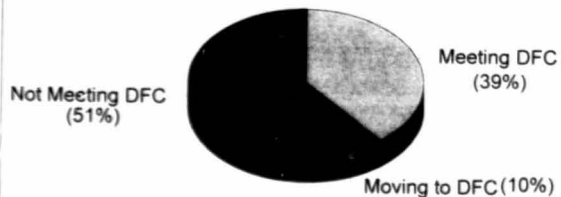


Figure 5

VALLEY/BOULDER ALLOTMENT (# 156)

Affected Environment

Permit Information and History: This allotment is located in the South Fork of the Shoshone River drainage of the Wapiti Ranger District on the Shoshone National Forest (Figure I-A). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	2
Number of Livestock:	70
Kind and Class of Livestock:	Horses
Season of Use:	6/16 to 10/15
Expiration Date:	12/31/95
Management System:	2-pasture, deferred-rotation
Existing Improvements:	5 miles fence
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	4,616 (Figure 2)
Suitable Acres:	1,864 (Figure 2)

Watershed: Through cumulative effects analysis, watershed W32 is not currently identified as a watershed of concern (Appendix B).

Riparian: There are about 168 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the South Fork Shoshone River in the area of this allotment contains brown trout, eastern brook trout, mountain whitefish, Yellowstone cutthroat trout and their hybrids in decreasing order of dominance.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian (Figures 4 and 5). Vegetation is influenced by a Absaroka foothills landscape averaging about 7500 feet above sea level. Average annual precipitation is about 16 inches, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past reductions in livestock use on the allotment and because of a deferred-rotation management system that is providing for rest, vigor and reproduction for plant species. This is based on present ungulate numbers.

Adjoining private lands, including the permittees, are providing supplemental forage for wildlife that winter on this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). A small part of the allotment is within the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, two grazing permits will be issued for 10 year terms that authorize the grazing of 70 horses from 6/16 to 10/15 (342 AUM's). Livestock will continue to be managed under a 2-pasture, deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective, and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation.

There is also a possibility that the permittees may go out of the livestock business. This could lead to development of private lands which are providing forage for wildlife. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 342 AUM's of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since most of the suitable livestock range is also crucial winter range for elk, the additional forage would be available in an area of most concern for this species.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. It is possible that winter range habitat conditions for wildlife could improve at a faster rate in comparison to the other action alternative. However, the effects of no livestock grazing on habitat conditions would depend on several factors including the success of agencies in balancing available habitat with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions. However, if elk populations remain over objective and are beyond carrying capacity, and early spring range use continues prior to range readiness, some downward trend in some species may occur.

Crucial Winter Range: The estimated 342 AUM's of forage used by livestock most of which occurs on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide less than the amount of forage for livestock being proposed under this alternative. This assumed the implementation of appropriate mitigating measures and still maintaining adequate reserves for the needs of wintering wildlife and plant health. Range improvements or other site specific factors subsequent to the Plan analysis led to consideration of a higher amount of permitted livestock use. Although detailed site specific data or observations were not available for the current analysis, the importance of this allotment to wintering wildlife warrants continued monitoring.

In addition to the possibility of some overgrazing by livestock, the elk herd that depends in part on winter range on this allotment is substantially over objective levels. The bighorn sheep population is estimated to be at or slightly above objective levels. While it is recognized there are many difficulties in establishing and estimating wildlife population objectives and numbers, a reduction in the existing amount of plant utilization by both wildlife and livestock is necessary to continue moving toward desired condition. If this alternative is selected, the allotment should become a high priority for wildlife habitat monitoring.

In order for the effects of livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

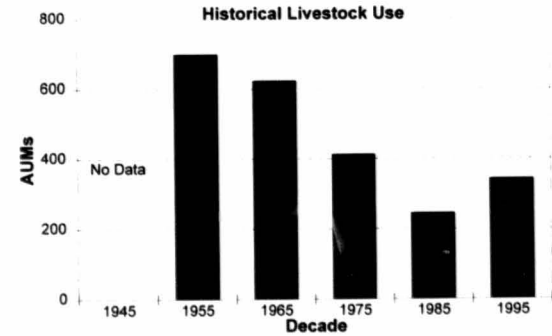
Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

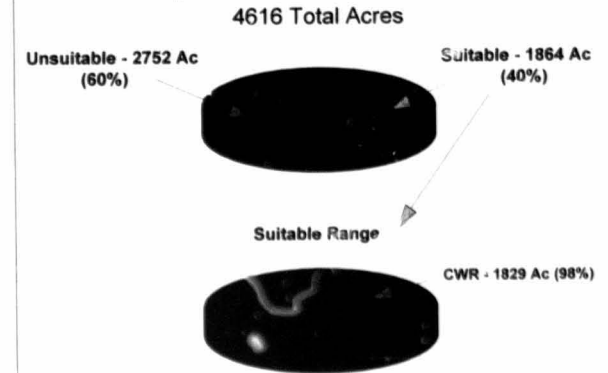
Cumulative Effects

Cumulative effects is discussed in Chapter II.

Valley/Boulder Allotments

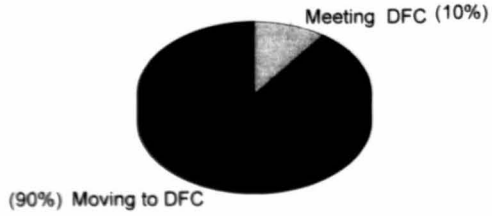


Valley/Boulder Allotments



Valley/Boulder Suitable Range

Riparian Range Condition



Valley/Boulder Allotments

Vegetation Ecological Types



Figures 3 & 4

Valley/Boulder Suitable Range

Upland Range Condition

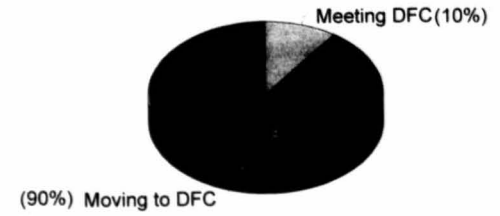


Figure 5

DICKINSON PARK (092)

Affected Environment

Permit Information: This allotment is located in the North Popo Agie River drainage of the Washakie Ranger District (Figure 1-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	3
Number of Livestock:	152 cattle, 77 horses
Kind and Class of Livestock:	Cattle, Cow/calf & Horses
Season of Use:	7/1 to 9/30
Expiration Date:	12/31/95
Management System:	deferred-rotation
Existing Improvements:	7.2 miles fence, 3 water developments, 1 Cow camp
Historically AUMs have:	Remained Stable (Figure 1)
Total Acres:	23,716 (Figure 2)
Suitable Acres:	2,476 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds L07, L08 and L09 were not identified as watersheds of concern (Appendix B).

Riparian: There are 446 acres of riparian within the suitable range. The riparian in this allotment is moving towards desired condition because of past livestock reductions in Sanford Park and the Smith's Lakes areas, 3 years of nonuse (for 52 pair) and because of a recent deferred-rotation management system.

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Sand Creek contains a mixture of Snake River cutthroat, Yellowstone cutthroat, their hybrids and eastern brook trout. Dickinson Creek contains eastern brook trout. There are many lakes within the upper North Popo Agie drainage that have been stocked with various species of trout.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and riparian with a minor component of meadow (Figures 4 and 5). Vegetation is influenced by a granitic mountain/plateau landscape between 7500 and 9500 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past livestock reductions, 3 years of non use (for 52 pair) and because of a recent deferred-rotation management system that is providing for rest, improved vigor and reproduction for plant species. This is based on present ungulate numbers.

Crucial Winter Range: This allotment contains crucial winter range for moose. However, nearly all the crucial winter range on the allotment occurs outside suitable livestock range.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are two prehistoric cultural resource sites recorded in this allotment in the mid-1980's and were classified as eligible for listing to the NRHP. Based on more recent field examination and assessment, this evaluation is in error and the sites are not eligible.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, three grazing permit(s) will be issued for a 10 year term that authorizes the grazing of 152 cow/calf pair and 77 horses from 7/1 to 9/30 (total of 898 AUMs). Livestock will continue to be managed under a deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 898 AUMs of forage estimated to be consumed by livestock in Alternative B would be available for use by wildlife. However since virtually none of the moose crucial winter range occurs in suitable livestock range any potential benefit to wildlife issue species would occur in non crucial winter range areas.

This alternative would eliminate any potential for livestock/wildlife forage conflicts on crucial winter range areas or in the important riparian habitats on the allotment.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance and move the allotment towards desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: Under this alternative the estimated 898 AUMs of forage consumed by livestock would remain unavailable for use by wildlife. However, as previously noted, no significant forage competition problems between livestock and wildlife have been identified, and the allotment contains virtually no crucial winter range in suitable range. The proposed amount of forage use by livestock is only slightly above the amount projected for such use by the analysis for the Forest Plan. Recent management changes on this allotment are accelerating the rate of improvements in overall habitat conditions.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: Although not eligible, the sites are used to assess impacts from grazing. The sites have been only lightly affected, that is, they show signs of grazing by presence of dung and utilization of forage. No physical damage to sites was observed.

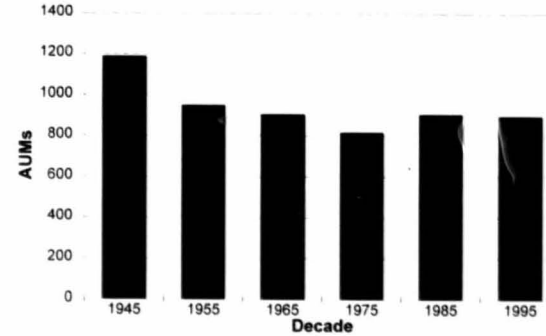
Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Dickinson Park Allotment

Historical Livestock Use

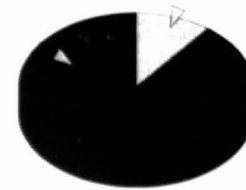


Dickinson Park Allotment

23716 Total Acres

Unsuitable - 21240 Ac
(90%)

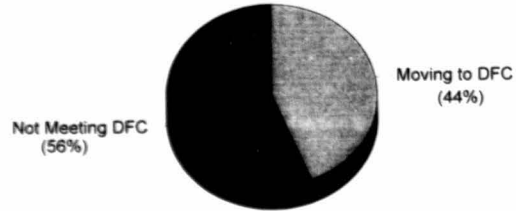
Suitable - 2476 Ac (10%)



Figures 1 & 2

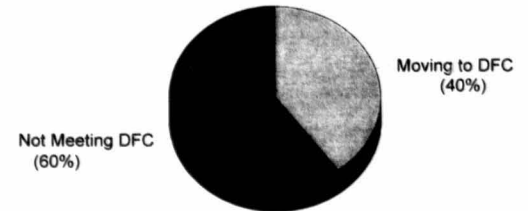
Dickinson Park Suitable Range

Riparian Range Condition



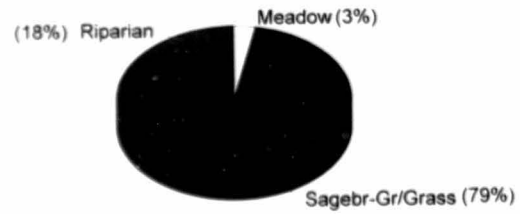
Dickinson Park Suitable Range

Upland Range Condition



Dickinson Park Allotment

Vegetation Ecological Types



Figures 3 & 4

Figure 5

HAYS PARK ALLOTMENT (095)

Affected Environment

Permit Information: This allotment is located in the Dry Creek drainage of the Washakie Ranger District on the Shoshone National Forest (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permits:	1
Number of Livestock:	300
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/16 to 8/25
Expiration Date:	12/31/95
Management System:	Season long
Existing Improvements:	2.5 miles fence
Historically AUM's have:	Increased (Figure 1)
Total Acres:	9,540 (Figure 2)
Suitable Acres:	2,578 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds L02 and L01 were not identified as watersheds of concern (Appendix B).

Riparian: There are 26 acres of riparian within the suitable range. In general, the riparian is slowly moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, there is no suitable fish habitat in these tributary streams on the allotment.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with forage with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by a granitic landscape between 9000 and 10,000 feet above sea level. Annual precipitation varies from 25 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is slowly moving towards desired condition because of a deferred management system that is providing for rest, vigor and reproduction for plant species. However, recent observations indicate unauthorized use and poor herding practices are hindering the vegetation from moving toward desired condition at an acceptable rate.

Crucial Winter Range: This allotment contains crucial winter range for bighorn sheep (Figure 2).

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term authorizing the grazing of 300 cow/calf pair from 7/16 to 8/25 under a season long system (541 AUM's).

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 541 AUM's of forage currently allocated for domestic livestock would be available for use by wildlife. Since the allotment contains only an estimated 27 acres of bighorn sheep crucial winter range, and all of this occurs in unsuitable rangeland areas, any potential benefits to wildlife would occur in non crucial areas. Although not a part of any crucial winter range areas, it is expected that riparian habitat conditions, which are currently receiving heavy use, would improve considerably under this alternative.

This alternative would eliminate any possibility for forage competition of livestock with any big game wildlife species.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G and the resolution of unauthorized use will reduce the potential adverse impacts from livestock grazing below the level of significance and help achieve desired range condition.

Vegetation: Application of the appropriate measures in Appendix G and the resolution of unauthorized use will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 541 AUM's of forage consumed by cattle would remain unavailable for use by wildlife. However, as previously noted, none of the CWR for wildlife species at issue occurs in the suitable range area. No significant forage conflicts with wildlife and livestock have been identified. Although most of the riparian habitat on this allotment is not within the CWR area, little improvement in the condition of this important habitat would occur unless appropriate mitigating measures were strictly followed.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Hays Park Allotment

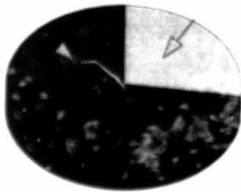


Hays Park Allotment

9540 Total Acres

Unsuitable - 6962 Ac
(73%)

Suitable - 2578 Ac (27%)

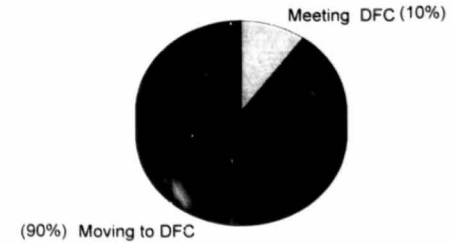


Figures 1 & 2

187

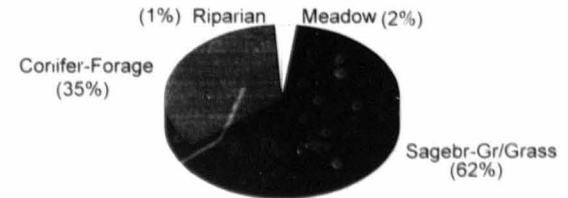
Hays Park Suitable Range

Riparian Range Condition



Hays Park Allotment

Vegetation Ecological Types

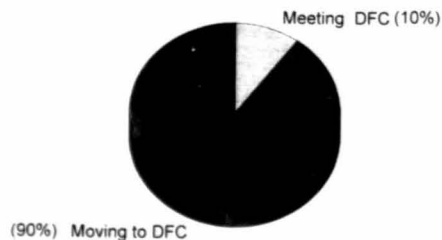


Figures 3 & 4

188

Hays Park Suitable Range

Upland Range Condition



MEADOW CREEK ALLOTMENT (097)

Affected Environment

Permit Information: This allotment is located in the Dry Creek drainage of the Washakie Ranger District on the Shoshone National Forest (Figure 1-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permits:	1
Number of Livestock:	60
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/16 to 8/15
Expiration Date:	12/31/95
Management System:	Open season long
Existing Improvements:	1.8 miles fence
Historically AUM's have:	Increased (Figure 1)
Total Acres:	1,289 (Figure 2)
Suitable Acres:	748 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds L02 and L03 were not identified as watersheds of concern.

Riparian: There are 97 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Dry Creek contains eastern brook, Yellowstone cutthroat, golden, and rainbow trout and their hybrids, in decreasing order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is alpine and conifer with a minor component of riparian (Figures 4 and 5). Vegetation is influenced by a granitic mountain landscape between 10,000 and 11,000 feet above sea level. Annual precipitation varies from 40 inches at the lower elevations to 50 inches at the upper elevations, the majority of that occurring in the winter.

Recent observations indicate the vegetation is slowly moving toward desired condition due to lack of an appropriate grazing system and unauthorized use.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue for this analysis.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Figure 5

184

185

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term authorizing the grazing of 60 cow/calif pair from 7/16 to 8/15 under a season long system (82 AUM's).

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 82 AUM's of forage currently allocated for domestic livestock would be available for use by wildlife. Since the allotment does not contain any crucial winter range for any species at issue, any potential benefits to wildlife would occur in non crucial areas and during non crucial time periods. Although not a part of any crucial winter range areas, it is expected that riparian habitat conditions, which are currently receiving heavy use, would improve considerably under this alternative. This alternative would eliminate any possibility for forage competition of livestock with any big game wildlife species.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: There are no cultural resource sites recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternative B - As Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance and help achieve desired condition.

Vegetation: Application of the appropriate measures in Appendix G for a season long system will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

Crucial Winter Range: The 82 AUM's of forage consumed by cattle would remain unavailable for use by wildlife. However, as previously noted, no crucial winter range for wildlife species at issue occurs in the allotment. No significant forage conflicts with wildlife and livestock have been identified. Although none of the riparian habitat on this allotment is within a crucial winter range area, little improvement in the condition of this important habitat can be expected unless appropriate mitigation measures are carefully followed.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

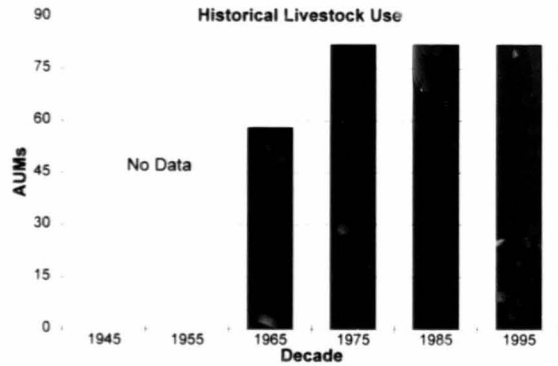
Heritage Resources: There are no cultural resource sites recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

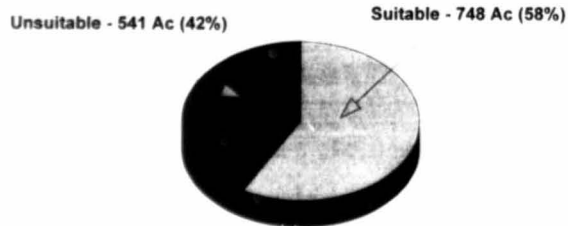
Cumulative effects is discussed in Chapter II.

Meadow Creek Allotment



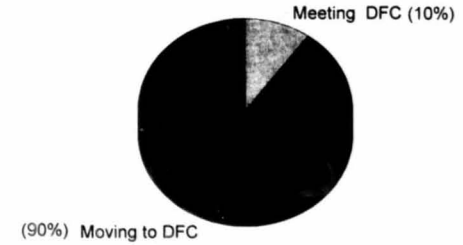
Meadow Creek Allotment

1289 Total Acres



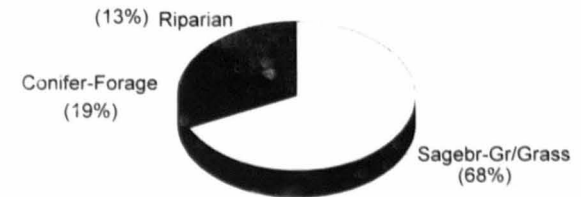
Meadow Creek Suitable Range

Riparian Range Condition



Meadow Creek Allotment

Vegetation Ecological Types



Figures 1 & 2

1966

Figures 3 & 4

1966

Meadow Creek Suitable Range

Upland Range Condition

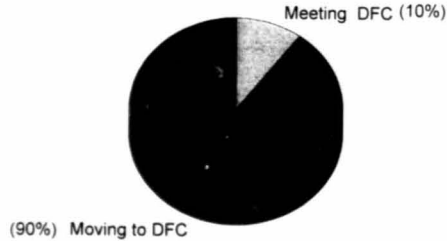


Figure 5

1990

SQUAW CREEK ALLOTMENT (102)

Affected Environment

Permit Information: This allotment is located in the North Popo Agie River drainage of the Washakie Ranger District (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	60
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	7/6 to 9/15
Expiration Date:	12/31/95
Management System:	deferred-rotation
Existing Improvements:	3.5 miles fence, 2 water developments
Historically AUM's have:	Remained Stable (Figure 1)
Total Acres:	7,744 (Figure 2)
Suitable Acres:	2,163 (Figure 2)

Watershed: Based on the cumulative effects analysis, watershed L12 has not been identified as watershed of concern (Appendix B).

Riparian: There are 22 acres of riparian within the suitable range. In general, the riparian is moving towards or meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the tributaries on the allotment do not contain suitable fish habitat. Downstream, the North Popo Agie River contains eastern brook and rainbow trout.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of aspen and riparian (Figures 4 and 5). Vegetation is influenced by a granitic foothills landscape between 7000 and 9500 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is slowly moving towards desired condition because of a deferred-rotation management system. This is based on present ungulate numbers. However, trespass from adjoining lands is hindering reaching desired condition at an acceptable rate.

Aspen provides for important diversity in this allotment. Conifer encroachment and regeneration is a concern.

Crucial Winter Range: This allotment contains crucial winter range for elk and moose. Figure 2 shows the combined acres of CWR occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 60 cow/calf pair from 7/6 to 9/15 (190 AUM's). Livestock will continue to be managed under a 2 unit deferred-rotation grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If trespass livestock continue to use the allotment there could be a downward trend in vegetation if overuse of spring range occurs prior to range readiness.

Crucial Winter Range: The 190 AUM's of forage currently allocated for livestock would be available for use by wildlife. Since the allotment contains only an estimated 73 acres of moose crucial winter range and 59 acres of elk crucial winter range within the suitable rangelands, only a small part of any potential benefits that might accrue to wildlife would occur in crucial winter range areas. However, the allotment does contain a significant amount of elk transition and calving range and important riparian areas that currently are receiving considerable use by livestock and elk. This alternative would provide some reduction of use in small riparian areas. However, one reason for the current amount of use in riparian areas is trespass livestock.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. The ultimate effect of no livestock grazing on habitat conditions would depend on many factors including continuing to balance wildlife numbers with habitat conditions and solving range administration problems.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance and help achieve desired range condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions.

If regeneration of conifer in aspen continues to move this forage type toward climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. Appropriate measures in Appendix G need to be applied, otherwise suitable range could become over used and a downward trend in vegetation may occur.

Trespass livestock must be resolved otherwise season long use of the riparian and uplands will cause a downward trend in vegetation.

Crucial Winter Range: The 190 AUM's of forage consumed by cattle would remain unavailable for use by wildlife. However, as previously noted, only a small part of the crucial winter range area for wildlife species at issue occurs in the suitable range area. No significant forage conflicts with wildlife and livestock have been identified. The riparian habitat on this allotment including any that occurs in crucial winter range areas would improve in condition with the implementation of appropriate mitigating measures and solving range administration problems.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock will not affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

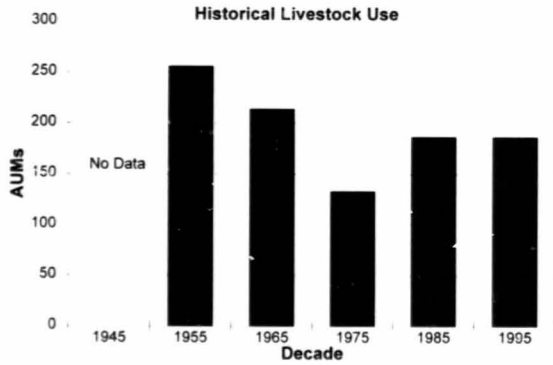
Heritage Resources: There are no cultural resources recorded within this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

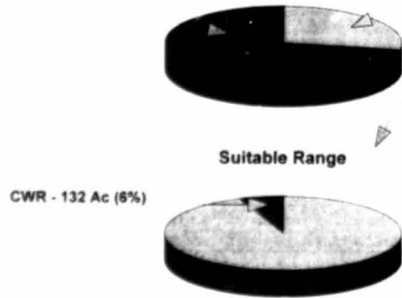
Squaw Creek Allotment



Squaw Creek Allotment

7744 Total Acres

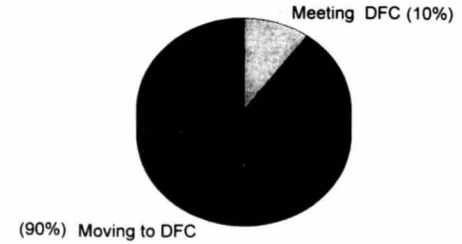
Unsuitable - 5581 Ac (72%) Suitable - 2163 Ac (28%)



Figures 1 & 2

Squaw Creek Suitable Range

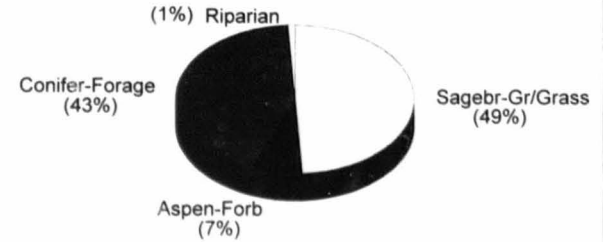
Riparian Range Condition



(90%) Moving to DFC

Squaw Creek Allotment

Vegetation Ecological Types



Figures 3 & 4

Squaw Creek Allotment

Upland Range Condition

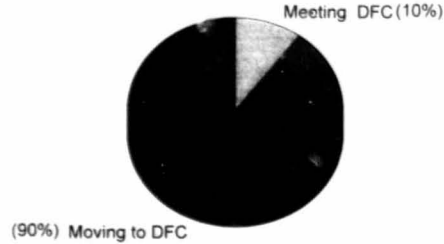


Figure 5

DOBY CLIFF ALLOTMENT (180)

Affected Environment

Permit Information: This allotment is located in the lower reaches of the Long Creek drainage of the Wind River Ranger District on the Shoshone National Forest (Figure 1-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term and Private Land
Number of Permittees:	1
Number of Livestock:	100 (50 private, 50 term permit)
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	9/1 to 9/30
Expiration Date:	12/31/95
Management System:	open season long
Existing Improvements:	6.5 miles fence
Historically AUMs have:	Remained Stable (Figure 1)
Total Acres:	978 (Figure 2)
Suitable Acres:	317 (Figure 2)

Watershed: Based on the cumulative effects analysis, watershed R16 was identified as an additional watershed of concern. Impacts appear to be approaching a level at which watershed condition and stream health would be degraded beyond their ability to recover in the short term. These potential impacts are currently being field verified. It met the criteria primarily due to past logging related activities and domestic livestock grazing. Watershed R04 was not identified as a watershed of concern.

Riparian: There are about 15 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the lower reaches of Long Creek contain eastern brook trout.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian (Figure 4 and 5). Vegetation is influenced by an Absaroka foothills landscape averaging 8000 feet above sea level. Average annual precipitation is approximately 18 inches, the majority of that occurring in the winter.

Fall use (after 9/1) has traditionally provided for improved plant vigor on this unit. The vegetation in this allotment is moving towards desired condition but at a very slow rate because unauthorized use from adjoining private land and Forest allotments is compromising the management system. This is based on the present ungulate numbers.

Elk populations in this herd unit (Table II-1) are over objective. Additionally, observations indicate livestock and wildlife are creating some areas of overuse.

Adjoining private lands are providing some forage for wildlife, especially elk, which would otherwise naturally use this allotment during the spring and fall migration.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue for this analysis.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are no cultural resource sites recorded within the allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one term (50 head) and one private land (50 head) permit will be issued for a 10 year term that authorizes a total of 100 cow/calf pair from 9/1 to 9/30 (132 AUMs). Livestock will continue to be managed under a season long grazing system.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife, especially elk, overuse spring range prior to range readiness, there could be a downward trend in vegetation.

If a permit is not issued, there is a possibility that the lands adjacent to the allotment could be developed which are now providing open space. This could displace those wildlife onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level.

Crucial Winter Range: The 66 AUMs of forage currently allocated for domestic livestock would be available for use by wildlife. Since the allotment does not contain crucial winter range for elk, bighorn sheep, or moose, any potential benefits to these species would occur in non-crucial areas. With no livestock grazing, migrating elk could be afforded additional foraging opportunities particularly during the fall migration. As parts of the allotment are also used by elk during calving, to the degree that no livestock grazing would result in improved range condition and trend, elk would also benefit from vigorous spring succulent vegetation growth. It is important to keep in mind however, that neither fall foraging opportunities for elk, or the current amount or quality of spring forage are currently viewed as limiting factors for elk that may use the allotment.

This alternative would eliminate any possibility for forage competition of livestock with any big game wildlife species.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (Including riparian and fisheries): Application of appropriate measures in Appendix G will help achieve desired condition and reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G, the resolution of the unauthorized use and the continued fall use of the allotment will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions. However, if elk numbers exceed habitat capacity, especially on spring range, a downward trend in some species may occur.

Crucial Winter Range: The 66 AUMs of forage consumed by cattle would remain unavailable for use by wildlife. However as previously noted this allotment does not contain CWR for any wildlife species at issue, and no significant forage conflicts with livestock have been identified.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not, or is not likely, to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

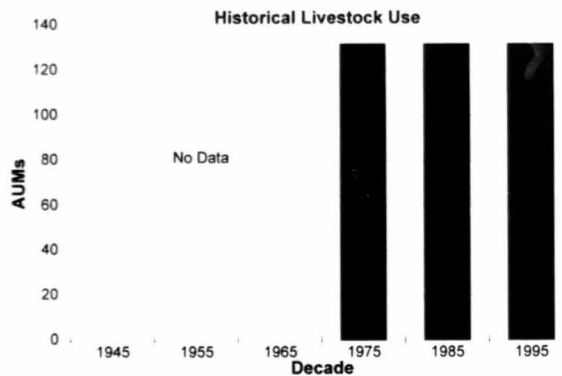
Heritage Resources: There are no cultural resource sites recorded in this allotment.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

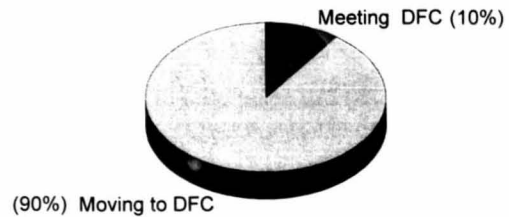
Cumulative effects is discussed in Chapter II.

Doby Cliff Allotment



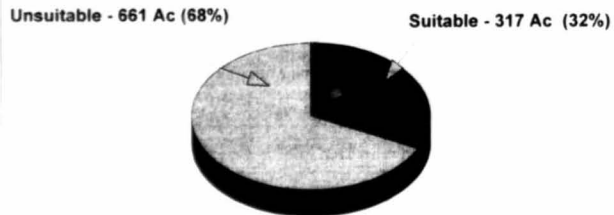
Doby Cliff Suitable Range

Riparian Range Condition



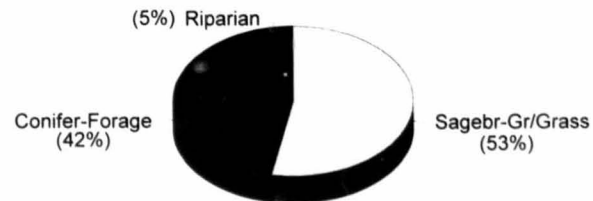
Doby Cliff

978 Total Acres



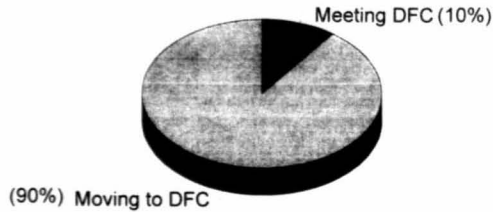
Doby Cliff Allotment

Vegetation Ecological Types



Doby Cliff Suitable Range

Upland Range Condition



FISH LAKE (182)

Affected Environment

Permit Information: This allotment is located in the Warm Spring Creek drainage of the Wind River Ranger District on the Shoshone National Forest (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	391
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/26 to 9/30
Expiration Date:	12/31/95
Management System:	Season long
Existing Improvements:	8.75 miles fence, cow camp, corral, barn, horse pasture
Historically AUMs have:	Decreased (Figure 1)
Total Acres:	13,894 (Figure 2)
Suitable Acres:	4,181 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds R19, R20 and R18 were not identified as watersheds of concern (Appendix B).

Riparian: There are 334 acres of riparian within the suitable range. In general, most of the allotment is moving towards with some meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Warm Springs Creek contains eastern brook trout, rainbow, Snake River cutthroat and their hybrids, in decreasing order of dominance.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian (Figures 4 and 5). Vegetation is influenced by an Absaroka and granitic mountain landscape between 8000 and 9500 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of past reductions and management practices that have enabled livestock to meet allowable use standards. Even though this is a season long grazing system, this management has provided for rest, improved vigor and reproduction for plant species. This is based on present ungulate numbers.

Past timber harvest activities in this allotment have created transitory range. These past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Adjoining private lands are providing some forage for wildlife which might otherwise use this allotment.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are ten unevaluated historic cultural resource sites within the allotment.

Native American Cultures: There have been no concerns identified at the present time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term authorizing the grazing of 391 cow/calf pair from 6/26 to 9/30 under a season long grazing system for 1,669 AUMs.

Alternative C - Change from Current Management - Preferred Alternative

Under this alternative, the currently vacant Salt Creek allotment would be managed with the Fish Lake allotment. Stocking would consist of 800 cow/calf pair from 7/1 to 9/30 for a total of 3238 AUMs. This alternative would use the entire Fish Lake allotment as a spring use pasture from 7/1 to 7/30 for 1056 AUMs and the Salt Creek allotment as a late summer 2-pasture system from 7/31 to 9/30 for 2182 AUMs.

This alternative would shift the season long system in Fish Lake to a high intensity/short duration riparian pasture, and the Salt Creek allotment to a deferred 2 unit summer pasture. There would be 613 fewer AUMs of livestock use on the Fish Lake allotment and 1056 fewer AUMs of livestock use on the Salt Creek allotment for a total reduction of 1669 AUMs.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (Including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward ecological climax and away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 1,669 AUMs of forage estimated to be consumed by livestock in Alternative B would be available for use by wildlife. However, since the allotment does not contain CWR for elk, bighorn sheep, or moose, in suitable livestock range, any benefits to these species would occur in non CWR areas.

This alternative would eliminate any potential for livestock/wildlife forage conflicts.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (Including riparian and fisheries): Application of appropriate measures in Appendix G will help achieve or maintain desired condition over time and reduce the potential adverse impacts from livestock grazing below the level of significance. This alternative would take longer to achieve desired condition since it is a season-long system, cattle prefer riparian areas and the potential for impacts is greatest.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a slower rate than Alternative C.

As transitional range continues to move toward climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. Appropriate measures in Appendix G must be applied otherwise suitable range could become over used and a downward trend in vegetation may occur.

Crucial Winter Range: Under this alternative the estimated 1,669 AUMs of forage consumed by livestock would remain unavailable for use by wildlife. However, no significant forage competition problems between livestock and wildlife have been identified, and as previously noted the allotment does not contain crucial winter range in suitable range.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There are ten historic cultural resource sites within the allotment. Due to the nature of the sites, they are not being adversely impacted.

Native American Cultures: There have been no concerns identified.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (Including riparian and fisheries): The reduction of 1669 AUMs of livestock use and the application of appropriate mitigation measures in Appendix G will help achieve desired condition sooner than Alternative B. This alternative would reduce the duration and intensity of livestock grazing below the level of significance. Short duration, high intensity spring grazing is preferable

from a riparian standpoint and the Fish Creek allotment contains considerable riparian, especially at higher elevations.

Vegetation: The short duration grazing of the riparian pasture (Fish Lake allotment) and deferred summer pastures on Salt Creek, and the 1669 AUM reduction of livestock use will reduce potential impacts on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a much faster rate than Alternative B. This alternative will compensate for the transitory range that will eventually go to climax vegetation.

Crucial Winter Range: As previously indicated this allotment does not contain CWR for any wildlife species at issue. Under this alternative the estimated 1,056 AUMs of forage consumed by livestock would remain unavailable for use by wildlife. However, this forage occurs in non-CWR areas and thus is not relevant to this issue. This alternative would result in reaching overall desired habitat conditions faster than with Alternative B, and would provide benefits to wildlife in other important areas such as riparian areas as noted above.

Endangered, Threatened and Sensitive Species: The effects of this alternative on these species would generally be the same as described for Alternative B above.

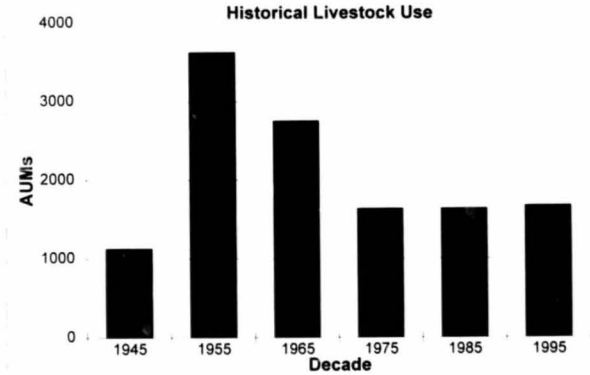
Heritage Resources: There are ten historic cultural resource sites within the allotment. Due to the nature of the sites, they are not being adversely impacted under present grazing system and would not be impacted under the proposed alternate system.

Native American Cultures: There have been no concerns identified.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Fish Lake Allotment

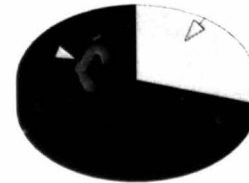


Fish Lake Allotment

13894 Total Acres

Unsuitable - 9713 Ac (70%)

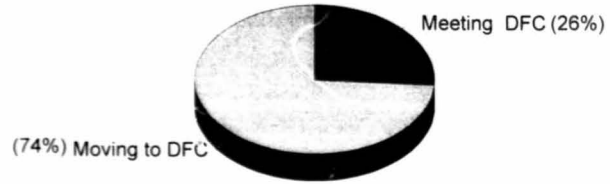
Suitable - 4181 Ac (30%)



Figures 1 & 2

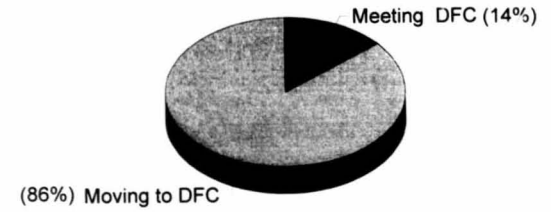
Fish Lake Suitable Range

Riparian Range Condition



Fish Lake Suitable Range

Upland Range Condition



Fish Lake Allotment

Vegetation Ecological Types



Figures 3 & 4

2016

Figure 5

2017

HORSE CREEK ALLOTMENT (183)

Affected Environment

Permit Information: This allotment is located in the Horse Creek drainage of the Wind River Ranger District (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Vacant since 1992
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	245
Kind and Class of Livestock:	Cattle, cow/calf
Season of Use:	6/26 to 10/10
Expiration Date:	
Management System:	Season long
Existing Improvements:	6.4 miles of fence
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	34,071 (Figure 2)
Suitable Acres:	3,300 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds R05 and R14 were not identified as watersheds of concern (Appendix B).

Riparian: There are 561 acres of riparian within the suitable range. In general, some of the riparian is meeting desired condition with most of it moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Horse Creek contains eastern brook and rainbow trout, in order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by an Absaroka mountain landscape between 7,500 and 10,000 feet above sea level. Annual precipitation varies from 20 inches at the lower elevations to 40 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of four years of partial nonuse (vacant) and because of a past livestock reduction. This has provided for additional plant vigor and reproduction for plant species. However the past season long grazing system has not moved the vegetation towards desired condition at a very fast rate. This is based on present ungulate numbers.

Past timber harvest in this allotment created some transitory range that livestock have been using in conjunction with suitable range. These past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Aspen and willow provides for important diversity in this allotment. Conifer encroachment and regeneration is a concern in aspen. Potential overbrowsing by ungulates on aspen regeneration and willow is also a concern.

Adjoining private lands are providing some supplemental forage for wildlife which might otherwise use this allotment in the winter and spring.

The Five Pockets area (upper one-half) of this allotment has been grazed season long and observations indicate there are conflicts with recreation horse use. This area needs a management system (deferment) that will move it towards desired condition at a faster rate than present.

Crucial Winter Range: This allotment contains crucial winter range for elk, bighorn sheep, and moose. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). The upper part of this allotment is within the grizzly bear recovery zone.

Heritage Resources: There are eight cultural resource sites recorded in this allotment. Two sites have been evaluated and pre-designated as not eligible to the NRHP. Of the remaining six sites, five prehistoric and the prehistoric component of a multi-component site, have been evaluated as eligible to the NRHP.

Native American Cultures: There have been no concerns identified.

Alternatives:

Alternative A - No Livestock Grazing

This alternative is required by NEPA. There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 245 cow/calf pair from June 26 to October 10 (1153 AUM's). Livestock will be managed under a season long grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, this allotment will be managed with the Parque Creek and Ramshorn allotments. Livestock grazing would consist of 312 cow/calf pair from 6/26 to 10/10 for 1469 AUM's. This allotment would be set up into a 6 unit system. The lower half of the Horse Creek allotment (below Deacon Meadow) would be a riparian unit, grazed every year from 6/26 to 7/16 (288 AUM's). The upper half (above Deacon Meadow) of the Horse Creek allotment would be grazed with approximately 100 head every third year from 7/17 to 10/10. Parque Creek and Ramshorn will each have 2 units and would be grazed after 7/17 until 10/10 in a modified deferred-rotation system for 1181 AUMs. This alternative will result in the reduction of 865 AUM's on the Horse Creek Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short

term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the Forestwide level under the No Action Alternative in Chapter II.

If wildlife populations continue to increase and exceed habitat capacity, there could be a downward trend in vegetation if overuse of spring range occurs.

If a permit is not issued, there is a possibility that the lands adjacent to the allotment could be developed. This could displace wildlife using the private land for forage onto the allotment in greater numbers and for extended time periods. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity of the available habitat.

Crucial Winter Range: The 1,153 AUM's of forage currently allocated for cattle use would potentially be available for use by wildlife. However, since a determination has been made that this allotment likely can not continue to carry this amount of use without a deterioration of range conditions, wise management for use by wildlife would also call for use below this level. Nevertheless, this alternative would make available some additional forage for wildlife. Since a part of the suitable livestock range is also crucial winter range for elk (279 acres), bighorn sheep (55 acres) and moose (81 acres), some of the additional forage would be available in important wildlife wintering areas.

This alternative would eliminate any potential for livestock/wildlife forage conflicts on winter ranges.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): There are concerns about reissuing the permit under previous conditions since most of Horse Creek is located in a narrow riparian zone with very steep side slopes. Consequently, cattle will spend most of their time in the bottom. Under a season-long system the potential for adverse impacts to the riparian zone is great and could result in the allotment moving further away from desired condition.

Vegetation: Application of the appropriate mitigation measures (see below) with a season long system will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions, but at a slower rate than Alternative C. If wildlife, especially elk, exceed habitat capacity, there could be a downward trend on spring range, aspen and willow.

As transitional range continues to move toward climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. Appropriate mitigation measures must be applied otherwise suitable range could become over used and a downward trend in vegetation may occur.

Crucial Winter Range: The estimated 1,153 AUM's of forage consumed by cattle, including that consumed on crucial winter range would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide more than the amount of forage for livestock being proposed under this alternative. However, as noted above, conifer regeneration on transitory range created by timber harvest as well as ecological succession has continued to decrease available capacity throughout the allotment including winter range areas. It appears it would be difficult to continue to provide forage for this level of livestock use while still meeting objectives in other resource areas, including crucial winter ranges. If this alternative is implemented, strict adherence to utilization guidelines on crucial winter ranges will be necessary to mitigate effects to a level of insignificance.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect any threatened or endangered species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: It is not known at this time if or to what degree these sites are being impacted.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): Managing these allotments as a 6-pasture system would help reduce the duration and intensity of livestock use, mitigate impacts below the level of significance and help achieve desired condition faster than Alternative B. A riparian unit is preferable in the lower Horse Creek unit over a season long system since it would provide greater opportunity for vegetative regrowth, minimize stream bank impacts and lower utilization of willows. By providing 2 years of rest every 3 years, the Five Pockets Unit riparian area would move toward desired condition faster than Alternative B.

Vegetation: Application of the appropriate mitigation measures in Appendix G, a deferred/riparian grazing system and a reduction of 865 AUMs of livestock use would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation would continue to move toward desired conditions, but at a much faster rate than Alternative B. However, if wildlife exceed habitat capacity, some downward trend in range condition may occur.

The combination of the Ramshorn/Parque Creek allotment to the Horse Creek allotment would provide adequate suitable range to make up for transitory range that is moving towards climax.

Conflicts with recreation livestock would be reduced in the Five Pockets area.

Crucial Winter Range: The estimated 288 AUM's of forage consumed by livestock on the lower part of this allotment, including that consumed on crucial winter range would remain unavailable for use by wildlife. The amount of forage removed by livestock every third year in the upper part of the allotment would also not be available for wildlife use. However, in comparison to Alternative B, this proposed level of use by livestock is more in line with anticipated capacity considering the continued loss of transitory range, and needs for other resource objectives including those for crucial winter range and transitional range areas.

Implementing this alternative should greatly accelerate the attainment and maintenance of desired habitat conditions, including crucial winter range areas, assuming other influences on conditions remain stable.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the mitigation measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

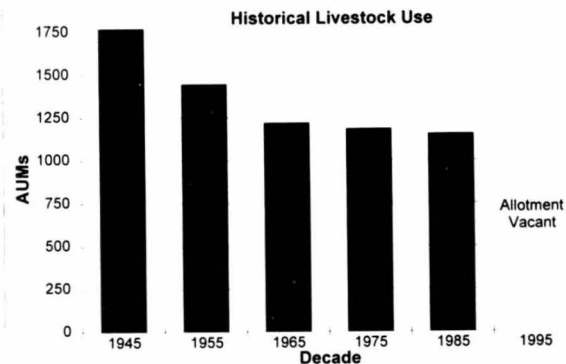
Heritage Resources: It is not known at this time if or to what degree the sites are impacted from past grazing, therefore effects under proposed alternative grazing system cannot be assessed.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Horse Creek Allotment



Horse Creek Allotment

34071 Total Acres

Unsuitable - 30771 Ac
(90%)

Suitable - 3300 Ac (10%)



Suitable Range

CWR - 415 Ac (13%)

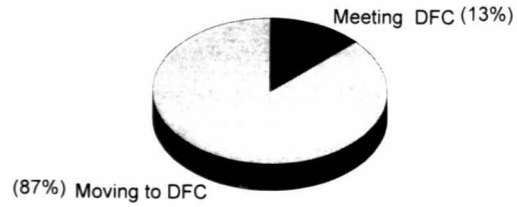


Figures 1 & 2

2/5

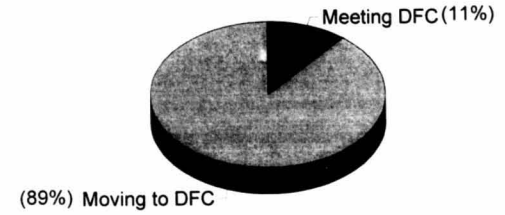
Horse Creek Suitable Range

Riparian Range Condition



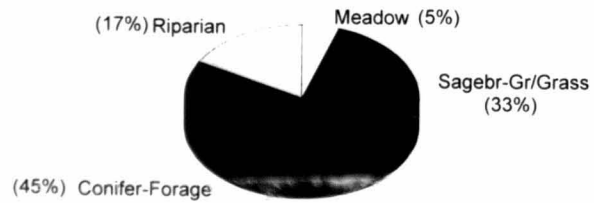
Horse Creek Suitable Range

Upland Range Condition



Horse Creek Allotment

Vegetation Ecological Types



Figures 3 & 4

216

Figure 5

217

PARQUE CREEK/RAMSHORN ALLOTMENTS (184/185)

Affected Environment

Permit Information: These allotments are located in the Dunoir River and Burroughs Creek drainages in the upper Wind River valley of the Wind River Ranger District (Figure I-B). The following facts pertain to these allotments:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	312
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/26 to 9/30
Expiration Date:	12/31/95
Management System:	deferred-rotation 6-pasture
Existing Improvements:	10.25 miles fence, 3 cow camps, 1 corral
Historically AUM's have:	Remained stable (Figure 1)
Total Acres:	33,638 (Figure 2)
Suitable Acres:	3,348 (Figure 2)

Watershed: Based on the cumulative effects analysis, watershed R15, R14 and R04 were not identified as watersheds of concern (Appendix B).

Riparian: There are 67 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the streams in these two allotments contain brook trout.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is conifer with forage, with a minor component of riparian, aspen, sagebrush/grass, and meadow (Figures 4 and 5). Vegetation is influenced by an Absaroka mountain landscape between 7000 and 9500 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is slowly moving towards desired condition because of a deferred management system that is providing improved plant vigor and reproduction for plant species. This is based on present ungulate numbers.

Past timber harvest in this allotment created transitory range that livestock have been using in conjunction with suitable range. These past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Aspen provides for important diversity in this allotment. Conifer encroachment and regeneration is a concern. Potential overbrowsing by ungulates on aspen regeneration is also a concern.

Adjoining private lands, including that of the permittees, are providing some supplemental forage for wildlife which might otherwise use this allotment.

Crucial Winter Range: This allotment contains crucial winter range for bighorn sheep and moose. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). The upper parts of these allotments are within the grizzly bear recovery zone.

Heritage Resources: There are twenty-three cultural resource sites recorded in this allotment. Thirteen have been evaluated as not eligible to the NRHP. One historic site and four prehistoric sites have been evaluated as eligible to the NRHP. Seven other prehistoric sites have not been evaluated.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 312 cow/calf pair from 6/26 to 9/30 (1332 AUM's). Livestock will continue to be managed under a 6-pasture deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, these two allotments will be managed with the Horse Creek allotment. Livestock grazing would consist of 312 cow/calf pair from 6/26 to 10/10 for 1469 AUM's and be set up into a 6 unit system. The lower half of the Horse Creek allotment (below Deacon Meadow) will be a riparian pasture, grazed every year from 6/26 to 7/16. The upper half (above Deacon Meadow) of the Horse Creek allotment will be grazed with approximately 100 head every third year from 7/17 to 10/10. Parque Creek and Ramshorn will each have 2 units and will be grazed from 7/17 to 10/10 in a modified deferred-rotation system for 1181 AUMs. There will be a reduction of 151 AUMs on the Parque Creek/Ramshorn allotments.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations remain over objective and these numbers are also beyond the habitat carrying capacity, there could be a downward trend in vegetation on seasonal ranges and aspen.

If a permit is not issued, there is a possibility that the lands adjacent to the allotment could be developed. This could displace wildlife using the private land for forage onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 1,332 AUM's of forage currently allocated for cattle use would potentially be available for use by wildlife. However, since a determination has been made that this allotment likely can not continue to carry this amount of livestock use without a deterioration of range conditions, wise management for use by wildlife would also call for use below this level. Nevertheless, this alternative would make available some additional forage for wildlife. Relatively small areas within these allotments contain crucial winter range areas within suitable livestock range. The most significant overlap is 62 acres of moose crucial winter range within suitable range on the Parque Creek allotment. Thus any potential benefits to wildlife in crucial winter range areas would be limited to the important riparian areas.

This alternative would eliminate any potential for livestock/wildlife forage conflicts on winter ranges.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative 3 - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance and help achieve desired condition. The allotment will achieve desired condition at a slower rate than under Alternative C.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a much slower rate than Alternative C. Additionally, if elk exceed habitat capacity, some downward trend in some species may occur.

As transitional range continues to move towards climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. Appropriate measures in Appendix G must be applied otherwise suitable range could become over used and a downward trend in vegetation may occur.

Crucial Winter Range: The estimated 1,332 AUM's of forage consumed by cattle, including that consumed on CWR, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that these allotments could provide more than the amount of forage for livestock being proposed under this alternative. However, as noted above, conifer regeneration on transitory range as well as ecological succession in other areas has continued to decrease the available capacity on the allotment. It would be difficult to continue to provide forage for this level of livestock use while still meeting objectives in other

resource areas, including crucial winter ranges. If this alternative is implemented, strict adherence to utilization guidelines on crucial winter range areas will be necessary to mitigate effects to a level of insignificance.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or may affect but is not likely to adversely affect, any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: Impacts to most sites from livestock grazing have been limited to indications of animal presence and not any physical damage. There are some sites which have not been examined for impacts.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative would help reduce the duration and intensity of livestock use, mitigate impacts below the level of significance and help achieve desired condition sooner than Alternative B. A short duration, high intensity riparian unit is preferable in the lower Horse Creek unit over a season long system since it would provide greater opportunity for vegetative regrowth, minimize stream bank impacts and lower utilization of willows.

Vegetation: Application of the appropriate mitigation measures in Appendix G, combining three allotments into one 6-pasture, deferred/riparian system and reducing 151 AUMs of livestock use on these combined allotments would reduce potential impacts below the level of significance. Vegetation will continue to move toward desired conditions, but at a much faster rate than Alternative B. However, if wildlife numbers exceed habitat capacity, a downward trend in rangeland conditions may occur.

Crucial Winter Range: The estimated 1,469 AUMs of forage consumed by livestock on all three allotments including that consumed on crucial winter range areas would remain unavailable for use by wildlife. However, in comparison to Alternative B, this alternative would make 1,016 AUMs available to wildlife. Implementing this alternative should greatly accelerate the attainment and maintenance of desired habitat conditions on transitional wildlife ranges as well as Big Horn Sheep crucial winter range areas.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G should to be implemented.

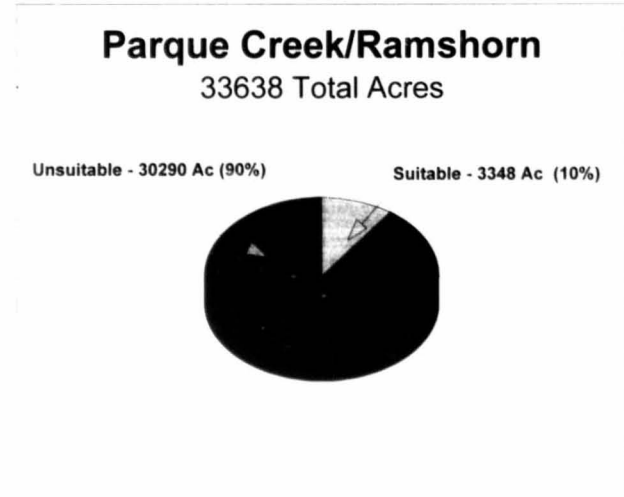
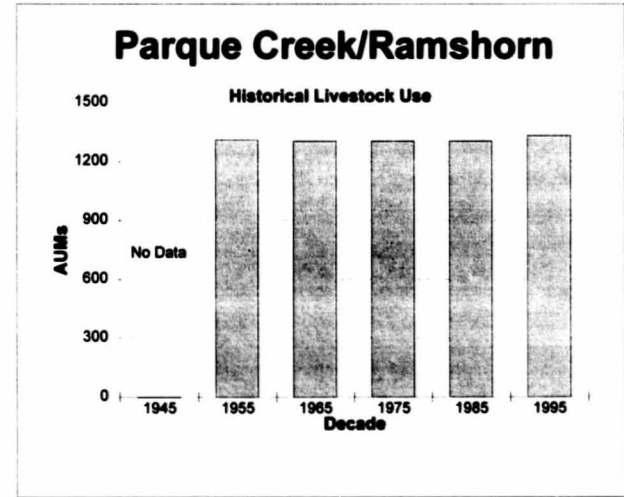
Endangered, Threatened and Sensitive Species: The effect of this alternative on these resource issues would generally be the same as described for Alternative B. However, the potential for any adverse impacts from livestock grazing would be lower. Also, additional habitat diversity is provided under this alternative.

Heritage Resources: Impacts under this proposed system would be similar to those under Alternative B.

Native American Cultures: There have been no concerns identified.

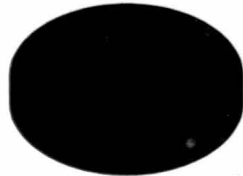
Cumulative Effects

Cumulative effects is discussed in Chapter II.



Parque Creek/Ramshorn

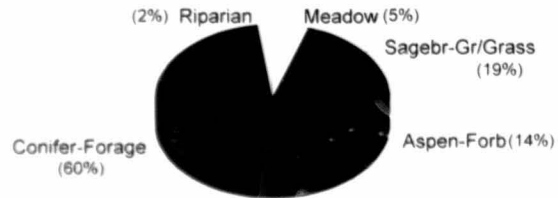
Riparian Suitable Range Condition



Moving to DFC (100%)

Parque Creek/Ramshorn

Vegetation Ecological Types



Figures 3 & 4

Parque Creek/Ramshorn

Upland Suitable Range Condition

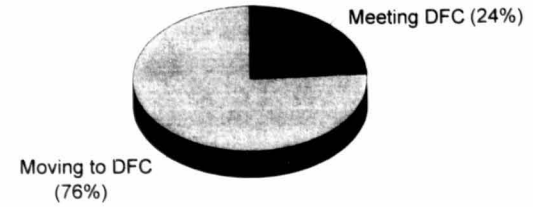


Figure 5

WHISKEY MOUNTAIN (189)

Affected Environment

Permit Information: This allotment is located in the Torrey Creek and Jakeys Fork drainages of the Wind River Ranger District (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	30
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/21 to 9/30
Expiration Date:	12/31/95
Management System:	season long
Existing Improvements:	.5 miles fence
Historically AUM's have:	Decreased (Figure 1)
Total Acres:	12,350 (Figure 2)
Suitable Acres:	3,349 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds R25, R24 and R23 were not identified as watersheds of concern.

Riparian: There are 33 acres of riparian within the suitable range. In general, the riparian is moving towards desired condition (figure 3)

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Torrey Creek contains eastern brook trout and rainbow trout while Jakeys Fork contains brook trout.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by a Granitic foothills landscape between 7000 and 9000 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of historic reductions in livestock numbers for bighorn sheep. This management has provided for improved vigor, rest and reproduction for plant species. This is based on present livestock and wildlife numbers and use.

Adjoining private land (including the permittees) are providing some supplemental forage for wildlife which would otherwise use this allotment.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There is one eligible prehistoric cultural resource site recorded in this allotment.

Native American Cultures: There have been no concerns identified at this time, however, important traditional cultural properties and values are known to be present close to the allotment.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Under this alternative, one grazing permit will be issued for a 10 year term authorizing the grazing of 30 cow/calf pair from 6/21 to 9/30 under a season long system (135 AUM's).

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific livestock effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by ungulates as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If a permit is not issued, there is a possibility that the lands adjacent to the allotment could be developed. This could displace wildlife using the private land for forage onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 135 AUM's of forage currently allocated for domestic livestock, including that occurring on crucial winter range would be available for use by wildlife. Since a substantial part of the suitable livestock range is also crucial winter range for bighorn sheep (3,328 of 3348 acres), the additional forage would be available in an area of most concern for this species. A much smaller area of suitable range is crucial range for elk (660 of 3448 acres).

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. The effects of no livestock grazing on habitat conditions would depend on many other factors including the success of agencies in balancing habitat conditions with wildlife numbers, particularly bighorn sheep.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial domestic livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action and Preferred Alternative

Watershed (including riparian and fisheries): Currently, the riparian is moving towards desired condition. Implementation of appropriate measures within in Appendix G will result in the allotment gradually meeting desired condition.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions. However, if wildlife exceeds habitat capacity some downward trend in some species may occur.

Crucial Winter Range: The estimated 135 AUM's of forage consumed by domestic livestock, including that consumed on crucial winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment would provide at least this amount of forage for livestock and still maintain adequate reserves for the needs of wintering wildlife and plant health. Current analysis and observations tend to confirm this although some additional attention to livestock distribution patterns may be necessary to attain more uniform utilization throughout the suitable range. The importance of this allotment to wintering wildlife warrants continued monitoring.

In order for the effects of livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

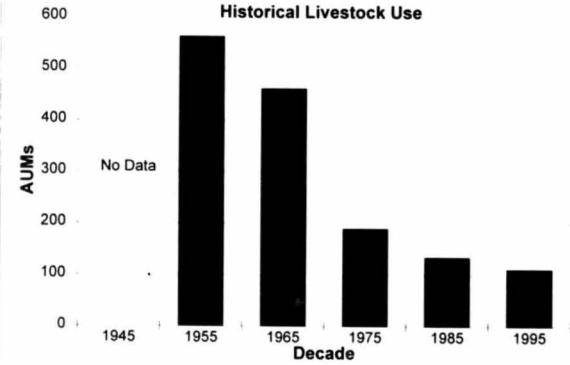
Heritage Resources: There have been no impacts to the known site based on examination and monitoring.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Whiskey Mountain Allotment



Whiskey Mountain Allotment

12350 Total Acres

Unsuitable - 9001 Ac (73%)

Suitable - 3349 Ac (27%)



Suitable Range

CWR - 3328 Ac (99%)



Figures 1 & 2

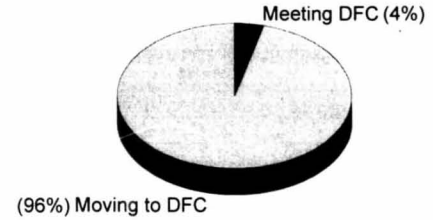
Whiskey Mtn Suitable Range

Riparian Range Condition



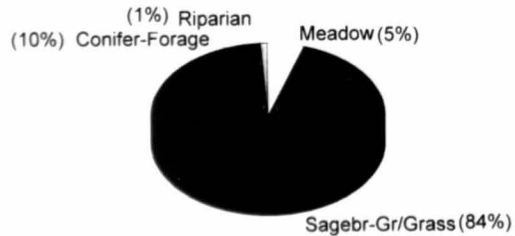
Whiskey Mtn Suitable Range

Upland Range Condition



Whiskey Mountain Allotment

Vegetation Ecological Types



Figures 3 & 4

Figure 5

WIGGINS FORK ALLOTMENT (190)

Affected Environment

Permit Information: This allotment is located in the Wiggins Fork and a portion of the Bear Creek drainage of the Wind River Ranger District (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Under permit
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	800
Kind and Class of Livestock:	Cattle, Cow/calf
Season of Use:	6/26 to 10/10
Expiration Date:	12/31/95
Management System:	modified deferred-rotation (4 unit)
Existing Improvements:	6.1 miles fence, 2 corrals, 2 cabins
Historically AUM's have:	Slightly decreased (Figure 1)
Total Acres:	39,063 (Figure 2)
Suitable Acres:	12,540 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds R13, R08, R12, and R07 were not identified as watersheds of concern (Appendix B).

Riparian: There are 1,209 acres of riparian within the suitable range. In general, most of the riparian is moving towards with some meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the Wiggins Fork contains Snake river cutthroat, Yellowstone cutthroat, their hybrids, mountain whitefish, and brown trout in decreasing order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by an Absaroka foothills landscape between 7000 and 9500 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 30 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation is moving towards desired condition because of a voluntary reduction taken by the permittee for resource protection and because of the past deferred-rotation management system that provided for improved plant vigor as well as plant rest and reproduction needs. This is based on present ungulate numbers.

Under the present grazing system, there is an inability to rotate grazing on spring use units due to the inability of the permittee to get livestock across the Wiggins Fork River in early spring due to high water.

Past timber harvest in this allotment created transitory range that livestock have been using in conjunction with suitable range. These past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Aspen provides for important diversity in this allotment. Conifer encroachment and regeneration is a concern. Potential overbrowsing by ungulates on aspen regeneration is also a concern.

Adjoining private lands as well as the Wyoming Game and Fish Habitat Units are providing supplemental forage for wildlife which would otherwise use this allotment in the fall, winter and spring.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). A small part of the allotment is within the grizzly bear recovery zone.

Heritage Resources: There are eight prehistoric cultural resource sites recorded in this allotment on forest lands. One site has been evaluated as not eligible to the NRHP. Another site has been nominated to the NRHP. Four other sites have been evaluated as eligible. The two remaining sites have not been evaluated.

Native American Cultures: There have been no concerns identified at this time.

Alternatives

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 800 cow/calf pair from 6/26 to 10/10 (3766 AUM's when full stocked). Livestock will continue to be managed under a 4-pasture modified deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Bear Basin and Wayne's Hole units (1690 AUM's) of the Bear Creek allotment would be managed as units with the Wiggins Fork Allotment. Livestock grazing would consist of 800 cow/calf pair from 6/26 to 10/10 (3766 AUM's) and manages as a 6-pasture deferred rotation system. The permittee will be able to put his livestock across the river in the spring on the currently vacant Bear Basin/Wayne's hole units of the Bear Creek allotment. There would be 1690 fewer AUM's of livestock use on this allotment

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

If wildlife populations exceed carrying capacity there could be a downward trend in vegetation if overuse occurs.

If a permit is not issued, there is a possibility that the lands adjacent to the allotment could be developed. This could displace wildlife using the private land for forage onto the allotment in greater numbers and for extended periods of time. This could lead to overuse of vegetation causing a downward trend in condition unless big game wildlife numbers are kept within the carrying capacity level of the available habitat.

Crucial Winter Range: The 3,766 AUM's of forage currently allocated for cattle use would potentially be available for use by wildlife. However, since a determination has been made that the allotment likely cannot continue to carry this amount of use without a deterioration of range conditions, wise management of wildlife would also call for use below this high level. Nevertheless, this alternative would make available some additional forage capacity for wildlife. Since nearly 5,000 acres of the suitable livestock range is also crucial winter range for elk or bighorn sheep, a substantial part of the additional forage would be available in important wintering areas.

There has been no determination that additional winter forage is needed to maintain the current elk or bighorn sheep population objectives. However, the Wyoming Game & Fish Department has indicated that with their acquisition of the adjacent Spence-Moriarty property, they believe there is potential to increase the Wiggins Fork Elk herd population objective. This alternative would provide the maximum forage potential to allow an increase of elk numbers should such an increase be proposed in the future.

This alternative would eliminate any potential for forage conflicts between livestock and wildlife. However the effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will reduce the potential adverse impacts from livestock grazing below the level of significance. It will take longer for the suitable range to achieve desired condition under this alternative as compared to Alternative C.

Vegetation: Application of the appropriate measures in Appendix G with the existing 4-pasture modified deferred-rotation system and the full 800 head numbers will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions, but at a very slow rate. As transitional range continues to move toward climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. The permittee will eventually have to reduce livestock numbers to account for the loss of transitory range. If elk exceed habitat capacity some downward trend in some vegetative species may occur.

Crucial Winter Range: The estimated 3,766 AUM's of forage consumed by cattle, including that consumed on crucial wildlife winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide less than the amount of forage for livestock being proposed under this alternative. This assumed the implementation of appropriate mitigating measures and still maintaining adequate reserves for the needs of wintering wildlife and plant health. Range improvements or other site specific factors subsequent to the Plan analysis led to consideration of a higher amount of permitted livestock use. However, as mentioned above conifer regeneration on transitory range created by timber harvest during the 1960's has continued to decrease available capacity throughout the allotment including winter range areas. It does not appear that this allotment can continue to provide forage for this level of livestock use while still meeting objectives in other resource areas, including crucial winter ranges.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: The nominated site, one eligible site, and one yet to be evaluated site have been visually inspected and are not being impacted by livestock grazing activities. The remaining five sites have not been inspected for damage from livestock grazing. However, based on results of monitoring of the three sites, the probability of adverse impacts is believed to be low.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative would help offset the loss of transitory range from succession, reduce the intensity and duration of livestock impacts on the existing 4 pastures in the Wiggins Fork and help achieve desired condition sooner than Alternative B.

Vegetation: Application of the appropriate mitigation measures in Appendix G and a reduction in livestock use on this allotment would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation would continue to move toward desired conditions, but at a much faster rate because there will be a deferment system on spring range and additional suitable range would be added to resolve transitory range problems. However, if elk exceed habitat capacity some downward trend in range condition may occur.

There will be 1690 fewer AUMs of livestock use on the Wiggins Fork allotment.

Crucial Winter Range: The estimated 2,076 AUM's of forage consumed by livestock on this allotment (the remaining 1,690 AUM's would be consumed on the Bear Creek Allotment), including that consumed on crucial winter range would remain unavailable for use by wildlife. However, this proposed level of use by livestock is more in line with anticipated capacity considering the continued loss of transitory range and needs for other resource objectives including those on transitional and crucial winter range areas. This alternative would also provide a better opportunity for increasing elk numbers than Alternative B, but less opportunity than Alternative A should this become an objective.

In order for the effects of livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the mitigation measures in Appendix G need to be implemented.

Endangered Threatened and Sensitive Species: The effects of this Alternative would be similar to those described for Alternative B.

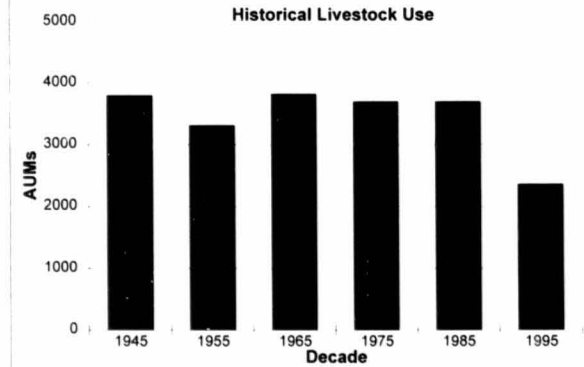
Heritage Resources: As this proposal would distribute livestock over a larger area, long term presence in grazed areas would be less. Inspection of three sites under present grazing system indicate they are not being impacted by livestock grazing activities. Based on these results, the potential for impacts under the proposed Alternative C would be greatly reduced.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

Wiggins Fork Allotment



Wiggins Fork Allotment

39063 Total Acres

Unsuitable - 26523 Ac (68%)

Suitable - 12540 Ac (32%)



Suitable Range

CWR - 4909 Ac (39%)



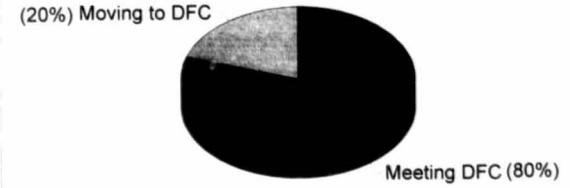
Wiggins Fork Suitable Range

Riparian Range Condition



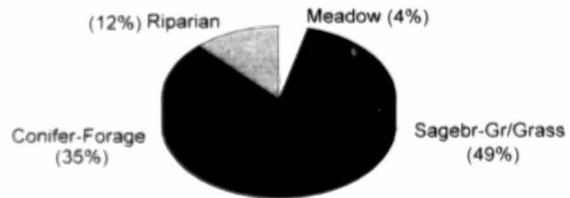
Wiggins Fork Suitable Range

Upland Range Condition



Wiggins Fork Allotment

Vegetation Ecological Types



Figures 3 & 4

Figure 5

BEAR CREEK ALLOTMENT (192)

Affected Environment

Permit Information: This allotment is located in the Bear Creek drainage of the Wind River Ranger District (Figure 1-8). The following facts pertain to this allotment:

Allotment Status:	Partially vacant since 1992
Permit(s) Type:	Term
Number of Permittees:	2 (1 vacant)
Number of Livestock:	75 horses and (800 cattle, vacant)
Kind and Class of Livestock:	Horses, Cow/calf
Season of Use:	9/1-10/30, Horses; 6/26-10/10, Cattle
Expiration Date:	12/31/95
Management System:	5-pasture, deferred-rotation for cattle
Existing Improvements:	11 miles fence, 4 water developments, 1 cow camp with shed
Historically AUMs have:	Remained stable (Figure 1)
Total Acres:	33,861 (Figure 2)
Suitable Acres:	11,892 (Figure 2)

Watershed: Based on the cumulative effects analysis, watersheds R11 and R12 were not identified as watersheds of concern (Appendix B).

Riparian: There are 476 acres of riparian within the suitable range. All riparian areas are moving toward desired conditions (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, Bear Creek contains Snake River cutthroat, Yellowstone cutthroat, their hybrids, mountain whitefish, and brown trout in order of dominance.

Vegetation: The dominant suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian and meadow (Figures 3 and 4). Vegetation is influenced by an Absaroka foothills landscape between 7500 and 9000 feet above sea level. Annual precipitation varies from 18 inches at the lower elevations to 20 inches at the upper elevations, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of four years of almost total rest (vacant) and because of a past deferred management system that was providing rest and reproduction for plant species. This is based on present ungulate numbers.

Vegetation is being used season long in the East Fork drainage by trespass livestock from the adjoining Wind River Reservation.

Past timber harvest in this allotment created some transitory range that livestock have been using in conjunction with suitable range. Forage from these past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Aspen provides for important diversity in this allotment. Conifer encroachment and regeneration is a concern. Potential overbrowsing by ungulates on aspen regeneration is also a concern.

Adjoining private lands, including the permittees, and the Wyoming Game and Fish Department Habitat Units are providing supplemental forage for wildlife that use these lands.

Crucial Winter Range: This allotment contains crucial winter range for elk and bighorn sheep. Figure 2 shows the combined acres of crucial winter range occurring within suitable range for all big game wildlife issue species.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on the species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are four prehistoric cultural resource sites recorded in this allotment.

Native American Cultures: There have been no concerns identified at this time.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, one grazing permit will be issued for a 10 year term that authorizes the grazing of 75 horses from 9/1 to 10/30 for 180 AUMs. Another permit would be issued for grazing on the present vacant portion of this allotment for 800 cow/calf pair from 6/26 through 10/10 for 3766 AUMs or a total of 3946 AUMs. The cattle would be managed under the present five unit deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Bear Basin and Waynes Hole units of the allotment will be combined with the adjacent Wiggins Fork allotment (see Wiggins Fork Allotment). The current capacity of these two units is 1690 AUMs or 800 cow/calf pair for 48 days. The permitted numbers on the Wiggins Fork allotment is 800 cow/calf from 6/26 to 10/10 for 3766 AUMs. A permit would be issued for the Wiggins Fork allotment and the Waynes Hole and Bear Basin units of the Bear Creek Allotment for 800 cow/calf pair from 6/26 to 10/10 for 3766 AUMs on the combined area. This would include adding back to the permit the voluntary reduction the permittee took on the Wiggins Fork Allotment for resource protection. That reduction was due to conifer regeneration on transitory range. This action would make the grazing system on Wiggins Fork a 6-pasture modified deferred rest-rotation system.

Permits would be issued on the remaining units (Castle Rock, Alkali, and East Fork) of the Bear Creek allotment. One permit would be for 75 horses from 9/1 to 10/30 for 180 AUMs and a new 10 year permit(s) would be issued for 400 cow/calf pair from approximately 7/1 to 9/30 for 1619 AUMs (a total of 1799 AUMs). This is based on the most recent capacity data for these three units. This would be a 3-pasture modified deferred-rotation system. This action results in a shorter grazing season, which correlates to 457 fewer AUMs than most recently permitted. The 457 AUMs could be reissued if additional capacity is available after three years of implementation and monitoring and the trespass cattle problem is resolved.

No additional structural range improvements will be necessary to implement this alternative. If the reserve capacity is not issued there would be a reduction of 457 AUMs on the Bear Creek Allotment.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific livestock grazing effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 180 AUMs of forage currently being consumed by the 75 horses, and the remaining available capacity of the allotment would become available for use by wildlife. This alternative would make available considerable additional forage capacity for wildlife. Since over 4,000 acres of the suitable range is also crucial elk winter range, a substantial part of the additional forage would be available in an area of primary importance to wildlife.

There has been no determination that additional winter forage is needed to maintain the current elk herd population objective. The Wyoming Game & Fish Department has indicated that with their acquisition of the adjacent Spence-Moriarty ranch, there is potential to increase the Wiggins Fork Elk herd population objective. However, no such increase is currently being proposed. This alternative would provide the maximum forage potential to allow an increase of elk numbers should such an increase be proposed in the future.

This alternative would eliminate any potential for livestock/wildlife forage conflicts on crucial winter ranges. However, the effects of no livestock grazing on habitat conditions would depend on many factors including the success of agencies in balancing habitat capability with wildlife numbers.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will help maintain or achieve desired condition and reduce the potential adverse impacts from livestock grazing below the level of significance. Fully stocking this allotment will preclude using a portion of the units to help the Wiggins Fork move towards desired condition sooner.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions, but not as fast as Alternative C. If elk numbers exceed habitat capacity, especially on early spring range and on aspen, some downward trend in some species may occur. Some downward trend in certain vegetative types could occur if livestock are stocked at rates based on past capacity data, which included some transitory range. The same

downward trend will occur if trespass livestock from the Wind River Reservation continue to use the East Fork drainage resulting in utilization significantly above the amount allocated for livestock.

Crucial Winter Range: The estimated 3,946 AUMs of forage consumed by livestock, including that consumed on crucial wildlife winter range, would remain unavailable for use by wildlife.

A determination was made during the analysis for the Forest Plan that this allotment could provide more than the amount of forage for livestock being proposed under this alternative. This also assumed the implementation of appropriate mitigating measures and still maintaining adequate reserves for the needs of wintering wildlife and plant health. However, ecological succession has reduced the available capacity in some areas. Trespass grazing has also hindered reaching desired range conditions. Implementing this alternative would forego current opportunities to significantly increase the rate of reaching desired allotment habitat conditions. It would also not allow management flexibility needed to relieve grazing pressure and help attain desired conditions on parts of the Wiggins Fork allotment.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect, or is not likely to adversely affect, any endangered or threatened species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability rangewide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: There have been no observed impacts from grazing to any sites.

Native American Cultures: There have been no concerns identified at this time.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative will help reduce the intensity and duration of livestock use on the Wiggins Fork and Bear Creek allotments. This will offset localized impacts and help achieve desired condition sooner on the Bear Creek allotment.

Vegetation: Application of the appropriate mitigation measures in Appendix G and combining the Bear Basin and Waynes Hole units of this allotment with the Wiggins Fork allotment will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. This will allow rest on the Bear Creek and Waynes Hole units every other year. This allotment will be managed as a modified deferred rest-rotation system. Vegetation will continue to move toward desired conditions on these allotments at a much faster rate than Alternative B.

On the Bear Creek allotment the application of appropriate mitigation measures in Appendix G, implementation of a 3-pasture modified deferred-rotation system, and a later livestock on-date (7/1) will increase plant vigor. This will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance while restocking the vacant allotment. Vegetation will continue to move toward desired conditions faster than alternative B. However, if elk populations exceed habitat capacity, especially on early spring range, some plant species may be adversely affected. If trespass livestock from the Wind River Reservation continue to use the East Fork unit, a downward trend in range condition may continue.

Crucial Winter Range: The estimated 1,799 AUMs of forage consumed on the three remaining units of the Bear Creek allotment as well as the 1,690 AUMs consumed on the two units that would be

grazed in conjunction with the Wiggins Fork allotment would be unavailable for use by wildlife. However, this is approximately 457 AUMs less than would be consumed by livestock on the same area under Alternative B. The effects of this action would be to reach desired conditions on crucial winter range and other areas at a faster rate assuming other influences on vegetation conditions remained the same.

Primary benefits to wildlife would occur on crucial winter range and transitional range on both allotments if this alternative is implemented.

In order for the effects of domestic livestock grazing on big game wildlife and winter habitat to remain within acceptable limits, the measures in Appendix G need to be implemented.

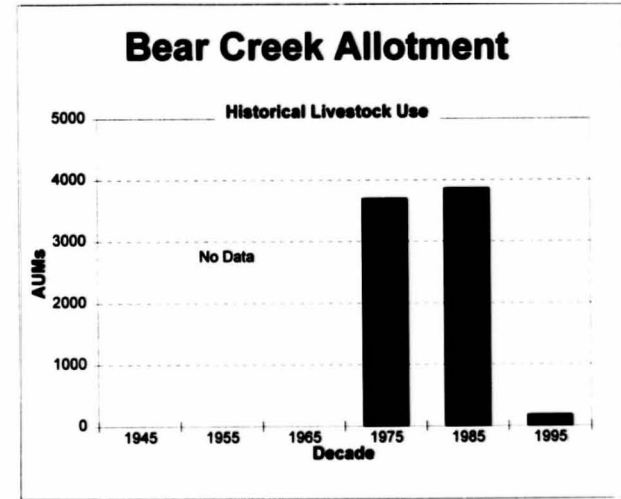
Endangered, Threatened and Sensitive Species: The effects of this alternative would be similar to those described for Alternative B above (Appendix F and G.)

Heritage Resources: There have been no observed impacts from grazing to any sites. Potential for impacts would be less under the proposed system due to better distribution over a wider area.

Native American Cultures: There have been no concerns identified at this time.

Cumulative Effects

Cumulative effects is discussed in Chapter II.

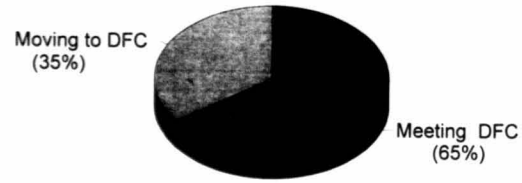


Figures 1 & 2

245

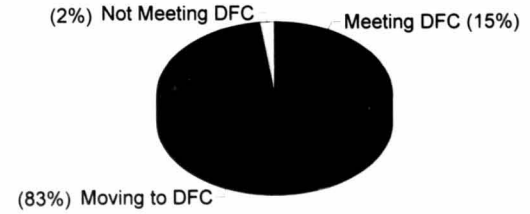
Bear Creek Suitable Range

Riparian Range Condition



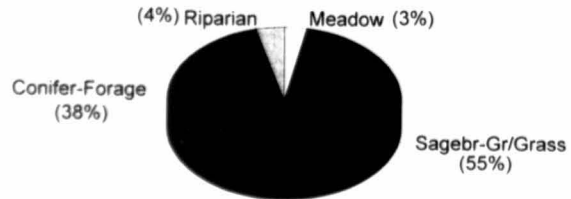
Bear Creek Suitable Range

Upland Range Condition



Bear Creek Allotment

Vegetation Ecological Types



Figures 3 & 4

246

Figure 5

147

SALT CREEK ALLOTMENT (196)

Affected Environment

Permit Information: This allotment is located in the South Fork Warm Springs Creek drainage of the Wind River Ranger District on the Shoshone National Forest (Figure I-B). The following facts pertain to this allotment:

Allotment Status:	Vacant since 1992
Permit(s) Type:	Term
Number of Permittees:	1
Number of Livestock:	800
Kind and Class of Livestock:	Cattle, cow/calf
Season of Use:	7/1 to 9/30
Expiration Date:	
Management System:	deferred-rotation
Existing Improvements:	19.5 miles fence, 4 cow camps, 4 corrals
Historically AUM's have:	Increased (Figure 1)
Total Acres:	9,086 (Figure 2)
Suitable Acres:	6,130 (Figure 2)

Watershed: Based on the cumulative effects analysis, watershed R20 was not identified as a watershed of concern (Appendix B).

Riparian: There are 245 acres of riparian within the suitable range. In general, most of the riparian is moving towards with some meeting desired condition (Figure 3).

Fisheries: Historically, all of the Forest tributaries in the Yellowstone basin with suitable habitat contained Yellowstone cutthroat trout, except those above natural migration barriers. Currently, the South Fork of Warm Springs Creek contains rainbow, hybrids and eastern brook trout in order of dominance.

Vegetation: The dominate suitable range vegetation type and condition on this allotment is sagebrush/grass and conifer with a minor component of riparian and meadow (Figures 4 and 5). Vegetation is influenced by a granitic mountain landscape between 9000 and 10000 feet above sea level. Average annual precipitation is about 40 inches, the majority of that occurring in the winter.

The vegetation in this allotment is moving towards desired condition because of four years of rest (vacant) and because of a past 2-pasture deferred-rotation grazing system that was providing for rest, improved vigor and reproduction for plant species. This is based on present ungulate numbers.

Past timber harvest has created some transitory range that livestock have been using in conjunction with suitable range. These past harvest areas had been used to calculate forage capacity and livestock stocking rates.

Crucial Winter Range: This allotment does not contain crucial winter range for wildlife species where possible forage competition with livestock has been identified as an issue.

Endangered, Threatened and Sensitive Species: These species are primarily addressed in biological assessments/evaluations on areas of varying geographical size depending on species (Appendix F). This allotment is outside the grizzly bear recovery zone.

Heritage Resources: There are three prehistoric cultural resource sites recorded in this allotment. One site has been evaluated as not eligible to the NRHP. One site, Union Pass, is on the National Register of Historic Places. The remaining site, has not been formally established or evaluated.

Native American Cultures: There have been no concerns identified at this time, however, there are traditional cultural properties and values in this general locale.

Alternatives:

Alternative A - No Livestock Grazing

There would be no permit(s) issued for commercial livestock grazing.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Under this alternative, 1 grazing permit will be issued for a 10 year term that authorizes the grazing of 800 cow/calf pair from 7/1 to 9/30 for 3238 AUM's. Livestock will continue to be managed under a 2-pasture, deferred-rotation grazing system.

Alternative C - Change From Current Management - Preferred Alternative

Under this alternative, the Fish Lake allotment would be managed with the Salt Creek allotment. Livestock grazing would consist of 800 cow/calf pair from 7/1 to 9/30 for a total of 3238 AUM's. This alternative would use the Fish Lake Allotment as a spring use pasture from 7/1 to 7/30 for 1056 AUM's and the Salt Creek allotment as a late summer 2-pasture deferred system from 7/31 to 9/30 for 2182 AUM's.

This alternative will shift the on-date for this allotment from 7/1 to 7/31. It will rotate one pasture for early grazing one year and fall grazing the next year.

There will be 1056 fewer AUMs of livestock use on this allotment and 613 fewer AUMs of livestock use on the Fish Lake allotment for a total reduction of 1669 AUMs.

Environmental Consequences

Alternative A - No Livestock Grazing

Watershed (including riparian and fisheries): There would be no site specific effects other than the effects described in detail at the forestwide level under the No Action Alternative in Chapter II.

Vegetation: Rangeland vegetation would no longer be affected by commercial livestock grazing, only wildlife and some occasional recreation livestock. Vegetation condition will improve in the short term, but in the long term it could move toward climax or away from desired condition. This occurrence would depend on the amount and timing of the remaining use by wildlife as well as the use of other management tools such as prescribed fire. These effects are described in detail at the forestwide level under the No Action Alternative in Chapter II.

Crucial Winter Range: The 3,238 AUM's of forage estimated to be consumed by livestock in Alternative B would be available for use by wildlife. However, since the allotment does not contain CWR for elk, bighorn sheep, or moose, in suitable range, any benefits to these species would occur in non CWR areas. Potential forage competition between livestock and wildlife on such areas were not determined to be issues for analysis in this environmental assessment.

This alternative would eliminate any potential for livestock/wildlife forage conflicts.

Endangered, Threatened and Sensitive Species: Potential effects of grazing by commercial livestock would be removed (Appendix F and G).

Heritage Resources: No livestock damage to sites would occur.

Native American Cultures: No potential conflicts would occur.

Alternative B - Similar to that Most Recently Permitted - Proposed Action

Watershed (including riparian and fisheries): Application of appropriate measures in Appendix G will maintain desired condition over time and reduce the potential adverse impacts from livestock grazing below the level of significance.

Vegetation: Application of the appropriate measures in Appendix G will reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation will continue to move toward desired conditions but at a slower rate than Alternative C.

As transitional range continues to move toward climax, less livestock use will occur on this range and it will shift more grazing pressure to the suitable range. Appropriate measures in Appendix G need to be applied otherwise suitable range could become over used and a downward trend in vegetation may occur.

Crucial Winter Range: Under this alternative, the estimated 3,238 AUM's of forage consumed by livestock would again become unavailable for use by wildlife. However, no significant forage competition problems between livestock and wildlife have been identified, and as previously noted, the allotment does not contain crucial winter range in suitable range. Nevertheless, implementing this alternative would result in moving toward desired overall habitat conditions at a slower rate when compared to Alternative C. The habitat which would be affected is seasonal ranges other than winter range which were not determined to be issues for this analysis.

Endangered, Threatened and Sensitive Species: A determination has been made that the proposed type and amount of grazing by commercial livestock either will not affect any endangered or threatened species, or is not likely to adversely affect any such species. For sensitive species, livestock grazing might result in the loss of some individual plants or animals, should they occur on or in close proximity to the allotment, but the overall viability of the species in the planning area would remain intact. The proposed action is also not expected to cause a trend toward federal listing of any species, or a loss of species viability range wide. These determinations are based on the assumption that all appropriate mitigation measures are implemented (Appendix F and G).

Heritage Resources: The Union Pass National Register site is not being adversely impacted by grazing activities. It is not known if there are impacts to the alleged site or ineligible site by livestock grazing.

Native American Cultures: There have been no concerns identified at this time, however, there are traditional cultural properties and values in this general locale.

Alternative C - Change from Current Management - Preferred Alternative

Watershed (including riparian and fisheries): This alternative would help reduce the intensity and duration of livestock use and result in reaching desired condition sooner than Alternative B.

Vegetation: Application of the appropriate mitigation measures in Appendix G, using the Fish Lake allotment as a spring riparian pasture, and reducing 1056 AUMs would reduce potential impacts from livestock and wildlife grazing on vegetation below the level of significance. Vegetation would continue to move toward desired conditions, much faster than Alternative B. This alternative will compensate for the transitory range that is being lost to succession.

Crucial Winter Range: Under this alternative, the estimated 2,182 AUM's of forage consumed by livestock would become unavailable for use by wildlife. However, this forage occurs in non-crucial winter range areas and thus is not directly relevant to this issue. This alternative would result in reaching overall desired habitat conditions faster than with Alternative B, and would provide benefits to wildlife in other important areas such as riparian habitat as noted above.

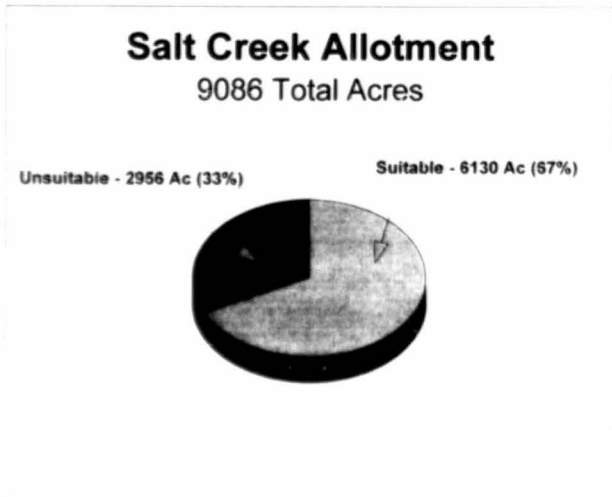
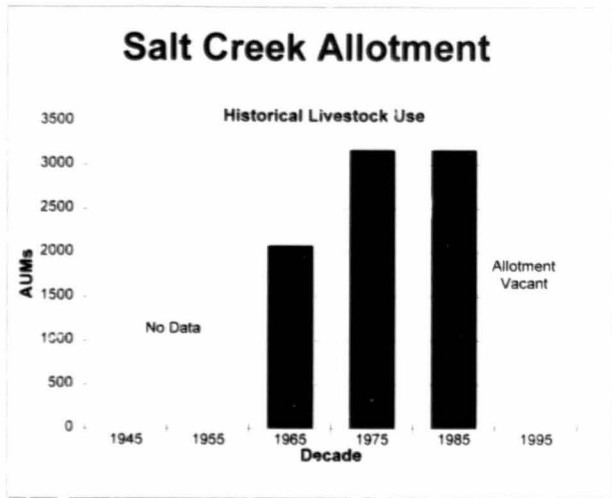
Endangered, Threatened and Sensitive Species: The effects of this alternative on these issues would generally be the same as described for Alternative B above. However, the potential for any adverse impacts from livestock grazing would be lower.

Heritage Resources: Impacts and potential for impacts would be similar to those discussed under Alternative B.

Native American Cultures: There have been no concerns identified at this time, however, there are traditional cultural properties and values in this general locale.

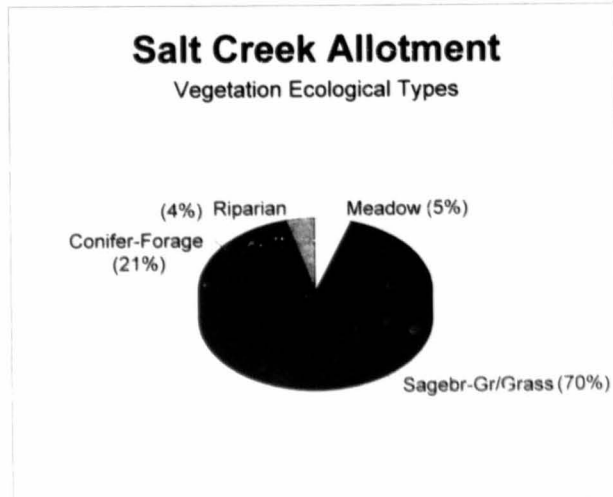
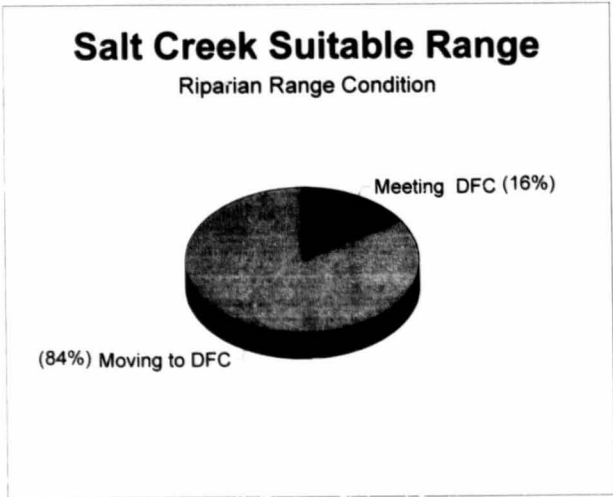
Cumulative Effects

Cumulative effects is discussed in Chapter II.



Figures 1 & 2

152

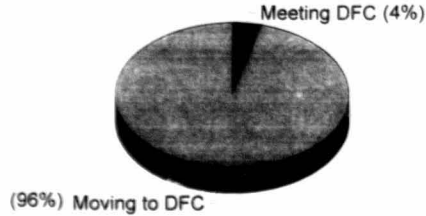


Figures 3 & 4

153

Salt Creek Suitable Range

Upland Range Condition



Appendix A Glossary

ALLOTMENT

A designated area of land available for livestock grazing. It is the basic land unit used in the management of livestock on National Forest System lands.

ALLOTMENT MANAGEMENT PLAN (AMP)

A document that specifies the actions to be taken on individual allotments to manage and protect the rangeland resources and reach the stated set of objectives.

ANIMAL UNIT (AU)

One mature (1000 lb.) cow or the equivalent based upon average daily forage consumption of 26 pounds of dry matter per day.

ANIMAL UNIT MONTH (AUM)

The amount of feed or forage required by an animal unit for one month. (Factors used to calculate forage use by other kinds and classes of animals are as follows: Dry Cow = 1.0 AUM; Cow with calf = 1.32 AUM; Cattle-Yearling = 0.7 AUM; Ewe with lamb = 0.3 AUM; Horse = 1.2; Elk = 0.5 AUM; Deer = 0.19 AUM; Bighorn Sheep = 0.2.

BANK SHEARING

Where a portion of stream bank has lost its integrity and fallen into the stream from mechanical disturbance such as hoof action, lack of vegetation for root support, or other natural causes such as stream meandering.

BENCHMARK

Representative, often permanent, reference sites which reflect the results of management actions in the shortest time frames (FSM 1905.7).

BIODIVERSITY

The distribution and abundance of different plant and animal communities and species within a landscape.

BIOLOGICAL ASSESSMENT

Effects analysis of an action on an endangered or threatened species.

BIOLOGICAL EVALUATION

Effects analysis of an action on a sensitive species.

BIOLOGICAL POTENTIAL

The upper limit for plant and animal populations and condition under optimal environmental conditions.

BROWSE

Young twigs, leaves, and tender shoots of shrubs or other woody plants that animals such as big game or livestock consume.

CARRYING CAPACITY

The average number of livestock and/or wildlife which may be sustained on a management unit compatible with management objectives for the unit. In addition to site characteristics, it is a function of management goals and management intensity.

CLASS OF LIVESTOCK

Age and/or sex group of a kind of livestock.

CLASS 1 WATERS

Those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Nonpoint sources of pollution shall be controlled through implementation of appropriate best management practices.

CLASS 2 WATERS

Those surface waters, other than those classified as Class 1, which are determined to: be presently supporting game fish; or have the hydrologic and natural water quality potential to support game fish; or include nursery areas or food sources for game fish.

COMMERCIAL LIVESTOCK

Livestock being raised primarily for the purpose of resale or slaughter, as opposed to livestock used for recreation or outfitter/guide activities.

CONIFEROUS

Predominately evergreen, cone bearing trees.

CRUCIAL WINTER RANGE

The winter habitat component which has been documented as the determining factor in a population's ability to maintain itself at a certain level over the long term.

CRUCIAL PREFERRED WINTER RANGE

A term used in the Shoshone National Forest Plan that refers only to the preferred part of crucial winter range where big game animals can be found each year during the period January 1 to March 31 (Forest Plan (FP) Final EIS Glossary).

CUMULATIVE EFFECTS

The effects on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

DECIDUOUS

Plants that shed foliage at end of the growing season.

DEFERRED ROTATION GRAZING SYSTEM

Grazing on the majority of the allotment is deferred (delayed) for a part of the grazing season. The deferment is rotated each year so that the vegetation in each grazing unit may receive the benefit of the deferment.

DEPENDENT EXISTING INDUSTRY

An industry that depends on the Forest (commercial livestock grazing) for sustaining the industry as a viable operation.

DESIRED FUTURE CONDITION

A condition that is met over time through achievement of the long-term goals and objectives established in the Forest Plan.

DETERIORATED RANGE

Range in less than satisfactory condition relative to desired condition.

ENDANGERED SPECIES

Any species in danger of extinction throughout all or a significant portion of its range.

GRAZING PERMIT

The document which authorizes use and management, for a period of up to 10 years, of the grazing resource on NFS lands or other lands under Forest Service control for purposes of livestock production. (four types)

Term Grazing Permit: Document used to authorize individuals, partnerships, or corporations to graze livestock if only NFS grazing capacity is involved. It specifies the number, kind, class and number of livestock as well as the area of use.

Term Grazing Association Permit: Document issued to grazing associations in accordance with 36 CFR 222.7 to promote cooperative efforts in management of NFS lands. It specifies the number, kind, class and number of livestock as well as the area of use.

Term Private Land Grazing Permit: Document issued to persons who control grazing lands adjacent to National Forest System lands and who waive exclusive grazing use of these lands to the United States for the full period the permit is to be issued. It specifies the number, kind, class and number of livestock as well as the area of use.

Term Grazing Permit with On-Off Provisions: Document issued when a portion of a logical grazing area contains NFS lands or other lands under Forest Service control and lands controlled by the permit holder. The intent is to promote efficient use of intermingled ownership. It specifies the number, kind, class and number of livestock as well as the area of use.

GRANT PROCESS (See permit issuance procedure)

GRIZZLY BEAR RECOVERY ZONE

The area in each grizzly bear ecosystem (Shoshone National Forest is part of the Yellowstone ecosystem) within which the population and habitat criteria for achievement of recovery will be measured. It includes an area large enough and of sufficient habitat quality to support a recovered grizzly bear population (USFWS Grizzly Bear Recovery Plan, 1995).

HEAVY USE PASTURE

One of, or the first, pasture grazed in a rotation grazing system. A higher level of forage utilization is allowed because the grazed plants will have time to re-grow prior to the end of the growing season.

HERD UNIT OBJECTIVE

The desired number of big game animals for an identified population for a referenced area (herd unit). Objectives are usually quantified in terms of post season population levels and are established by the Wyoming Game and Fish Department.

HUMMOCKING

A low mound or ridge caused by mechanical (hoof) or frost action in areas of high soil moisture.

INTERDISCIPLINARY TEAM

A group of individuals from different resource backgrounds assembled to solve a problem or perform a task. The team recognizes that no one scientific discipline is sufficiently broad to adequately solve the problem.

ISSUE

The National Environmental Policy Act of 1969 defines an issue as a point of discussion, debate, or dispute concerning the potential environmental effects associated with a proposed action. Significant issues are used to formulate alternatives, prescribe mitigation measures, or analyze environmental effects. Issues are "significant" because of the extent of their geographic distribution, the duration of their effects, or the intensity of interest or resource conflict. Nonsignificant issues are not used in the environmental analysis. The issue may be outside the scope of the proposed action. The issue may already be decided by law, regulation, Forest Plan, or other higher level decision. The issue may be irrelevant to the decision to be made. The issue may also be considered nonsignificant if it is conjectural and not supported by scientific evidence. Issues are identified during the scoping process. 40 CFR 1500.1(b), 40 CFR 1500.2(b), 40 CFR 1500.4(c), 40 CFR 1500.4(g), 40 CFR 1501.7, 40 CFR 1502.2(b)

KEY AREAS

An area of rangeland selected because of its location, grazing or vegetation value. It serves as a monitoring and evaluation point for range condition, trend, or degree of grazing use. Properly selected key areas give an indication of the overall acceptability of current grazing management to meet all resource management

objectives. A key area guides the general management of the entire area of which it is a part. For this analysis, key areas can be located on uplands, in riparian, along streams and in winter range.

KIND OF LIVESTOCK

Species of livestock (e.g. sheep, cattle, goats, horses).

LEVEL OF SIGNIFICANCE (mitigate below the level of)

A Finding Of No Significant Impact (FONSI) is a document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (40 CFR 1508.4), will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. The FONSI is a crucial legal finding, by an agency's responsible official, that no significant environmental impacts (effects) will occur. If the official cannot sign the FONSI, the agency must prepare an Environmental Impact Statement before taking any actions relating to the proposed action.

The FONSI is keyed to a subjective "threshold of significance" as determined by the responsible official, who must rely on information in the Environmental Assessment (and all its supportive information). The agency has the legal burden to demonstrate that no significant effects are even likely. Mitigating measures and subsequent monitoring are often prescribed to assure any potential effects are below the "threshold of significance".

Significance under NEPA requires a consideration of "context" and "intensity" (40 CFR 1508.27)

(a) Context - This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short-and long-term effects are relevant.

For example: The context of the effects of a timber sale within the state of Washington is entirely different from the effects of the same timber sale on a one mile square island.

The same would be true for a nuclear plant located in the middle of the desert in Nevada as opposed to one located in the middle of Manhattan Island.

The context may vary by resource for one particular project. For example, often watershed or wildlife effects can usually be limited to the watershed or the wildlife habitat unit where as economic or social effects may have to be analyzed on a county, region, or state basis.

(b) Intensity - This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety. (use of pesticides in a good example here or the installation of a nuclear power plant).

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks (an example might be introduction of genetically altered fish into a stream).

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment (such as violation of State water quality standards).

LIGHT USE PASTURE

One of, or the last, pasture grazed in a rotation grazing system. A lower level of forage utilization is prescribed because the grazed plants will not have time to re-grow prior to the end of the growing season.

MANAGEMENT INDICATOR SPECIES

Those species which indicate habitat suitability for other species with similar habitat needs.

MITIGATION

An action used to offset or lessen impacts of effects.

MODIFIED DEFERRED-ROTATION GRAZING SYSTEM

A variation of a deferred-rotation system due to time or geographical limitations. (ie. not all units may be deferred due to elevation or lack of water late in the grazing season.)

NON-NATIVE FISH

Introduced fish species that are not native to this area.

NONSIGNIFICANT ISSUE

See "Issue"

NOXIOUS WEEDS

Plant species designated by federal or state law that possess one or more of the characteristics of being aggressive and difficult to manage, parasitic, a carrier or host of serious insects or disease, and being non-native, new to, or not common to the United States.

OPEN HERDING GRAZING SYSTEM

A grazing system usually associated with sheep. The livestock is loosely herded so that less physical damage (trailing) is done and more effective use of the range is obtained.

PASTURE

See Unit

PERENNIAL STREAM

Streams that flow throughout the year and from source to mouth. The channel bed lies below the local water table throughout the average water year.

PERMIT ISSUANCE PROCEDURE

Qualified applicants may be issued permits with term status through prior use, the grant process, purchase of base property or livestock with waiver, or interchange of permits with other agencies.

Grazing capacity is not available to grant until the following obligations have been met:

Permittees receive their share of any increased capacity as a result of range improvements in which they have contributed.

Stocking reductions made within the past 10 years are restored.

Overstocking elsewhere on the Forest is resolved

Needs of other resources have been met in accordance with the Forest Plan.

If the above items have been met or do not apply, then the following list applies for allocating available capacity:

Present permittees on the allotment, within upper limits restrictions and base property requirements.

permittees on other allotments, within upper limits restrictions and base property requirements.

BLM Permittees on BLM allotments that need a stocking reductions.

New applicants who are eligible and qualified.

In addition the following considerations are applicable:

Eligible applicants whose sole livelihood is ranching, not a sideline.

Eligible applicants for which a forest allotment would round out their operation.

PERMITTEE

A person or entity that has met certain qualifications and has been issued a term grazing permit.

PROGRAMMATIC

The terms "programmatic" and "project level" or "site-specific" relate to the nature and scope of Forest Plan decisions. Forest Plans establish long-term goals, objectives, standards and guidelines, establishing a set of "desired conditions" or "ordinances". Specific activities are latter proposed to implement the Forest Plan or move the Forest toward attaining the desired conditions reflected in the goals and objectives.

An approved Land and Resource Management Plan or Forest Plan is the product of a comprehensive notice and comment process established by Congress in the National Forest Management Act (NFMA). The approval of a Forest Plan establishes direction so that all future decisions in the planing area will include an "interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences." 16 USC 16004(b), 1604(f), 1604(g), and 1604 (i) The Forest Plan provides direction to assure coordination of multiple-uses (outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness) and sustained yield of products and services. 16 USC 1604(e) Forest Plan approval results in:

Establishment of forest multiple-use goals and objectives, 36 CFR 219.11(b);

Establishment of forest-wide management requirements (standards and guidelines) to fulfill the requirements of 16 USC 1604 applying to future activities (resource integration requirements 36 CFR 219.13 to 219.27);

Establishment of management areas and management area direction (management area prescriptions) applying to future activities in that management area (resource integration and minimum specific management requirements) 36 CFR 219.11(c);

Designation of suitable timber land (16 USC 1604(k) and 36 CFR 219.14) and establishment of allowable timber sale quantity (16 USC 1611 and 36 CFR 219.16);

Nonwilderness allocations of wilderness recommendations where 36 CFR 219.17 applies; and

Establishment of monitoring and evaluation requirements 36 CFR 219.11(d).

Forest Plans set out management area prescriptions with standards and guidelines for future decision making; and are adjustable through monitoring and evaluation, amendment and revision. As projects and activities are proposed and reviewed, the Forest Plan is used in project level decision making. The Forest Plan management area prescriptions and forest-wide direction are the "desired conditions" or "ordinances" under which future decisions are made.

For additional discussion relating to the nature of Forest Plan and project level decisionmaking refer to:

Advanced Notice of Proposed Rulemaking, 56 Fed. Reg. 6508, 6519-21, February 15, 1991; Proposed Administrative Appeal Regulations, 36 CFR 215, 58 Fed. Reg. 19369, 19370-71, April 14, 1993; Final Regulation, Preamble, 36 CFR 215, 58 Fed. Reg. 58904, 58909, November 4, 1993, and Proposed Rule, 36 CFR 219, 60 Fed. Reg. 18886, April 13, 1995, Preamble 60 Fed. Reg. at 18897-18903, April 13, 1995.

RANGE READINESS

The desired stage of plant growth at which ungulate grazing may begin without permanent damage or injury to the vegetation or soil.

RANGE IMPROVEMENT PROJECTS

Structural and non-structural enhancements that are used to help achieve desired range conditions.

REARING HABITAT

For trout in streams; slower, quiet water along stream margins and between rocks.

REST ROTATION GRAZING SYSTEM

A system of livestock management that precludes grazing (rests) on a unit or pasture. The unit rested is rotated on an annual or biannual schedule. A variation of this system may call for the total non-use of an entire allotment on a scheduled basis.

RIPARIAN AREAS

Geographically delineable areas with distinctive resource values and characteristics that are comprised of the aquatic ecosystem (all waters including wetlands) and riparian ecosystems (a transition between the aquatic ecosystem and the adjacent terrestrial ecosystem; identified by soil characteristics or distinctive vegetation communities that require free or unbound water).

RIPARIAN PASTURE

A unit of an allotment that is managed as a separate area to favor the health of the riparian area within it. This is usually accomplished by grazing livestock early in the growing season and for a relatively short period of time (30 days or less).

SEASON LONG GRAZING SYSTEM

The entire allotment is used during the entire grazing season.

SENSITIVE SPECIES

Those plants and animal species identified by the Forest Service for which population viability is a concern.

SERIAL STAGE

A plant community that is not at potential. A relatively transitory community which develops under ecological succession, toward or away from a potential natural community.

SETTLABLE SOLIDS

Substances attributable to or influenced by the activities of humans that settle to form sludge, bank or bottom deposits (WY DEQ, 1990).

SIGNIFICANT ISSUE

See "issue"

SPAWNING HABITAT

For trout in streams: pea to egg size gravels located in a stream riffle.

STREAM CHANNEL TYPE

A length of stream having a discrete combination of valley geomorphology and climate, flow regime, stream size, and channel morphology; and differing from other stream lengths in its ability to support aquatic biota and respond to management.

STUBBLE HEIGHT

Height of herbage left ungrazed.

SUITABLE LIVESTOCK RANGE

The areas of a grazing allotment that contain forage and are accessible to the permitted livestock. The designation of suitability may change due to the kind or class of grazing animal.

TERM GRAZING PERMIT

A grazing permit issued to a qualified applicant that specifies the following: 1) number, kind and class of livestock; 2) season of use; 3) grazing allotment; 4) terms and conditions.

THREATENED SPECIES

Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

TRANSITORY RANGE

Timber land that at present time provides some grazing forage and/or browse due to timber harvest or fire. This area may be utilized by livestock and wildlife until the canopy closes enough to choke out the understory of herbaceous growth.

TURBIDITY

The amount of suspended, particulate matter found in water.

UNGULATE

Hooved mammals such as cattle, sheep, horses, elk, moose and bighorn sheep.

UNIT

A designated management area within an allotment that may be separated by natural boundaries or fences.

UNVALIDATED WATERSHED OF CONCERN

Watersheds that appear to have reached a level where watershed condition and stream health are degraded beyond their ability to recover in the short term. They have not been completely field verified to determine if further activities would be a violation of the Clean Water Act.

UPLANDS

Areas within an allotment outside of riparian.

UTILIZATION

The amount of forage consumed by grazing animals.

VACANT ALLOTMENT

An allotment on which livestock grazing is allowed, but at the present time has no grazing permit associated with it.

VALIDATED WATERSHED OF CONCERN

Impacts have reached a level of disturbance where watershed condition and stream health are degraded beyond their ability to recover in the short term. They have been verified by field data and observation. With this determination, further activities would be a violation of the Clean Water Act.

WATERSHED

An area that contributes water to a drainage or stream.

WATERSHED CONDITION

A description of the health of a watershed or portion thereof in terms of the factors that affect hydrologic function and soil productivity (FSM 2421.05).

Appendix B Watershed Cumulative Effects Analysis

A watershed cumulative effects model has been developed on the SNF using currently accepted hydrologic prediction methodology, available inventory, and best professional judgement. The analysis was conducted on a fourth order watershed scale. Basically, the Forest was divided into landtype associations and assigned a hazard rating relative to its ability to absorb surface disturbance without irreversible or irretrievable impacts. Certain activities within a watershed were then converted into equivalent disturbed area (EDA). This process equates activity disturbances to roads as an index to estimate storm water runoff (the amount of sediment delivered overland to the stream system within the watershed from these activities). This analysis considered roads, logging, upland range condition, mining and heavy use recreation sites. A detailed description of the analysis process and Forest map of the watersheds is contained in the Shoshone National Forest Final Oil and Gas Leasing Environmental Impact Statement (EIS) and the Allowable Sale Quantity Final EIS.

The watersheds were then run through a series of screens. The first two screens were used to determine if a watershed was approaching or exceeding a disturbance level of concern. If it was, it was called a watershed of concern. The third screen was used to determine if any proposed reasonably foreseeable development in addition with all past and present activities would cause a watershed of concern rating.

Watersheds of concern were then divided into three categories:

Validated. Impacts have reached a level of disturbance where watershed condition and stream health are **degraded** beyond their ability to recover in the short term. They have been verified by field data and observation. With this determination, further activities are deemed to be in violation of the Clean Water Act, until further analysis or new data indicates otherwise.

Unvalidated. From this analysis, watersheds **appear** to have reached a level where watershed condition and stream health are degraded beyond their ability to recover in the short term. They have not been completely field verified to determine if further activities would be a violation of the Clean Water Act.

Additional watersheds of concern. From this analysis they **appear to be approaching** watershed of concern level but have not been field verified. These watersheds will be monitored for future impacts, and they will be field verified.

The listed watersheds are of a concern regarding future land management activities. It is not recommended these watersheds be placed off limits to future land management activities at this time. Extraordinary mitigation measures may be needed should future site specific management activities be proposed within a watershed of concern.

These previous programmatic analyses considered upland range condition only because the WCE model was not designed to consider riparian range condition. Additionally, the model was intended for use at the broad, programmatic level on a fourth order watershed scale. This watershed cumulative effects analysis primarily addresses water quality. Major land disturbing impacts can be detected at this level. More subtle impacts may not be detected. We tested the WCE model by including riparian rangeland condition estimates and found it was not sensitive enough to accurately predict watershed condition. However, this analysis still incorporates the major land use activities on the Forest and how they affect water quality on a fourth order watershed scale. This information will be used in conjunction with a narrative description of

BLANK PAGE

rangeland riparian condition derived from Forest Service Range Management Information System (FSRA-MIS) to describe overall existing watershed condition.

From a watershed cumulative effects standpoint, permit compliance, applicable mitigation listed within this document, and monitoring will insure that potential livestock grazing impacts will be mitigated below the level of significance.

The following are the most current existing watersheds of concern identified in the ASQ Final EIS including the primary reasons for the rating. Although it has been some time since the fires of 1988 and ground cover has been reestablished, adverse effects to channel morphology and stream dynamics take much longer to recover.

Clarks Fork of the Yellowstone River

Validated watersheds of concern

- Watershed C15 is the Elk Creek drainage. It met the criteria primarily due to wildfire.
- Watershed C17 is the Huff Gulch and Gravel Bar Creek areas. Part of the watershed is within wilderness. It met the criteria primarily due to wildfire.
- Watershed C20 is the Little Sunlight and Little Sulphur Creek drainages. It met the criteria primarily due to wildfire.
- Watershed C21 is the Painter Gulch area. It met the criteria primarily due to wildfire.
- Watershed C24 is the Cathedral and Reef Creek drainages. It met the criteria primarily due to past logging related activities, domestic livestock grazing and wildfire.
- Watershed C25 is the Lodgepole Creek area. It met the criteria primarily due to past logging related activities and wildfire.
- Watershed C26 is the One Hunt Creek, Hoodoo Creek, and Temple Creek area. The entire watershed is within wilderness. It met the criteria due primarily to wildfire.
- Watershed C27 is the Papoose Creek, Timber Creek, Closed Creek, and Upper Crandall Creek area. The entire watershed is within wilderness. It met the criteria due primarily to wildfire.
- Watershed C29 is the Onemile and Squaw Creek drainages. It met the criteria primarily due to past logging related activities, domestic grazing and wildfire.
- Watershed C30 is the Pilot Creek and Jim Smith Creek area. Part of the watershed is within wilderness. It met the criteria primarily due to past logging related activities and wildfire.

Unvalidated watersheds of concern

- Watershed C07 is the Lower Clarks Fork Canyon area. It met the criteria primarily due to domestic livestock use and wildfire.
- Watershed C16 is the Beem Gulch area. It met the criteria primarily due to wildfire.

Additional watersheds of concern

- Watershed C28 is the North Fork Crandall Creek drainage. It met the criteria primarily due to wildfire.
- Watershed C32 is the Dry Fork Creek drainage, a tributary to Pat O'hara Creek. It met the criteria primarily due to wildfire.

North Fork of the Shoshone River

Validated watersheds of concern

- Watershed W10 is the upper North Fork Shoshone River area. It is entirely within wilderness. It met the criteria due primarily to wildfire.
- Watershed W11 is the Jones Creek drainage. It is entirely within wilderness. It met the criteria due primarily to wildfire.
- Watershed W12 is the Crow Creek drainage. It is entirely within wilderness. It met the criteria due primarily to wildfire.

Unvalidated watersheds of concern

- Watershed W23 is the Twin Creeks drainage. It met the criteria primarily due to domestic livestock grazing.

Additional watersheds of concern

- Watershed W06 is the Sweetwater Creek drainage. It is mostly within wilderness. It met the criteria due primarily to wildfire and private facility development.
- Watershed W09 is the Grinnell Creek drainage. It is entirely within wilderness. It met the criteria due primarily to wildfire.

South Fork of the Shoshone River

The watershed cumulative effects analysis process identified no watersheds of concern.

Greybull River

The watershed cumulative effects analysis process identified no watersheds of concern.

Wind River

Validated and unvalidated watersheds of concern

There are no watersheds in this category, because field data collection and evaluation has not yet been completed to verify that impacts in areas of concern have reached a level where watershed condition or stream health are degraded.

Additional watersheds of concern

- Watershed R16 is the upper portion of the Long Creek drainage. It met the criteria primarily due to past logging related activities and domestic grazing.
- Watershed R19E4 is the Trout Creek drainage (a subwatershed of R19, Warm Springs Creek). It met the criteria primarily due to past logging related activities and private facility development.

Popo Agie River drainage

The watershed cumulative effects analysis process identified no watersheds of concern in this area.

Appendix C Supplemental Information on Heritage and Native American Cultural Values

This appendix contains a summary of the responsibilities of the Forest Service in regards to cultural resource surveys and protection of Native American cultural values as related to commercial livestock grazing.

Heritage Resources

Discussion between federal agencies, the Advisory Council for Historic Preservation (ACHP), the National Council of State Historic Preservation Officers (NCSHPO), and the State Historic Preservation Officers (SHPO's) of individual states led to a decision that grazing and all associated activities can affect cultural resources. Given the number of grazing allotments nationwide and the number of permits on these allotments, a programmatic approach was needed to establish how cultural resource law would be applied to permit issuance.

Only limited areas within the boundaries of the Shoshone National Forest have been surveyed intensively for cultural resources. In order to comply with Section 106 of the National Historic Preservation Act (NHPA), and to integrate compliance with the NHPA with environmental review required under the National Environmental Policy Act (NEPA), a national level programmatic agreement was developed and signed by the Forest Service, Advisory Council on Historic Preservation and the National Council of State Historic Preservation Officers. In this instance, execution of the national programmatic agreement required development and acceptance of a Memorandum of Understanding (MOU) between the National Forests within Region 2 and the State Historic Preservation Officers of Nebraska, Colorado, South Dakota, and Wyoming.

This MOU establishes the responsibilities of the Forest Service in regards to cultural resource surveys relating to commercial livestock grazing. This includes standards for survey, inventory, mitigation for compliance with the NHPA, and a schedule of these surveys. This MOU further identifies the criteria which will be used to assess areas of high site probability which coincide with high potential for grazing damage.

The Forest Service is also required by law to consult with those American Indian tribes having traditional and historic ties to the Forest. The Shoshone National Forest consults with the tribal governments of the Eastern Shoshone (Wind River), Shoshone-Bannock (Ft. Hall, Idaho), Northern Arapahoe, Crow, Northern Cheyenne, and Nez Perce tribes.

Within the frame of Forest Plan Direction and applicable legal mandates, mitigation strategies for all alternatives will be developed and implemented. In general, protection of significant values is attempted by avoidance of the cultural resource site. If the location of a resource is already recorded, then avoidance can be incorporated into the process at an early stage given the flexibility possible in planning (that is the flexibility in locating improvements such as roads, fences, and water troughs). In other instances related to commercial livestock, mitigation of impacts may be accomplished by exclusion through fencing. If impacts are unavoidable, it may be necessary to implement other mitigation in accordance with NHPA, using the guidelines presented in Federal Regulation 36 CFR 800.

Cultural resources discovered during surveys will be evaluated for significance according to the criteria of eligibility to the National Register of Historic Places (NRHP). If significant (determined eligible), then options for protection must be considered and discussed above.

Procedures for dealing with unexpected findings of cultural resources are also required and are specified in 36 CFR 800. Specific requirements are included in grazing permits. If unexpected cultural resources are discovered during the later phases of the project (for example, water development construction encounters bone, stone artifacts, burnt soil, or charcoal), then the ground-disturbing activities must be halted, and the cultural remains examined by a professional archaeologist who will determine their significance.

Archaeological resources generally are relatively small point of linear resources and avoidance is clearly a viable option in regard to placement of range improvements such as troughs, corrals, etc. Traditional cultural sites are likewise generally limited in areal extent and in many cases are located in areas either inaccessible or of low accessibility to livestock and/or big game species.

If the location of a resource is already recorded, then avoidance can be incorporated into the process at an early stage given the flexibility possible in planning (i.e. - flexibility in locating improvements, roads, etc.). In some instances, such as those concerning spiritual or traditional materials, temporal mitigation may be more appropriate (i.e. - scheduling of grazing activities so as to avoid conflict with ceremonies or harvest). Such mitigation would be developed in cooperation with the permittee and the interested tribal group.

For the most part, responsibility for mitigation of effects to cultural resources rest on the Forest Service. This would include unusual protective measures such as fencing and other mitigation which might be necessary. However, permittees do have certain responsibilities as with other resource concerns, such as prohibitions on removal or damage to identified sites and procedures if previously unknown cultural resources are encountered. These responsibilities are not new though they have not been included in the body of the permit in the past. Section 3 of the permit will now identify these responsibilities in a standard permit clause.

Protection of Native American Cultural Values

The identification and protection of Native American cultural values and associated sites presents a number of unique problems. Some traditional cultural properties may contain physical artifacts that would afford protection under the Archaeological Resources Protection Act or other current legislation while other sites equally important to American Indian groups may not reflect such physical evidence. These may include religious sites but also such sites as traditional locations for gathering of medicinal or sacred plants, lithic materials, or other resources for use in traditional lifestyles. A number of laws and regulations could have significant bearing on considerations of such values. In addition, treaties enacted with tribes may cite specific rights or responsibilities.

Native American sacred or religious sites present a dilemma for all concerned. Sites could be those presently in use for ceremonies or leaving of offerings in accordance with traditional religions or those important as a location for an important cultural event in the past. The American Indian Religious Freedom Act (AIRFA) guarantees access to these sites but does not offer protection to the site itself. In theory, in order to be protected, sites must be identified, evaluated, and qualify for nomination to the National Register under the criteria of NHPA. In many instances the tribes are reluctant to do this. This protection is not insured as it may depend on the presence of identifiable artifacts or features. These are not always present at such sites or not in sufficient quantities that would indicate "significance". Revealing the locations of these sites may also be prohibited by religious or cultural traditions of the tribes.

Again, consultation by the Forest Service with affected American Indian tribal groups is required by law and will be carried out with the Shoshone, Northern Arapahoe, Shoshone-Bannock, Crow, Northern Cheyenne, and Nez Perce tribes to identify and safeguard religious or sacred sites as well as other traditional cultural values. Should conflicts arise between tribes and permittees, additional consultation will

be undertaken to resolve the conflict. In some instances, such as those concerning religious access or gathering traditional materials, temporal mitigation may be appropriate. It may be possible to schedule grazing activities so as to avoid conflict with ceremonies or harvest. Such mitigation can be developed in cooperation with the permittee and tribal representatives.

General permittee responsibilities are again outlined in the standard permit clause included under the Heritage Resources mitigation section. The only change may be restriction of site location information and use of an appropriate buffer area to protect site values without disclosure of actual location.

Mitigation to Protect Heritage Resources and Native American Cultural Values

The following clauses shall be included in Part III of the grazing permit:

- 1) In the case of known heritage (cultural) resource sites.

It is prohibited to dig in, excavate, disturb, injure, destroy, or in any way knowingly damage any prehistoric, historic, or archaeological resource, structure, site, artifact or property. It is further prohibited to remove any prehistoric, historic, or archaeological resource, structure, site, artifact, or property. Information shared between the Forest Service and permittee regarding location of such resources, structures, sites, artifacts, or properties is to be considered confidential and not to be released to the general public.

- 2) In the event of unanticipated discoveries.

In the event that previously unidentified cultural resources are discovered during any permit activities, care shall be exercised by all involved personnel to ensure that such finds are not disturbed. The permittee shall inform the Forest Service officer of a discovery(s) as soon as possible. The Forest Service shall expeditiously implement measures and procedures to evaluate the significance of such a find(s). If the subject cultural resource(s) is determined to be significant, the Forest Service shall prescribe and implement appropriate action(s) to preserve or conserve the subject resource(s). The permittee shall not proceed with any activity that may disturb the subject resource(s) until permission to proceed is received from the Forest Service.

- 3) The permittee will not restrict or attempt to restrict Native American access to traditional ceremonial sites or other areas connected with traditional cultural activities. Where there are questions, conflicts or potential conflicts regarding such access, the permittee will contact the Forest Service to allow for consultation to resolve these conflicts.

Forest Service Responsibilities

The Forest Service will take the following actions to comply with conditions of the National Programmatic Agreement and Memorandum of Understanding regarding protection of cultural resource sites. These actions will also meet obligations and comply with conditions of laws such as AIRFA and the Religious Freedom Restoration Act, treaty rights, and trust responsibilities regarding protection of Native American cultural values.

- 1) Develop a schedule of field surveys of allotments in accordance with and based on establishment of Integrated Resource Areas (IRA's).
- 2) Continue to conduct separate field surveys on individual improvement projects.
- 3) Bring under management any eligible and/or unevaluated cultural resource sites presently recorded or found during future field inventories.

27

273

4) Cooperate with cultural specialists and representatives of affected American Indian tribes to identify traditional cultural areas such as religious, sacred and ceremonial sites as well as gathering areas for materials used in traditional culture.

5) Consult with affected American Indian tribal governments to obtain their comments and involvement in development of protection strategies.

6) When necessary, the Forest Service will develop and implement with the Wyoming State Historic Preservation Office, American Indian tribal governments, and other interested parties, an appropriate mitigation plan to protect the resource. Such mitigation can include but is not limited to fencing, relocation of improvements, and data recovery.

7) Where possible, protection will be sought in such a way that there are no physical structures to identify site location.

8) Where necessary, for protection and to prevent impacts from grazing, the Forest Service may share limited information on location of cultural resources with permittees. *In the case of traditional cultural properties such as religious or sacred sites, this will only occur with the agreement of and direct participation of tribal governments or their officially designated representatives.* Avoidance or protection of this type site will include a buffer of sufficient area to prevent pinpointing location.

9) In the event of conflicts between grazing operations and tribal interests, the Forest Service will act as mediator to aid in resolving these conflicts.

Monitoring

Monitoring of cultural resources sites will continue as required under the National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), and other applicable laws and regulations.

Should monitoring indicate impacts to a cultural resource site as a result of grazing or activities associated with grazing, the Forest Service will take steps outlined in the mitigation section to protect the resource. Such mitigation could include but is not limited to, fencing, relocation of improvements, or changes in grazing schedules.

Similar monitoring will occur with traditional cultural sites where appropriate and in a manner recommended by affected American Indian tribes. This monitoring will include visits in the company of tribal representatives when possible.

Appendix D Supplemental Information on Range-related Forest Plan Standards and Guidelines

FOREST DIRECTION (BLUE PAGES)

Visual Resource Management (AO4) (Pages III-29 to III-30)

13. Manage range structural improvements to obtain conformance with adopted visual quality levels. (1469SH)
 - a. Fences in foreground seen area of sensitivity Level 1 travel route and use areas will be:

Non-reflectual and simulate naturally-occurring form, line, color and texture.

Placed across the narrowest part of the vegetative opening when crossing open space. (7245SH)
 - b. Fence lines silhouetted against the skyline will be minimized. (7246SH)
 - c. Fences should be placed along the edge or within the transition zone of the vegetation that surrounds an opening. (7247SH)
 - d. Minimize the amount of fencing located along the foreground seen area of sensitivity Level 1 travel routes and use areas. (7248SH)
 - e. Construct corrals and related structures of material that simulate the landscape's surrounding color and texture. (7249SH)
 - f. Corrals and related structures shall be located to take advantage of natural screening opportunities. (7250SH)
 - g. Water developments shall be designed and located to simulate the landscape's form, line, color and texture.
14. Manage range non-structural improvements to obtain conformance with adopted visual quality levels. (1470SH)
 - a. Vegetative control treatment areas shall flow up to and across roads and trails. Narrow leave strips flanking a road or trail shall be avoided. (7252SH)
 - b. Vegetative control projects shall be designed to simulate the character of the existing landscape. A transition zone of

vegetation that varies in size and density shall be provided between treated and untreated areas. Achieve transition by "feathering" the edge of untreated vegetation to create irregular vegetative patterns. (7253SH)

- c. Along the foreground seen area of sensitivity Level 1 travel route and use areas, root wads and other large debris created by brush treatment shall be burned and/or buried to remove from the site. (7254SH)
- d. Brush piles created by treatment shall be chopped or crushed and randomly spaced in irregular shapes and sizes if they cannot be removed or buried and are not needed for wildlife. (7256SH)

Wilderness Area Management (B02) (Pages III-39 to III-43)

- 8. Control overnight grazing of recreational stock in alpine and krummholz ecosystems according to use standards in Management Activity D02, Forest Direction. (0206)

- a. Base range condition on the standard in Range Analysis Handbook (FSH 2209.21). (6156)

- b. Allowable soil disturbance criteria:

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 20% of the total area on ranges with good to excellent soil stability on 0-15% slopes.

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 15% of the total area on ranges with fair soil stability on 0-15% slopes, and on those with good or better soil stability on 16-25% slopes.

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 10% of the total area on ranges with fair soil stability on 16-25% slopes, and on those with good or better soil stability on 26 to 45% slopes.

Do not permit additional soil disturbance (loss of ground cover/vegetation) on range lands with poor soil stability conditions or on slopes greater than 45%. (7370SH)

- 9. Prohibit new range improvement structures other than corrals, fences or water developments essential to sustain current permitted numbers. (0221)

- 10. Implement revegetation only for rehabilitation of areas in less than "fair" range condition based upon their natural potential. Use only native species for revegetation. Implement only where natural vegetation possibilities are poor, and only where degradation was due to human activities. (0177)

- a. Base range condition on the standards in Range Analysis Handbook (FSH 2209.21). (6156)

- 20. Protect riparian/aquatic and wetland ecosystems in accordance with Executive Order 11990 (Protection of Wetlands), FMS 2520, the Clean Water Act (as amended), and the Wilderness Act of 1964. Protect characteristics that function to maintain the riparian ecosystem and contribute to aesthetic and recreational values, and that serve local or downstream uses that require water of natural quality.

Conditions to avoid in riparian/aquatic areas under different wilderness uses are described in the following general direction items, B02 20 through 28. (1542SH)

- 21. Conditions to avoid with domestic grazing: Excessive trampling of wet soils with resultant hummocking, drying and general degradation of the area. Overutilization of forage and loss of vitality and variety of riparian vegetation resulting in long-term shifts in the vegetative mix to less desirable species; breakdown of stream banks resulting in ongoing sources of sediment; cattle defecating and urinating in or near streams. (1548SH)

- a. Management Practices for Domestic Grazing:

- 1. Riparian vegetation: It is critical that all riparian areas lacking firm, dry surfaces be protected from grazing livestock. Protection and corrective action involves: stocking to proper capacity, removing excessively wet areas from suitable range computations (reduce stocking); enforcing utilization standards by range analysis and monitoring; installing physical barriers to cattle (riparian area enclosures); and dispersing cows by developing water sources in secondary range and by requiring riders.

- 2. Water: Based on results of range analysis and monitoring, or observation of inappropriate conditions, water quality monitoring will be implemented to determine actual effects. Such monitoring shall proceed in accordance with the Water Resource Monitoring Plan found in Chapter IV of the Forest Plan. (7359SH)

Wildlife and Fish Resource Management (C01) (Page III-49)

- 3. Maintain habitat for viable populations of all existing vertebrate wildlife species (0289)

- 4. Establish elk, moose, bighorn sheep, and threatened and endangered species on sites that can supply the habitat needs of the species and the population levels and distribution agreed to with the states (FSM 2610). (0461)

- 7. Manage and provide habitat for recovery of endangered and threatened species as specified in the Regional forester's 1920 (2670) letter dated (0740)

- a. Management for grizzly bears will be as directed in "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone area". (7283SH)
8. Plan water developments, mineral exploration, and development, timber harvest, livestock grazing, and other management practices to ensure activities are compatible with fishery management objectives to prevent fish habitat degradation and to mitigate any potential adverse impacts.

Wildlife and Fish Cooperation With Other Agencies (C12) (Page III-53)

1. Manage animal damage in cooperation with the State Wildlife Agencies, Fish and Wildlife Service, other appropriate agencies, and cooperators to prevent or reduce damage to other resources and direct control toward preventing damage or removing only the offending animal. (0097)
2. Allow denning or aerial gunning only for the purpose of animal damage control and under the following conditions:
 - a. Methods are specified in the Forest Animal Control Plan;
 - b. Denning and aerial gunning is done by an authorized individual; and
 - c. The permit is issued by the State for aerial gunning. (0098)

Range Resource Management (DO2) (Pages III-53 to III-58)

1. Provide forage to sustain local dependent livestock industry as well as wildlife populations agreed to in Statewide Comprehensive Wildlife Management Plans for National Forest System Lands. (0055)
2. Remove livestock for the remainder of the grazing season from allotments managed under a continuous grazing system when further utilization on key areas will exceed allowable use criteria for the season. (0057)
3. Manage livestock and wild herbivores forage use by implementing allowable use guides. (0058)
 - a. Livestock and wild herbivores allowable forage use by grazing system and range type are:
 1. Rest Rotation System:
 - (a) Use by range type:

Mainly seed reproduction (Bunchgrass, plains grassland, foothills shrub and alpine range types): 50 to 60 percent on heavy use pastures. Up to 45 percent on light use pastures.

Mainly vegetation reproduction (meadow, sand hill prairie, bluegrass bottoms, and aspen range types): Bluegrass: maximum up to 80 percent; others 55 to 65 percent on heavy use pastures, 40 to 50 percent on light use pastures.

(b) Allowable soil disturbance or recovery criteria:

Soil and vegetation condition must be restored to at least the pre-treatment condition by the return to the same point in the grazing cycle.

2. Deferred Rotation System:

(a) Use by range type:

Mainly seed reproduction: 40 to 50 percent on all pastures.

Mainly vegetation reproduction: 45 to 55 percent on all pastures.

(b) Allowable soil disturbance or recovery criteria:

Soil and vegetation condition must be restored to at least the pre-treatment condition by the return to the same point in the grazing cycle.

3. Rotation System:

(a) Use by range type:

Mainly seed reproduction: Maximum of 50% on last used pastures; maximum of 40% on first used pasture.

Mainly vegetation reproduction: Maximum of 55% on last used pasture; maximum of 45% on first used pasture.

(b) Allowable soil disturbance or recovery criteria:

Soil and vegetation condition must be restored to at least the pre-treatment condition by the return to the same point in the grazing cycle.

4. Continuous System (Grazing same time and place every year):

Mainly seed reproduction:

Use By Condition Class on Key Area

Season	Good and			
	Excellent	Fair	Poor	Very Poor
Full Grazing Season or Spring	31% to 40%	21% to 30%	11% to 20%	0% to 10%
Summer	36% to 45%	26% to 35%	11% to 25%	0% to 10%
Fall &/or Winter	46% to 55%	31% to 45%	16% to 30%	0% to 15%

Mainly vegetation reproduction:

Same as primarily seed reproduction except increase utilization by 10% on bluegrass.

Allowable Soil disturbance:

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 20% of the total area on ranges with good to excellent soil stability on 0-15% slopes.

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 15% of the total area on ranges with fair soil stability on 0-15% slopes, and on those with good or better soil stability on 16-25% slopes.

Limit soil disturbance (loss of ground cover/vegetation) to a maximum of 10% of the total area on ranges with fair soil stability on 16-25% slopes, and on those with good or better soil stability on 26 to 45% slopes.

Do not permit additional soil disturbance (loss of ground cover/vegetation) on range lands with poor soil stability conditions or on slopes greater than 45%.

5. Alternate Years System:

(a) Use by range type on key areas:

Mainly seed reproduction:

Condition Class on Key Area	Use
Good/Excellent	51% to 60%
Fair	36% to 50%
Poor	21% to 35%
Very Poor	0% to 20%

Mainly vegetation reproduction:

Condition Class on Key Area	Use
Good/Excellent	56% to 65%
Fair	41% to 55%
Poor	31% to 40%
Very Poor	0% to 30%

Bluegrass 80% on good or better condition and same proper user percent for fair and lower as above.

Soil disturbance criteria is same as for continuous grazing. (7369SH)

- Achieve or maintain satisfactory range conditions on all rangelands. (0499)
- Establish and maintain vegetation consisting of a mixture of native species or proven introduced species that will stabilize the soil and enhance range conditions (if possible) following mining operations. Accomplish this by planting, maintaining, and manipulating vegetation through mechanical and non-mechanical methods such as herbicide application, prescribed fire, seeding, interseeding, furrowing, terracing, pitting, ripping, etc. (1171SH)
- Treat noxious farm weed in the following priority:
 - Leafy spurge and Russian and Spotted Knapweed;
 - Invasion of new plant species classified as noxious farm weeds;
 - Infestation in new areas;
 - Expansion of existing infestations of Canada and Musk Thistle, and other noxious farm weeds; and
 - Reduce acreage of current infestation. (0096)
- Manage or control cattle grazing in riparian areas according to Forest Direction in Wilderness Area Management and Riparian Area Management and Management Prescription 9A. (1480SH)

Range Improvement and Maintenance (D03, 04, 05 and 06) (Pages III-58 to III-59)

- Structural range improvement should be designed to benefit wildlife and livestock. (0416)
 - Structural improvements and maintenance will be in accordance with FSH 2209.22-R2. (6277)
- Areas of deteriorated range condition with evidence of erosion and stream bank damage shall be included in the Forest Watershed Needs Inventory. (1481)

Riparian Area Management (F03) (Pages III-69 to III-70)

- Design and implement activities in management areas to protect and manage the riparian ecosystem. (0401)
- Manage riparian areas to reach the latest seral stage possible within the stated objectives. (0402)
 - Maintain all riparian ecosystems in at least an upper mid-seral successional stage based upon the R2 Riparian Ecosystem Rating System. (6147)
- Prescribe silvicultural and livestock grazing systems to achieve riparian area objectives. (0403)
- Give preferential consideration to resource dependents on riparian areas over other resources in cases of unresolvable conflict (reference FSM 2526 and 2527). (1559SH)

Water Resource Improvement and Maintenance (F05 and 06) (Pages III-70 to III-73)

- Improve or maintain water quality to meet state water quality standards. (1560SH)
- Protect wilderness riparian/aquatic and wetland ecosystems in accordance with Executive Order 11990 (Protection of Wetlands), FSM 2520, the non-point source pollution provisions of the Clean Water Act (as amended), and Wyoming environmental quality statutes. See general direction and standards and guidelines for riparian/aquatic ecosystems under Wilderness Area Management (Forest Direction). (1541SH)

Soil Resource Management (KA1) (Page III-86)

- Maintain soil productivity, minimize man-caused soil erosion, and maintain the integrity of associated ecosystems.
 - Prevent livestock and wildlife grazing which reduces the percent of plant cover to less than the amount needed for watershed protection and plant health.

MANAGEMENT AREA DIRECTION (YELLOW PAGES)

Management Area 1A - Existing and Proposed Recreation Sites (Page III-106)

Range Resource Management (D02)

1. Manage livestock grazing to enhance recreation opportunities in existing and proposed recreation sites. (0110)
2. Exclude grazing of recreational stock and livestock in developed recreation sites during the managed recreation use season. (0059)
 - a. Maintain vegetation in fair or better range condition. (6061)

Management Area 1B - Existing and Potential Winter Sports Sites (Page III-108)

Range Resource Management (D02)

1. Manage livestock grazing to enhance recreation opportunities in existing and proposed recreation sites. (0110)
 - a. Maintain vegetation in fair or better range condition. (6061)

Management Area 1D - Utility Corridors (Page III-115)

Range Resource Management (D02)

1. Manage the range resource consistent or compatible with adjacent management areas. (0298)

Management Area 2A - Semiprimitive Motorized Recreation (Page III-121)

Range Resource Management (D02)

1. Manage livestock distribution and stocking rates to be compatible with recreation use. Locate structural improvement to meet visual quality objectives. (0158)

Management Area 2B - Rural and Roaded Natural (Page III-129)

Range Resource Management (D02)

1. Manage livestock distribution and stocking rates to be compatible with recreation use. Locate structural improvement to meet visual quality objectives. (0158)

Management Area 3A - Semiprimitive Nonmotorized Recreation (Page III-136)

Range Resource Management (D02)

1. Manage livestock distribution and stocking rates to be compatible with recreation use. Locate structural improvement to meet visual quality objectives. (0158)

Management Area 3B - Primitive Recreation (Pages III-142 to III-143)

Range Resource Management (D02)

1. Follow Forest Direction for this management activity with the following exception:
 - a. Do not provide for "heavy-use" pastures. (0398)
2. Prohibit new range improvement structures other than corrals, fences, or water developments essential to sustain current permitted numbers. (0221)
3. Permit incidental grazing by recreation livestock within acceptable use standards.
 - a. Limit utilization of forage to 40 percent and trampling of all current annual herbaceous vegetation growth to 50 percent. (6234)
4. Prohibit recreational stock along lake shores and stream banks except for watering and through-travel. (0204)
5. Control overnight grazing of recreational stock in alpine and Krummholz ecosystems according to use standards in Management Activity D02, Forest Direction. (0206)

Management Area 4B - Management Indicator Species (Page III-152)

Range Resource Management (D02)

1. Implement rotation grazing system. (0418)
 - a. Grazing system based on potential system of an allotment. (7299SH)
 - b. Grazing system shall be the one most compatible with the managed indicator species. (7300SH)
2. Apply wildlife and livestock forage allowable use guides specified in Forest Direction. Modify so needs of management indicator species are met. (0416)
3. Structural range improvements should be designed to benefit wildlife and livestock. (0416)
 - a. Structural improvements will not adversely affect big game movement (FSH 2209.22). (6247)

Management Area 4D - Aspen Management (Page III-155)

Range Resource Management (D02)

1. Closely manage grazing by domestic stock in treated aspen stands until regeneration is 6 feet tall. (1166SH)

- a. Where there has been manipulation to induce aspen regeneration, do not allow aspen seedlings to be grazed by livestock more than one out of three years. (6251)
- 2. Maintain fair or better range conditions. (0417)
- 3. Adjust the number and/or season of use for permitted livestock to provide sufficient forage for wildlife, especially on winter range, and protect areas under treatment to attain vegetation diversity objectives. (1153SH)

Management Area 5A - Big Game Winter Range in Nonforested Areas (Page III-160)

Range Resource Management (D02)

- 1. Manage grazing to favor big-game and to achieve the wildlife populations identified in state-wide comprehensive wildlife plans. (0315)
 - a. Maintain vegetation in fair or better range condition. (6172)

Management Area 5B - Big Game Winter Range in Forested Areas (Pages III-167 to III-168)

Range Resource Management (D02)

- 1. Manage grazing to favor big-game and to achieve the wildlife populations identified in state-wide comprehensive wildlife plans. (0315)
 - a. Maintain vegetation in fair or better range condition. (6172)
 - b. Limit livestock use of browse and herbaceous plant production to that not needed by big game. (6173)
- 2. Emphasize intensive management of grazing through use or rotation grazing systems where possible. Manage forest cover types to achieve and maintain desired thermal and hiding cover, cover-opening rations and other habitat needs associated with tree cover. (1531SH)
 - a. Grazing permits based on potential system of an allotment. (7327SH)
 - b. Grazing system shall be the one most compatible with the managed big game species. (7328SH)

Management Area 7E - Wood-fiber Production and Utilization (Pages III-176 to III-177)

Range Improvement and Maintenance (D03, 04, 05 and 06)

- 1. Utilize transitory forage that is available where demand exists, and where investments in regeneration can be protected. (0132)
 - a. Vary utilization standards with grazing system and ecological condition. Specify standards in the allotment management plan. (6071)
 - b. Maximum grazing use on transitory ranges resulting from clearcuts is:
 - Key shrubs 20% of current growth
 - Grasses 40-50% of current growth
 - Forbs 20% of total production (6027)
 - c. Allocate forage to livestock not needed for wildlife. (7305SH)
- 2. Protect regeneration from livestock damage that precludes adequate stocking. (1380SH)

Management Area 8A - Pristine Wilderness (Page III-183)

Range Resource Management (D02)

- 1. Utilize transitory forage that is available where demand exists, and where investments in regeneration can be protected. (0132)
 - a. Follow established utilization standards for areas, within grazing allotments. (6130)
 - b. Limit utilization of forage to not more than 30 percent of current annual growth outside established allotments. (6342)
 - c. Limit trampling of forage to not more than 40 percent of current annual herbaceous vegetation growth, outside established allotments. (6344)

Management Area 8B - Primitive Wilderness (Page III-187)

Range Resource Management (D02)

- 1. Manage livestock and herbivorous wildlife forage use in accordance with FSM 2320.3 (36 CFR 293.7). (0182)
 - a. Follow established utilization standards for areas, within grazing allotments. (6130)

Management Area 8C - Semiprimitive Wilderness (Page III-195)

Range Resource Management (D02)

1. Manage livestock and herbivorous wildlife forage use in accordance with FSM 2320.3 (36 CFR 293.7). (0182)

- a. Follow established utilization standards for areas, within grazing allotments. (6130)

Management Area 9E - Glacier Addition to Fitzpatrick Wilderness (Page III-204)

Range Resource Management (D02)

1. Manage livestock and herbivorous wildlife forage use to favor bighorn sheep. (1571SH)

Management Area 9A - Riparian Area (Pages III-211 to III-219)

Wildlife Habitat Improvement and Maintenance (C02, C04, C05, and C06)

2. Provide habitat for viable populations of all native vertebrate species of fish and wildlife.

Range Resource Management (D02)

1. Maintain proper stocking and livestock distribution to protect riparian ecosystems. (0666)
 - a. Management fencing will be employed to control cattle use in particularly sensitive riparian ecosystems (e.g., willow bottoms with perennially saturated soils, meandering streams with undercut banks). (7309SH)
 - b. Locate salt at least 400 yards from perennial surface water and natural lakes and ponds. (7310SH)
 - c. Monitor stocking or use levels along with riparian site quality indices to develop standards and tolerance levels. When site qualities or riparian dependent resources are degraded, implement full protective measures. (7398SH)
2. Prohibit trailing of livestock along the length of riparian areas except where existing stock driveways occur. Rehabilitate existing stock driveways where damage is occurring in riparian areas. Relocate them outside riparian areas if possible, and if necessary to achieve riparian areas goals. (0108)

Riparian Area Management (F03)

1. Give preferential consideration to resource dependents on riparian areas over other resources in cases of unresolvable conflict (reference FSM 2526 and 2527). (1559SH)

Water Resource Improvement and Maintenance (F05, F06)

3. Prevent stream channel instability, loss of channel cross-sectional areas, and loss of water quality resulting from activities that alter vegetative cover. (0007)
6. Treat disturbed areas resulting from management activities, to reduce sediment yields to the natural erosion rates in the shortest possible time. (0684)
7. Stabilize streambanks which are damaged beyond natural recovery in a reasonable time period with appropriate methods or procedures that emphasize control by vegetation. (0686)
10. Require concurrent monitoring to ensure that mitigative measures are effective and in compliance with state water quality standards. (1204SH)

Soil Resource Management (KA1)

1. Rehabilitate disturbed soils areas where adverse impacts would occur according to the following priorities:
 - Aquatic ecosystems;
 - Riparian ecosystems; and
 - Riparian areas outside of aquatic and riparian ecosystems.(0091)
2. Prevent soil surface compaction and disturbance in riparian ecosystems. Allow use of heavy construction equipment for construction, residue removal, etc., during periods when the soil is least susceptible to compaction or rutting. (0003)
3. Maintain or enhance the long-term productivity of soils within the riparian ecosystem. (0694)

Management Area 9E - Water Impoundment Sites (Pages III-225 to III-226)

Range Resource Management (D02)

1. Do not allocate forage to livestock. (0792)
2. Prevent conflicts with recreation and water quality. (0794)
3. Allow stock watering that does not interfere with recreation or wildlife habitat needs. (0796)

Management Area 10A - Research Natural Areas (Page III-232)

Range Resource Management (D02)

1. Restrict grazing by livestock to that essential for the maintenance of a specific vegetation type. (0372)

Management Area 10D - Clarks Fork of the Yellowstone River (Pages III-237 to III-237)

Range Resource Management (D02)

1. Allow domestic livestock to graze within corridors, but decrease grazing where adverse impacts on river banks and vegetation occur. Exclude cattle from sensitive sites and reduce numbers or period of use in areas where grazing degradation has occurred. (1585SH)
2. Prohibit trailing (driving) of livestock within the river corridor except for established stock driveways. (1586SH)

Range Improvement and Maintenance (D03, 04, 05 and 06)

1. Limit investments of range cultural practices to broadcast seeding of native forage species and noxious weed control. (1587SH)
2. Limit investments in structural improvements to those needed for proper distribution and river area protection. Control bank trampling. (1588SH)

Management Area 10E - Protection of Existing Wilderness Characteristics of the High Lakes Wilderness Study Area (Page III-243)

Range Resource Management (D02)

1. Follow Forest Direction for this management activity with the following exception:
 - a. Do not provide for "heavy-use" pastures. (0398)
2. Prohibit new range improvement structures other than corrals, fences or water developments essential to sustain current permitted numbers. (0221)
3. Permit incidental grazing by recreation livestock within acceptable use standards. (0222)
4. Prohibit recreational stock along lake shores and stream banks except for watering and through-travel. (0204)
5. Control overnight grazing or recreational stock in alpine ecosystems according to use standards in Management Activity D02, Forest Direction. (1534SH)

Management Area 10F - Protection of Existing Wilderness Characteristics of the Dunoir Special Management Area (Pages III-248 to III-249)

Range Resource Management (D02)

1. Follow Forest Direction for this management activity with the following exception:
 - a. Do not provide for "heavy-use" pastures. (0398)

2. Prohibit new range improvement structures other than corrals, fences or water developments essential to sustain current permitted numbers. (0221)
3. Permit incidental grazing by recreation livestock within acceptable use standards. (0222)
4. Prohibit recreational stock along lake shores and stream banks except for watering and through-travel. (0204)
5. Control overnight grazing or recreational stock in alpine ecosystems according to use standards in Management Activity D02, Forest Direction. (1534SH)

FOREST PLAN STANDARDS PERTINENT TO GRIZZLY BEAR

INTERAGENCY GRIZZLY BEAR GUIDELINES

I. INTRODUCTION

The Endangered Species Act (ESA) (P.L. 93-205) requires special protection and management on Federal lands for the grizzly bear (*Ursus arctos horribilis*), a threatened species. Federal and State personnel cooperatively developed guidelines for grizzly protection and management in the National Forests, National Parks, and Bureau of Land Management lands in the grizzly bear ecosystems in compliance with ESA.

II. BACKGROUND

On August 1, 1975, the grizzly bear south of Canada was determined to be a threatened species by the Secretary of Interior under ESA authority. This determination required Federal agencies to:

1. utilize their authorities to carry out conservation programs for listed species; and,
2. insure that their activities not jeopardize the continued existence of a listed species; and ,
3. insure that their activities or program not result in the destruction or adverse modification of critical habitat.

III. POLICY

A. Park Service Grizzly Bear Policy

NOT INCLUDED IN THIS DOCUMENT

B. Forest Service Grizzly Bear Management Policy

The Forest Service (FS) is committed to helping achieve recovery of the grizzly bear by carrying out active conservation programs in close

cooperation with the States, U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, and other agencies and groups.

The principal role of the Forest Service is to manage the habitat on the National Forests in a way that recovery can be accomplished. In helping to achieve recovery, the FS will establish and implement uniform planning and management procedures including:

1. A grizzly bear habitat mapping and cumulative effects analysis process (a tool for assessing effects of land management activities in time and space on occupied grizzly habitat.)
2. The resource management guidelines and grizzly management situations as established in the "Interagency Grizzly Bear Management Guidelines" (Guidelines).
3. Quantification of recovery objectives in Forest Plans including: (a) the amount of habitat needed for recovery, expressed as habitat capability when possible, and (b) objectives to decrease preventable human-caused mortalities.

The FS will emphasize actions which contribute toward conservation and recovery of the bear within areas identified in the Grizzly Bear Recovery Plan. Objectives are to maintain and enhance habitat and to minimize potential for grizzly-human conflicts. The FS will manage habitats essential to bear recovery for multiple land use benefits, to the extent these land uses are compatible with the goal of grizzly recovery.

Land uses which can not be made compatible with the goal of grizzly recovery, and are under FS control, will be redirected or discontinued. Management guidelines and objectives, the cumulative effects process, and the goals for habitat capability and mortality will be used to guide activities which are compatible with grizzly bear recovery. It is also the policy of the Forest Service to facilitate recreation use in occupied grizzly habitat to the extent such levels or use are compatible with both human safety and grizzly recovery objectives. Emphasis will be placed on information programs to raise the awareness of National Forest users about proper behavior in grizzly habitat.

Policy on specific grizzly bear issues is found in Forest Service Manual 2670.

IV. GRIZZLY BEAR MANAGEMENT SITUATIONS

Five different grizzly management situations are described. All involved National Forest, National Park, and Bureau of Land Management (BLM) lands will be identified by appropriate situations. Each management situation fits a type of land area where unique:

1. grizzly populations and habitat conditions exist; and,
2. management direction applies.

Forest Supervisors, Park Superintendents, and BLM Area Managers will identify the different management situations areas in their respective areas of responsibility.

A. Management Situation 1

1. Population and habitat conditions. The area contains grizzly population centers (areas key to survival of grizzly where seasonal or year-long grizzly activity, under natural, free ranging conditions is common) and habitat components needed for the survival and recovery of the species or a segment of its population. The probability is very great that major Federal activities or programs may effect (have direct or indirect relationships to the conservation and recovery of) the grizzly.

2. Management direction. Grizzly habitat maintenance and improvement (improvement does not apply to Park Service), and grizzly-human conflict minimization will receive the highest management priority. Management decisions will favor the needs of the grizzly bear when grizzly habitat and other land use values compete. Land uses which can effect grizzlies and/or their habitat will be made compatible with grizzly needs or such uses will be disallowed or eliminated. Grizzly-human conflicts will be resolved in favor of grizzlies unless the bear involved is determined to be a nuisance. Nuisance bears may be controlled through either relocation or removal but only if such control would result in a more natural free-ranging grizzly population and all reasonable measures have been taken to protect the bear and/or its habitat (including area closures and/or activity curtailments).

B. Management Situation 2

1. Population and habitat conditions. Current information indicates that the area lacks distinct population centers; highly suitable habitat does not generally occur, although some grizzly habitat components exist and grizzlies may be present occasionally. Habitat resources in Management Situation 2 either are unnecessary for survival and recovery of the species, or the need has not yet been determined but habitat resources may be necessary. Certain management actions are necessary. The status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs. Major Federal activities may effect the conservation of the grizzly bear primarily in that they may contribute toward (a) human-caused bear mortalities or (b) long-term displacement where the zone of influence could affect habitat use in Management Situation 1.

2. Management direction. The grizzly bear is an important, but not the primary, use of the area. In some cases, habitat maintenance and improvement may be important management considerations. Minimization of grizzly-human conflict potential that could lead to human-caused mortalities is a high management priority. In this management situation, managers would accommodate demonstrated grizzly populations and/or grizzly habitat use in other land use activities if feasible, but not to the extent of exclusion of other uses. A feasible accommodation is one which is compatible with (does not make

unobtainable) the major goals and/or objectives of other uses. Management will at least maintain those habitat conditions which resulted in the area being stratified Management Situation 2. When grizzly population and/or grizzly habitat use and other land use needs are mutually exclusive, the other land uses needs may prevail in management consideration. In cases where the need of the habitat resources for recovery has not yet been determined, other land uses may prevail to the extent that they do not result in irretrievable/irreversible resource commitments which would preclude the possibility of eventual restratification to Management Situation 1. If grizzly population and/or habitat use represents demonstrated needs that are so great (necessary to the normal needs or survival of the species or a segment of its population) that they should prevail in management considerations, then the area should be reclassified under Management Situation 1. Managers would control nuisance grizzlies.

Management Situation 3

1. Population and habitat conditions. Grizzly presence is possible but infrequent. Developments, such as campgrounds, resorts or other high human use associated facilities, and human presence result in conditions which make grizzly presence untenable for humans and/or grizzlies. There is a high probability that major Federal activities or programs may affect the species' conservation and recovery.

2. Management direction. Grizzly habitat maintenance and improvement are not management considerations. Grizzly-human conflict minimization is a high priority management consideration. Grizzly bear presence and factors contributing to their presence will be actively discouraged. Any grizzly involved in a grizzly-human conflict will be controlled. Any grizzly frequenting an area will be controlled.

D. Management Situation 4

Does not apply to Shoshone National Forest, Wyoming.

E. Management Situation 5

1. Population and habitat conditions. Grizzlies do not occur, or occur only rarely in the area. Habitat may be unsuitable, unavailable, or suitable and available but unoccupied. The area lacks survival and recovery values for the species or said values are unknown. Major Federal activities and programs probably will not affect species conservation and recovery.

2. Management direction. Consideration for grizzly bears and their habitat in other resource related decisions is not directed. Maintenance of grizzly habitat is an option. Any grizzly involved in a grizzly-human conflict will be controlled.

V. GRIZZLY BEAR MANAGEMENT GUIDELINES

Grizzly management guidelines for each of five resource management systems are listed for each management situation (SITUATION 4 IS NOT LISTED AS NO SITUATION 4 LANDS EXIST ON THE SHOSHONE NATIONAL FOREST). The guidelines are grouped under the headings:

1. Maintain and Improve Habitat;
2. Minimize Grizzly-Human Conflict Potential; and,
3. Resolve Grizzly-Human Conflicts.

The heading subjects are the major grizzly management objectives.

These guidelines and the attendant Management Situations represent a comprehensive and integrated approach to the goal of grizzly bear conservation. Although the context and direction for management may vary legitimately between Management Situations, management actions and human activities in MS 1 through MS 4 may influence grizzly bear conservation. The value of the Management Situation concept for grizzly bear management is most fully realized with proper stratification and implementation.

MANAGEMENT SITUATION 1

Maintain and Improve Habitat

1. All livestock use on allotments, including recreation horse allotments, will be evaluated for its effect upon grizzlies and/or their habitat. USDA Forest Service procedures (1977) and Interagency Cumulative Effects Assessment (1986) may be used.

2. The allotment management plan will specify measures to meet agency grizzly management goals and objectives. These measures will be reflected in grazing permits and annual permittee plans. All permits will include a clause providing for cancellation or temporary cessation of activities if such are needed to resolve a grizzly-human conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits.

3. The allotment management plan will specify measures to protect, in time and space, food production areas vitally important to grizzlies (i.e., wet alpine and subalpine meadows, stream bottoms, aspen groves and other riparian areas) from conflicting and competing use by domestic livestock. These measures will be reflected in grazing permits and annual permittee plans. Degrees of protection could range from partial to full protection as indicated by evaluation. Measures could include, but not be limited to, closing grazing units either temporarily or permanently, exclusion fencing, changing on and off dates and setting livestock utilization rates at levels compatible with grizzly needs. Range condition class objective will be good to excellent in order to achieve range conditions favorable to grizzlies.

4. On sheep allotment where grizzly-livestock depredation has been authenticated, adjustments will be made for the primary purpose of grizzly bear conservation. The following options are available:

- (a) change the season of use, bedding practices, or grazing area to avoid known problem areas or other habitat important to grizzlies in time and space;
- (b) change the class of livestock from sheep to cattle if the range is suitable for cattle;
- (c) remove all livestock and close the allotment. Vacant sheep allotments will not be restocked with sheep.

5. Grazing activities which will adversely effect grizzly bear populations and/or their habitat will not be permitted. Adverse population effects are population reductions and/or grizzly positive conditioning. Adverse habitat effects are reductions in habitat quantity and/or quality.

Minimize Grizzly-Human Conflict Potential

1. All livestock use on allotments, including recreation horse allotments, will be evaluated for its effect upon grizzlies and/or their habitat. USDA Forest Service procedures (1977) and Interagency Cumulative Effects Assessment (1986) may be used.

2. The allotment management plan will specify measures to meet agency grizzly management goals and objectives. These measures will be reflected in grazing permits and annual permittee plans. All permits will include a clause providing for cancellation or temporary cessation of activities if such are needed to resolve a grizzly-human conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits.

4. On sheep allotment where grizzly-livestock depredation has been authenticated, adjustments will be made for the primary purpose of grizzly bear conservation. The following options are available:

- (a) change the season of use, bedding practices, or grazing area to avoid known problem areas or other habitat important to grizzlies in time and space;
- (b) change the class of livestock from sheep to cattle if the range is suitable for cattle;
- (c) remove all livestock and close the allotment. Vacant sheep allotments will not be restocked with sheep.

5. The allotment management plan will specify measures for the timely removal, destruction or treatment of livestock carcasses to avoid positive conditioning of grizzlies to livestock carrion as food. The intent is to reduce the likelihood of food association with domestic herds and reduce opportunities for depredation. Allotment plans will require that all human and prepared livestock and pet foods and human refuse associated with livestock operations be made unavailable to grizzlies through proper storage, handling, and disposal. Edibles and/or garbage should not be allowed to accumulate; sight and/or smell of edibles and/or garbage should not be dominant (i.e., food should be canned or in other sealed containers)

and edibles and/or garbage should be made unavailable (hung out of reach, secured in a solid-sided-bear-proof structure, burned or packed out). These measures will be specified in the annual permittee plan and grazing permits.

Resolve Grizzly-Human Conflicts

In cases of grizzly-human conflict or grizzly-livestock depredation, District Rangers in cooperation with state wildlife management agencies, will immediately identify the cause by determining where, when, why, and how the conflict occurred. If the problem bear is not determined to be a nuisance, then correct the problem immediately by removing the man-related cause. Likely man-related causes are grizzly attractants and/or activities interfering with grizzly use of habitat. Attractants include foods and food odors associated with man, domestic livestock carrion, garbage, garbage dumps, prepared livestock and pet foods, camps or other dwellings, game meat in possession of man, and domestic and/or transportation livestock. Interference activities are domestic livestock and/or any other livestock operation activity disrupting the grizzly's natural activities in meeting its biological requirements (i.e., food use in wet areas with succulent, herbaceous vegetation which is scarce and thereby vitally important to the species especially during dry years or in the late summer and autumn). Cause removal could involve simple activity modification or temporary or permanent activity curtailment in deference to seasonal or year-long grizzly use needs.

If the problem bear is determined to be a nuisance and all reasonable measures have been taken to protect the bear and its habitat and a more natural grizzly population would be a likely result of its control, the U.S. Fish and Wildlife Service and state wildlife agencies will be requested to exercise control.

MANAGEMENT SITUATION 2

Maintain and Improve Habitat

1. All livestock use on allotments, including recreation horse allotments, will be evaluated for its effect upon grizzlies and/or their habitat. USDA Forest Service procedures (1977) and Interagency Cumulative Effects Assessment (1986) may be used.

2. Where grizzly population and habitat use is likely, the allotment management plan will specify feasible measures to meet agency grizzly management goals and objectives. The measures will be reflected in grazing permits and annual permittee plans. All permits will include a clause providing for temporary cessation of activities if needed to resolve a grizzly-human conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits.

3. The allotment management plan will specify feasible measures to protect in time and space, food production areas important to grizzlies (i.e., wet alpine and subalpine meadows, stream bottoms, aspen groves and other riparian areas) from conflicting and competing use by domestic livestock.

These measures will be reflected in grazing permits and annual permittee plans. Partial protection may be indicated by evaluation (FS, 1977 and Interagency Cumulative Effects Assessments (1986)). Measures could include, but not be limited to, closing grazing units temporarily, excluding fencing, changing on and off dates and setting livestock utilization rates at levels compatible with grizzly use. Range condition objectives will be good to excellent in order to achieve range conditions favorable to grizzlies.

4. Grazing activities which will adversely effect grizzly bear and/or their habitat will, if feasible, be avoided. Adverse population effects are population reductions and/or grizzly positive conditioning. Adverse habitat effects are reductions in habitat quantity and/or quality. Options available involving sheep grazing are:

- (a) altering season of use and herding practices;
- (b) change livestock class from sheep to cattle;
- (c) temporary livestock removal.

Minimize Grizzly-Human Conflict Potential

1. All livestock use on allotments, including recreation horse allotments, will be evaluated for its effect upon grizzlies and/or their habitat. USDA Forest Service procedures (1977) and Interagency Cumulative Effects Assessment (1986) may be used.

2. Where grizzly population and habitat use is likely, the allotment management plan will specify feasible measures to meet agency grizzly management goals and objectives. The measures will be reflected in grazing permits and annual permittee plans. All permits will include a clause providing for temporary cessation of activities if needed to resolve a grizzly-human conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits.

3. The allotment management plan will specify measures to protect, in time and space, food production areas important to grizzlies (i.e., wet alpine and subalpine meadows, stream bottoms, aspen groves and other riparian areas) from conflicting and competing use by domestic livestock. These measures will be reflected in grazing permits and annual permittee plans. Partial protection may be indicated by evaluation (FS, 1977 and Interagency Cumulative Effects Assessments (1986)). Measures could include, but not be limited to, closing grazing units temporarily, excluding fencing, changing on and off dates and setting livestock utilization rates at levels compatible with grizzly use. Range condition objectives will be good to excellent in order to achieve range conditions favorable to grizzlies.

4. Grazing activities which will adversely effect grizzly bear and/or their habitat will, if feasible, be avoided. Adverse population effects are population reductions and/or grizzly positive conditioning. Adverse habitat effects are reductions in habitat quantity and/or quality. Options available involving sheep grazing are:

- (a) altering season of use and herding practices;
- (b) change livestock class from sheep to cattle;
- (c) temporary livestock removal.

5. For areas where grizzly occurrence is likely, allotment management plans will specify measures for the timely removal, destruction or treatment of livestock carcasses to avoid positive conditioning of grizzlies to livestock carrion as food. Allotment plans will require that all human and prepared livestock and pet foods and human refuse associated with livestock operations be made unavailable to grizzlies through proper storage, handling, and disposal. These measures will be specified in the annual permittee plan and grazing permits.

Resolve Grizzly-Human Conflicts

In cases of grizzly-human conflict or grizzly-livestock depredation, District Rangers in cooperation with state wildlife management agencies, will immediately identify the cause by determining where, when, why, and how the conflict occurred. If the problem bear is not determined to be a nuisance, then correct the problem immediately by removing, if feasible, the man-related cause. Likely man-related causes are grizzly attractants and/or activities interfering with grizzly use of habitat. Attractants include foods and food odors associated with man, domestic livestock carrion, garbage, garbage dumps, prepared livestock and pet foods, camps or other dwellings, game meat in possession of man, and domestic and/or transportation livestock. Interference activities are domestic livestock and/or any other livestock operation activity disrupting the grizzly's natural activities in meeting its biological requirements (i.e., food use in wet areas with succulent, herbaceous vegetation which is scarce and thereby vitally important to the species especially during dry years or in the late summer and autumn). Cause removal could involve simple activity modification or temporary activity cessation. If the area does not warrant reclassification under Management Situation 1 and temporary activity cessation or activity modification is not feasible or does not solve the problem or if the problem bear is determined to be a nuisance, the U.S. Fish and Wildlife Service and state wildlife agencies will be requested to exercise control.

MANAGEMENT SITUATION 3

Maintain and Improve Habitat

Grizzly habitat needs are not a consideration.

Minimize Grizzly-Human Conflict Potential

1. The allotment management plan will specify measures to meet agency grizzly management goals and objectives. The measures will be reflected in grazing permits and annual permittee plans. Permittees' full cooperation in meeting these goals and objectives will be a condition to their receiving and holding permits.

2. The allotment management plan will specify measures for the timely removal, destruction or treatment of livestock carcasses to avoid positive conditioning of grizzlies to livestock carrion as food. Allotment plans will require that all human and prepared livestock and pet foods and human refuse associated with livestock operations be made unavailable to

grizzlies through proper storage, handling, and disposal. These measures will be specified in the annual permittee plan and grazing permits.

Resolve Grizzly-Human Conflicts

In cases of grizzly-human conflict or grizzly livestock depredation, District Rangers in cooperation with state wildlife management agencies, will immediately identify the cause by determining where, when, why, and how the conflict occurred. Correct the problem immediately by removing the man-related cause and controlling the problem bear. Likely man-related causes are grizzly attractants. Attractants include foods and food odors associated with man, domestic livestock carrion, garbage, garbage dumps, prepared livestock and pet foods, unsanitary camps or other dwellings, and game meat in possession of man. The U.S. Fish and Wildlife Service and State wildlife agencies will be requested to exercise control.

MANAGEMENT SITUATION 5

Maintain and Improve Habitat

Grizzly habitat needs are not a necessary consideration. Maintenance of suitable and available but unoccupied habitat is an option.

Minimize Grizzly-Human Conflict Potential

Minimizing grizzly-human conflict is not a consideration. In the rare event that grizzlies occur in the area, no action is necessary unless conflict is imminent. If conflict is imminent, proceed as indicated under conflict resolution.

Resolve Grizzly-Human Conflicts

If grizzly-human conflict occurs, District Rangers in cooperation with state wildlife management agencies, will immediately identify the cause by determining where, when, why, and how the conflict occurred. Correct the problem immediately by removing the man-related cause and controlling the problem bear. Likely man-related causes are grizzly attractants. Attractants include food and food odors associated with man, livestock carrion, garbage, garbage dumps, prepared livestock and pet foods, unsanitary camps or other dwellings, and game meat in possession of man. The U.S. Fish and Wildlife Service and State wildlife agencies will be requested to exercise control.

BLANK PAGE

Appendix E

Grazing Best Management Practices

The following are practices from the Draft Wyoming Nonpoint Source Grazing Best Management Practices (1994) developed by the Wyoming Department of Environmental Quality, Water Quality Division that are pertinent to and were addressed in this EA.

PRACTICE #: 1A Proper Grazing - Domestic Animals

Objective: To provide for proper livestock use of vegetative communities so that plant health is maintained and erosion and sedimentation are not accelerated above natural levels.

Response: The application of appropriate allowable use and other mitigation measures in Appendix G will insure that plant health and vigor is maintained. In those allotments where watershed damage is or may be occurring, compliance will insure that erosion and sedimentation are kept below the level of significance.

PRACTICE #: 1B Proper Grazing - Wildlife (Big Game Animals)

Objective: To provide for proper big game animal use of vegetative communities so that plant health is maintained and erosion and sedimentation are not accelerated above natural levels.

Response: During the Forest Plan and other planning processes, appropriate wildlife herd unit objectives were developed with an aim to maintain plant health and watershed condition. Currently, wildlife populations in some areas are above herd unit objectives. In those herd units where watershed damage is or may be occurring, the Forest Service will work closely with the Wyoming Game & Fish Department to insure that population levels are in balance with the carrying capacity of the habitat.

PRACTICE #: 1E Proper Grazing - Riparian and Wetland Areas

Objective: To provide for proper livestock, wildlife, and wild horse use of vegetative communities so that plant health is maintained and erosion and sedimentation are not accelerated above natural levels.

Response: The application of appropriate allowable use and riparian mitigation measures in Appendix G will insure that plant health and vigor in riparian and wetland areas is maintained. Erosion and sedimentation will be kept below the level of significance.

PRACTICE #: 2 Fencing

Objective: To maintain or improve water quality and the associated soil and vegetation resources by utilizing fences (permanent or temporary) as management tools for controlling livestock, wildlife, wild horses and human/vehicular activity.

Response: The primary mitigation strategy in this EA is to maintain or improve water quality through application of the measures in Appendix G and maintenance of existing range improvements, including fences. No new improvements are proposed in this EA. If follow-up monitoring determines that the existing mitigation and fencing is not achieving desired condition, additional fencing (permanent or temporary) may be utilized as needed to achieve desired condition.

PRACTICE #: 3 Livestock Herding

Objective: To maintain or improve water quality and the associated soil/vegetation resources by utilizing herding as a management tool for controlling livestock.

Response: Herding and various grazing management systems are designed and used on the Forest to insure potential resource damage is mitigated below the level of significance and achieve desired condition including water quality and associated soil/vegetation resources.

PRACTICE #: 4 Access Roads

Objective: To provide access to grazing lands while minimizing erosion and sedimentation by properly managing, building and maintaining access roads on grazing lands.

Response: Compliance with Forest Plan standards and guidelines will insure that erosion and sedimentation from access roads will be minimized. There are no roads on the Forest that are the direct responsibility of permittees.

PRACTICE #: 5 Water Development - Instream and Offstream

Objective: To improve livestock, wildlife and wild horse distribution and minimize water quality impairments.

Response: The primary mitigation strategy in this EA is to maintain or improve water quality through application of the measures in Appendix G and maintenance of existing range improvements, including water developments. No new improvements are proposed in this EA. If follow-up monitoring determines that the existing mitigation and water developments is not achieving desired condition, additional water developments may be utilized as needed to achieve desired condition.

PRACTICE #: 7 Weed and Pest Management

Objective: To minimize water quality impairment while controlling weeds and pests.

Response: The Forest conducts weed and pest management on rangelands. The Forest annually implements a weed control program under the supervision of certified applicants or the local county weed and pest supervisor.

Appendix F

Supplemental Information on Endangered, Threatened and Sensitive Species

This appendix contains detailed information on threatened, endangered, and sensitive species considered in the environmental assessment for 36 livestock grazing allotments on the Shoshone National Forest. A conclusion has been reached that the proposed or preferred alternative for each specific allotment could be implemented while still providing adequate protection for all such species that occur on the Forest. This assumes the implementation of described management practices and appropriate mitigation measures.

Part I includes a summary of the biological assessments and allotment specific determinations for the grizzly bear, bald eagle, and peregrine falcon; the biological assessment for the gray wolf; and a summary of the biological assessments for the black-footed ferret and whooping crane. Part II is a summary of the biological evaluations for all sensitive species.

Part I.

**BIOLOGICAL ASSESSMENT
PROPOSED, THREATENED, AND ENDANGERED SPECIES
for
LIVESTOCK GRAZING ON 36 ALLOTMENTS
on the
SHOSHONE NATIONAL FOREST**

prepared by

**Kim R. Barber
Wildlife Biologist**

INTRODUCTION

Under provisions of the Endangered Species Act, federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitats.

This document presents the assessment of possible effects to endangered, threatened and proposed species known or that may occur in the project area.

THREATENED, ENDANGERED, AND PROPOSED SPECIES

On July 6, 1995, the United States Fish and Wildlife Service (USFWS) provided Region One National Forests and all Forests within the Greater Yellowstone Area

a list of threatened, endangered, proposed, and candidate species which may occur on each Forest for consideration in environmental analysis pertaining to livestock grazing. Since the letter, the bald eagle has been downlisted to threatened. No proposed species were included in the list, but the list did include the gray wolf which is classified as experimental and treated as proposed for purposes of Section 7 consultation. Threatened, endangered and experimental species included on that list are presented in Table 1, along with the endangered whooping crane that has been on previous lists. Also included is the The Nature Conservancy's Heritage Ranking. Candidate species on the list are addressed in this appendix with other Forest sensitive species.

Biological Assessment Process

To the mutual benefit of both the USFWS and FS a programmatic biological assessment process was developed to assess the effects of livestock grazing on threatened, endangered and experimental species in both the Northern (Region 1) and Rocky Mountain Regions (Region 2) of the Forest Service. The Shoshone National Forest was included in this effort in the Rocky Mountain Region for the endangered black-footed ferret and whooping crane. For the grizzly bear, bald eagle, peregrine falcon, and gray wolf, the Shoshone was included with other Yellowstone Ecosystem National Forests (Bridger-Teton, Shoshone, and Targhee), in a cooperative process with the Northern Region of the Forest Service. Inclusion with the Northern Region made sense ecologically and serves to facilitate an ecosystem management approach for these species. The black-footed ferret and whooping crane were not included in the Northern Region effort as these species were not an issue in all Northern Region and Yellowstone Forests.

Programmatic biological assessments (including an allotment specific decision framework) for the grizzly bear, bald eagle, peregrine falcon and gray wolf were reviewed by the Helena and Cheyenne Offices of the USFWS and approved as the basis for making allotment specific determinations. The black-footed ferret and whooping crane programmatic assessments used a slightly different approach whereby the determination of effects was made and merely disclosed in the programmatic document. All six of these documents included species writeups, an assessment of potential effects from grazing and recommended mitigation where necessary. Programmatic assessments are not included in this document, but can be obtained from the Shoshone National Forest Supervisor's Office, in Cody, Wyoming. The gray wolf assessment was approved as an insert to forest biological assessments and is included.

Effects determinations in this document are based on the evaluation in the programmatic documents (see section on Literature Cited). Additional information is presented only as necessary to describe the specific habitat and distribution of the species on the Forest and to make the determination of effects as outlined in the appropriate determination framework. The framework outlines used to make the determination of effects are included along with all mitigation from the programmatic documents.

There are thirty-six allotments where development of an allotment management plan and livestock grazing are proposed. However, under the preferred alternative in Chapter III of the environmental assessment, there are only twenty-six separate allotment groupings. These groupings were used as the basis for this analysis of effects on endangered, threatened or proposed

species. Each of these groupings would be managed as a coordinated resource unit. The situation often differs for alternative B for allotments where the preferred alternative is alternative C. In such cases, the allotment would generally be managed individually rather than in these groupings, and/or the type of livestock may differ from that presented in alternative C. Alternative B, where it is not the preferred alternative, is discussed only where effects to threatened, endangered or experimental species would differ from alternative C, the preferred. In all instances, Alternative A, the no action alternative, has no effect on threatened, endangered or experimental species.

Table 1. Threatened, Endangered and Experimental Species of the Shoshone National Forest.

SCIENTIFIC NAME	COMMON NAME	STATUS	HERITAGE
<u>Falco peregrinus anatum</u>	Peregrine Falcon	Endangered	G3/S1
<u>Mustella nigripes</u>	Black-footed Ferret	Endangered	G1
<u>Grus Americana</u>	Whooping Crane	Endangered	G1/S1
<u>Haliaeetus leucocephalus</u>	Bald Eagle	Threatened	G3/S1
<u>Ursus arctos horribilis</u>	Grizzly Bear	Threatened	G4/S1
<u>Canis lupus</u>	Gray Wolf	Experimental	G3/S1

Heritage Rank

- G1 - Critically Imperiled Globally
- G3 - Either very rare and local throughout its range or found locally
- G4 - Apparently secure globally
- S1 - Critically Imperiled in the State

Grizzly bear (Ursus arctos)

Habitat/Distribution

The Yellowstone Grizzly Bear Recovery Area encompasses approximately 1,366,000 acres of the Shoshone National Forest. The Recovery Area on the Shoshone is divided into three bear management units (BMU's): Crandall/Sunlight, Shoshone, and South Absaroka.

The grizzly bear is known to occur on all of the Shoshone Forest Ranger Districts except Lander. Sightings and radio locations of grizzlies have increased outside the recovery area in the last few years and numbers of bears appear to be increasing. Grizzly use is occurring at various levels on roughly 2,000,000 acres on the Forest. Documented use has occurred in many areas east and south of the recovery area to the Forest Boundary. Grizzlies have been documented as far south as Union Pass on the Bridger-Teton NF immediately adjacent to the Shoshone NF. The most extensive use by grizzlies outside the recovery area occurs in habitats south of the recovery area and north of Dubois, Wyoming.

Effects Determination

Determination of the effects of livestock grazing on grizzly bears was based on the approved grizzly bear programmatic biological assessment and decision

framework (Puchlerz 1995; Fig. 1). Table 2 summarizes the responses to each leg of the decision framework and lists the determination for each allotment grouping. It was determined that the preferred action would have no effect on the grizzly bear for all allotment groupings but three. Similarly, alternative B where it is not the preferred alternative, would have no effect for all allotments or allotment groupings but four. The following discussion summarizes the information in table 2 and provides additional information on how these determinations were reached.

Only nine of the twenty-six allotment groupings are partially or completely within the recovery area. The preferred action would authorize grazing in each of the BMU's on a total of approximately 162,000 acres within the recovery area.

None of the twenty-six allotment groupings have previous biological opinions and all those within the recovery area will follow the Forest Plan (USDA Forest Service 1986) and Interagency Grizzly Bear Guidelines (1986). In addition, all allotments, with the exception of Dickinson Park and Squaw Creek, will include requirements for attractant storage and carcass management to preclude grizzly bear conflicts. It is not expected that grizzly bears will be using these two allotments within the next 10 years. Keeping attractants unavailable to grizzly bears, including livestock carcasses, has proven to be very effective in precluding grizzly bear/human and grizzly bear/livestock conflicts.

The only domestic sheep grazing under the preferred alternative is for the Francs Peak/Yellowsteer and the Face of the Mountain/Deep Creek/Little Rock allotment groupings. Alternative B for the Francs Peak/Yellowsteer allotment would also implement domestic sheep grazing at a slightly higher level than the preferred alternative. Sheep grazing would be permitted in alternative B in the East Fork, and Carter Mtn./Meeteetse Creek allotments, where the preferred alternative would permit cattle grazing. All these allotment areas are outside the grizzly bear recovery area.

The Francs Peak/Yellowsteer and East Fork portion of the East Fork/Sugarloaf allotments have been vacant since the late 1980's. These allotments have not received any documented use by radio collared grizzly bears. It is unknown whether this is because these areas do not contain seasonally important habitat for bears or only that radio collared bears are not using the area. There have been no recent attempts to radio collar bears in the Meeteetse area. However, grizzly bear observations have increased in and around these allotments in recent years.

There has been no documented grizzly bear/livestock conflicts during the period of the current Shoshone Forest Plan (1986) in the Francs Peak/Yellowsteer or East Fork allotments (Table 3). The decision framework (Fig. 1) suggests that the determination should be no effect. However, with recent trends in use of new areas by grizzly bears on the Shoshone NF, it is expected that if sheep are restocked into these allotment areas there is a possibility of conflict between bears and sheep. Therefore, it is concluded that sheep grazing under the preferred and alternative B for the Francs Peak/Yellowsteer allotment and alternative B for the East Fork allotment may affect, but is not likely to adversely affect, the grizzly bear.

The preferred alternative for the Face of the Mountain/Deep Creek/Little Rock allotment is to permit cattle grazing and to continue grazing sheep while incorporating new mitigation measures as necessary. Sheep were moved to this allotment grouping in 1992 after grizzly bear/sheep conflicts had occurred in the Stockade allotment within the Recovery Area in 1990 (Table 2). No

documented grizzly bear/livestock conflicts have occurred in the Face of the Mountain/Deep Creek/Little Rock allotment grouping before or after the sheep were moved and there has been very little documented use by grizzly bears. The permittee is allowed three days in which to move the sheep through approximately three miles of the adjacent recovery area for shipping. The sheep are tightly controlled while being moved to avoid potential grizzly bear conflicts. However, the potential for conflicts does exist, and it is determined that sheep grazing within this allotment grouping, may effect, but is not likely to adversely affect the grizzly bear. This determination is based mainly on the potential for conflicts while trailing through the adjacent recovery area. However, the current sheep permit does include a clause that would allow for the modification of the permit should grizzly bear/livestock conflicts occur.

The Carter Mtn./Meeteetse Creek allotment is the only allotment, of the twenty-six allotment groupings evaluated in this document (Table 3), where there have been conflicts with grizzly bears and sheep. Although sheep depredation only occurred during a single year (1993), this allotment has not been used by sheep since 1993. Habitats are present that are seasonally important to the grizzly bear. The preferred alternative for the allotment is to permit cattle grazing and thus is determined to have no effect on the grizzly bear. However, implementation of alternative B, which would permit sheep grazing may affect, but is not likely to adversely affect, the grizzly bear.

Cattle depredation by grizzly bears has occurred on several allotments considered in this analysis, but only the Parque Creek/Ramshorn/Horse Creek allotment grouping has had repeated conflicts (Table 3). These allotments receive a significant amount of use by grizzly bears both inside and outside the recovery area. However, there have been no mortalities/removals of grizzly bears that have been directly related to livestock grazing on these allotments or any others since the Shoshone Forest Plan (1986; Table 4). Therefore, it is determined that grazing may affect, but is not likely to adversely affect, the grizzly bear in the Parque Creek/Ramshorn/Horse Creek allotment grouping under the preferred action.

Alternative B would graze livestock separately for the Horse Creek allotment and maintain Parque Creek/Ramshorn as another separate managed area. This alternative would permit approximately 1150 more AUM's than the preferred alternative. In this case it is determined that grazing would have no effect on the grizzly bear for the Horse Creek allotment and may affect, but is not likely to adversely affect, the grizzly bear for the Parque Creek/Ramshorn allotment. No documented grizzly bear/livestock conflicts have occurred in the Horse Creek portion (Table 3).

In summary, livestock grazing under the preferred alternative is determined to have no effect on the grizzly bear for all allotment groupings except the Francis Peak/Yellowsteeer, Face of the Mountain/Deep Creek/Little Rock and the Parque Creek/Ramshorn/Horse allotment groupings. The determination for these three allotment areas is a not likely to adversely affect. Similarly, alternative B, where it is not the preferred alternative, is determined to have no effect on the grizzly bear except for the East Fork, Carter Mtn./Meeteetse, Francis Peak/Yellowsteeer and Parque Creek/Ramshorn allotments. The determination for these allotments is that grazing may affect, but is not likely to adversely affect the grizzly bear.

These determinations are contingent on the implementation of the Interagency Grizzly Bear Guidelines (1986) and the following mitigations measures for all

allotments with the exception of Dickinson Park and Squaw Creek. Should grizzly bears begin to use these two allotments during the term of the grazing permit, all the following measures will be applied.

Table 2. Grizzly bear determination matrix for grazing allotments on the Shoshone National National Forest.¹

ALLOTMENT	LIES WITHIN RECOVERY ZONE	NOT WITHIN RECOVERY ZONE, BUT CONTAINS A SIGNIFICANT AREA OF SEASONALLY IMPORTANT BEAR HABITAT FOR A MAJORITY OF YEARS SINCE FOREST PLAN APPROVAL (1986)	ALLOTMENT HAS BIOLOGICAL OPINION FROM USFWS	ALLOTMENT IS SHEEP/GOAT	ALLOTMENT FOLLOWS FP AND INTER-AGENCY GRIZZLY GUIDELINES ON RANGE	HISTORY OF GRIZZLY BEAR DEPREDAATION ON LIVESTOCK (MULTIPLE YEARS AND LOSSES) SINCE FOREST PLAN	GRIZZLY BEAR REMOVAL RELATED TO GRAZING SINCE FOREST PLAN	DETERMINATION	COMMENTS
002 Basin	YES	b	NO	NO	YES	SOME * See Table 3	NO	NO EFFECT	1 conflict 1988
192 Bear Creek	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
134/145 Bobcat/Ishawooa Hills	YES	b	NO	NO	YES	NO *	NO	NO EFFECT	
054/061 Carter Mountain/Meeteetse Creek	NO	YES	NO	NO c	YES	SOME * See Table 3	NO f	NO EFFECT	Sheep conflicts 1993 only.
135 Community	YES	b	NO	NO	YES	NO *	NO	NO EFFECT	
014/017/005 Deep Creek/Little Rock/Face of the Mountain	NO	SOME	NO	YES ccc *	YES	NO e *	NO	NOT LIKELY TO ADVERSELY AFFECT	
041 Dick Creek	NO	SOME	NO	NO	YES	NO *	NO	NO EFFECT	
092 Dickinson Park	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
180 Doby Cliff	NO	YES	NO	NO	YES	NO *	NO	NO EFFECT	
057/049 East Fork/Sugarloaf	NO	SOME	NO	NO cc	YES	NO *	NO	NO EFFECT	
182/196 Fish Lake/Salt Creek	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
059/072 Francs Peak/Yellowsteer	NO	SOME	NO	YES ccc *	YES	NO *	NO	NOT LIKELY TO ADVERSELY AFFECT	Vacant since late 80's *

Table 2 (cont). Grizzly bear determination matrix for grazing allotments on the Shoshone National Forest.¹

ALLOTMENT	LIES WITHIN RECOVERY ZONE	NOT WITHIN RECOVERY ZONE, BUT CONTAINS A SIGNIFICANT AREA OF SEASONALLY IMPORTANT BEAR HABITAT FOR A MAJORITY OF YEARS SINCE FOREST PLAN APPROVAL (1998)	ALLOTMENT HAS BIOLOGICAL OPINION FROM USFWS	ALLOTMENT IS SHEEP/GOAT	ALLOTMENT FOLLOWS FP AND INTER-AGENCY GRIZZLY / GUIDELINES ON RANGE	HISTORY OF GRIZZLY BEAR PREDATION ON LIVESTOCK (MULTIPLE YEARS AND LOSSES) SINCE FOREST PLAN	GRIZZLY BEAR REMOVAL RELATED TO GRAZING SINCE FOREST PLAN	DETERMINATION	COMMENTS
143 Hardpan	YES	b	NO	NO	YES	NO *	NO	NO EFFECT	
095 Hays Park	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
144 Hunter Creek	YES	b	NO	NO	YES	NO *	NO	NO EFFECT	
045/051 Kinwin/Wood River	NO	SOME	NO	NO	YES	NO *	NO	NO EFFECT	
007 Lake Creek	YES	N/A	NO	NO	YES	NO d *	NO	NO EFFECT	
008 Little Rock	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
097 Meadow Creek	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
184/185/183 Parque Creek/ Ramshorn/Horse Creek	YES	b	NO	NO	YES	YES * See Table 3	NO *	NOT LIKELY TO ADVERSELY AFFECT g	Lots of bear use
102 Squaw Creek	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	
079 Sunshine	NO	SOME	NO	NO	YES	NO *	NO	NO EFFECT	
050 Timber Creek	NO	SOME	NO	NO	YES	NO *	NO	NO EFFECT	
156 Valley Boulder	YES	b	NO	NO	YES	NO *	NO	NO EFFECT	
189 Whiskey Mountain	NO	NO	NO	NO	YES	NO *	NO	NO EFFECT	

Table 2 (cont). Grizzly bear determination matrix for grazing allotments on the Shoshone National Forest.¹

ALLOTMENT	LIES WITHIN RECOVERY ZONE	NOT WITHIN RECOVERY ZONE, BUT CONTAINS A SIGNIFICANT AREA OF SEASONALLY IMPORTANT BEAR HABITAT FOR A MAJORITY OF YEARS SINCE FOREST PLAN APPROVAL (1986)	ALLOTMENT HAS BIOLOGICAL OPINION FROM USFWS	ALLOTMENT IS SHEEP/GOAT	ALLOTMENT FOLLOWS FP AND INTER-AGENCY GRIZZLY GUIDELINES ON RANGE	HISTORY OF GRIZZLY BEAR DEPREDAATION ON LIVESTOCK (MULTIPLE YEARS AND LOSSES) SINCE FOREST PLAN	GRIZZLY BEAR REMOVAL RELATED TO GRAZING SINCE FOREST PLAN	DETERMINATION	COMMENTS
190 Wiggins Fork	YES a	b	NO	NO	YES	NO *	NO	NO EFFECT	
	a = Only 1% of the allotment within the RZ = (538 ac)	b = Habitat outside RZ also; SOME = A few relocations/ observations of bears, not used extensively or use unknown.		c = Alternative B is to issue a sheep permit - not likely to adversely affect . cc = Alternative B is to issue sheep permit for East Fork (not likely to adversely affect) and cattle permit for Sugarloaf (no effect). ccc = Sheep and cattle; Alternative B for Franca Peak/ Yellowsteer is to issue a sheep permit - not likely to adversely affect .	All allotments, except Dickinson Park and Squaw Creek, will also have stipulations in their permits requiring that attractants, including livestock carcasses be kept unavailable to grizzly bears.	SOME = Depredations recorded for a single year; d = Sheep depredation on private land within allotment; e = No conflicts, however, sheep are allowed 3 days travel through recovery area to shipping corrals outside allotment boundaries and the possibility for conflicts exists.	f = No removals directly related to livestock grazing. Some implications. See Table 4.	g = Alternative B - no effect for Horse Creek and not likely to adversely affect for Parque Creek/ Ramshorn.	

¹ Allotments grouped according to preferred alternative. Where alternative C exists it is always the preferred alternative and alternative B usually treats allotments separately where considered together under alternative C. Determination for alternative B if different from alternative C is included in the footnotes. Where there is no alternative C, alternative B is the preferred alternative.

* = Indicates where allotment fell out on the determination matrix. Sometimes more than one * used to clarify determination.

311

Table 3. Documented Grizzly Bear/Livestock Conflicts on the Shoshone National Forest, Wyoming from 1986-1995.

Date	Bear#	Sex	Renew ²	Allotment	Management Situation	Type of Livestock	Action Taken (WG&F)
07/22/88	150	M	0	7D Ranch (PVT)	3	Pig	Mgmt Removal
09/23/88	117 ³	F	1	Basin (002)	2	Cattle	Report
08/18/90	UNK	U	2	Burnt Mountain (012)	2	Sheep	Investigate
09/27/90	180	M	2	Stockade (019)	2	Sheep	Investigate
09/30/90	180	M	2	Stockade (019)	2	Sheep	Investigate
10/03/90	180	M	2	Stockade (019)	2	Sheep	Investigate
07/05/91	180 ⁴	M	0	B-4 Ranch (PVT)	3	Sheep	Relocated
07/28/91	UNK	U	2	Dunoir (181)	5	Cattle	Investigate
08/19/91	UNK	U	2	Dunoir (181)	5	Cattle	Investigate
08/19/91	UNK	U	2	Dunoir (181)	5	Cattle	Investigate
08/19/91	UNK	U	2	Dunoir (181)	5	Cattle	Investigate
09/10/91	UNK	U	1	Ramshorn (185)	5	Cattle	Investigate
09/18/91	UNK	U	1	Ramshorn (185)	5	Cattle	Investigate
07/11/93	UNK	U	1	Meeteetse Creek (61)	5	Sheep	Report
07/13/93	UNK	U	1	Carter Mountain (54)	5	Sheep	Investigate
07/19/93	UNK	U	1	Carter Mountain (54)	5	Sheep	Investigate
07/21/93	UNK	U	1	Carter Mountain (54)	5	Sheep	Investigate
08/17/93	UNK	U	1	Parque Creek (184)	5	Cattle	Report
09/13/93	UNK	U	2	Belknap (131)	5	Cattle	Report
08/06/94	174	M	2	Dunoir (181)	2	Cattle	Relocated
07/09/95	101 ⁵	F	1	Ramshorn (185)	5	Cattle	Investigate
07/21/95	UNK	M	2	Guard Station (44)	5	Cattle	Investigate
08/01/95	101	F	1	Ramshorn (185)	5	Cattle	Investigate
09/06/95	189	F	2	Dunoir (181)	2	Cattle	Relocated
09/21/95	UNK	M	2	Guard Station (44)	5	Cattle	Investigate
09/25/95	UNK	M	2	Guard Station (44)	5	Cattle	Relocated

¹ Includes Grizzly Bear/Livestock conflicts on private lands within the Forest Boundary. Six other documented conflicts occurred in 1993 on private lands outside the Forest Boundary near the Carter Mountain allotment. One conflict in 1991, 5 in 1993 and 1 in 1994 were documented on private lands near the Dunoir and Ramshorn/Parque Creek/Horse Creek allotments (Unpublished data from Mark Bruscano, Wyoming Game and Fish Department)

² 1 = Permit renewal in 1996; 2 = Permit renewal postponed; 0 = Not a commercial livestock allotment

³ Last observed in the Sunlight area in 1991 after radio collar had failed. Previous management capture.

⁴ First Capture. Subsequently found dead from natural causes on the Shoshone National Forest in the spring of 1992; see table 3.

⁵ Previous management capture on the west side of the ecosystem.

Figure 1

**GRIZZLY BEAR BIOLOGICAL EVALUATION
DECISION FRAMEWORK**

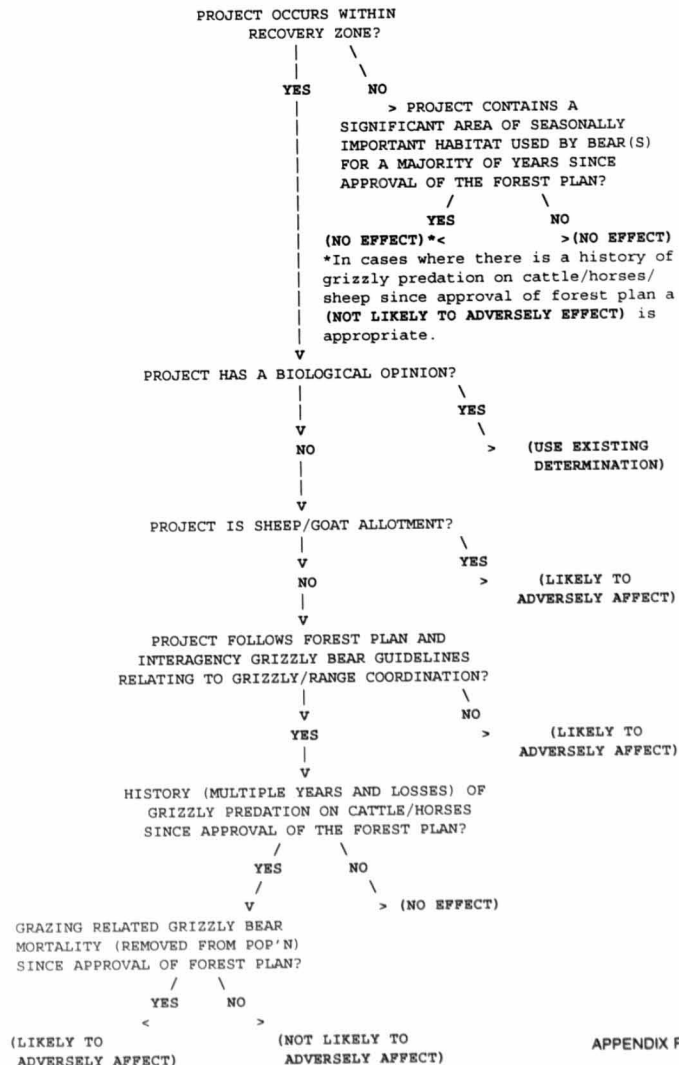


Table 4. Known and Probable Grizzly Bear Mortalities from all causes occurring on the Shoshone National Forest, Wyoming from 1986-1995.¹

Date	Bear#	Sex	Age	Location	EA ²	Allotment	Management Situation	Explanation of Mortality
Fall 86	No#	F	3	North Fork Shoshone	0	North Fork (166)	3	Illegal Kill (circumstances & cause unknown)
Spring 88	No#	U	1	Table Mountain Area	2	Green Creek (140)	5	Natural mortality - one of two cubs of # 135, lost between 3/31 & 9/9.
Spring 88	No# ₃	U	1	Table Mountain Area	2	Green Creek (140)	5	Natural mortality - one of two cubs of # 135, lost between 3/31 & 9/9.
07-22-88	150 ³	M	5	Little Sunlight	1	Basin (002) Private	2	Mgmt. control (MT) - property damage, into garbage, killed livestock.
08-16-88	109	F	7	Lodgepole Creek	0	North Absaroka (20)	1	Natural - Fire related - bear observed in fire area, radio went dead.
08-16-88	No#	U	U	Lodgepole Creek	0	North Absaroka (20)	1	Natural - Fire related - bear observed in fire area, radio went dead.
08-16-88	No#	U	U	Lodgepole Creek	0	North Absaroka (20)	1	Natural - Fire related - bear observed in fire area, radio went dead.
04-28-90	No#	F	16	Pahaska Tepee	0	North Fork (166)	3	Accidental electrocution, killed by downed powerline.
04-28-90	No#	M	2	Pahaska Tepee	0	North Fork (166)	3	Accidental electrocution, killed by downed powerline.
10-09-90	183 ⁴	F	3	Table Mountain	2	Ghost Creek (006)	3	Under investigation - shot.
05-12-92	180	M	5	Burroughs Creek	1	Parque Creek (184)	5	Natural - carcass found, possible pneumonia.
09-12-92	186	M	4	Grinnel Creek	0	North Fork (166)	1	Mistaken I.D. for black bear.
10-01-92	198	M	20	Brooks Lake Lodge	2	Wind River (191)	3	Possible self defense - bear charged hunters.
05-12-93	158	M	7	North Fork Shoshone	0	North Fork (166)	3	Man Caused, illegally shot.
10-10-93	No#	F	Ad	Crazy Creek	1	Lake Creek (007)	1	Man Caused, hunter self defense.
11-04-93	161	F	20	Ishawooa Creek	1	Ishawooa Hills (145)	2	Natural - carcass found at bottom of cliff.
09-12-94	No# ₅	M	2	North Fork Shoshone	0	North Fork (166)	3	Road Kill, bear using berry patches along highway. Likely cub of #104.
11-08-94	226 ⁵	M	15	Paint Creek (PVT)	2	Bald Ridge (001)	5	Mgmt. Control - bear had been breaking into cabins
Spring 95	244	M	Ad	North Fork Shoshone	0	North Fork (166)	1	Cut off collar found by hunters - under investigation.
07-16-95	No# ₆	F	4	North Fork Shoshone	0	North Fork (166)	3	Mgmt. Control - bear accessed tent in FS campground - removed to zoo.
09-08-95	163 ⁶	F	11	North Fork Shoshone	0	North Fork (166)	1	Mgmt. Control - killed puppies - moved to YNP - later to zoo.
10/12/95	No# ₇	M	Ad	Table Mountain	2	Table Mountain (009)	1	Bear came into camp and killed by hunter
10/17/95	No#	F	Ad	Ishawooa Creek	0	Ishawooa Trans. (161)	2	Bear charged elk hunters while loading elk on horse - killed by hunter

¹ Does not include bears that were relocated from the SNF that were subsequently killed on or removed from other Forests or Parks in the Yellowstone Ecosystem prior to 1995. Also not included are bears that were killed or removed on private lands outside the SNF boundary (Craighead et al. 1988; Unpublished data from Montana Division of Fish, Wildlife and Parks and M. Bruscino, pers. comm.).

² 1 = Allotment evaluated in this EA; 2 = Evaluation postponed; 0 = Not a commercial livestock allotment

³ Bear 150 was a habitual problem bear possibly caused by poor dentition (M. Bruscino, pers. comm.). The only livestock killed was a pig in a pen on the 7D ranch. See table 2.

⁴ Bear 180 was documented to have killed sheep on the Stockade allotment in 1990 and on the B-4 ranch on private land in 1991 (See Table 3). Relocated to the south end of the Yellowstone Recovery Area in July 1991.

⁵ Bear 226 may have killed sheep on the Carter Mountain/Meeteetse Creek allotment in 1993 (See Table 3), but it was never proven (M. Bruscino, pers. comm.) First Capture.

⁶ Bear 163 subsequently recaptured on 09/19/95 after accessing a private lodge adjacent to the Gallatin National Forest and sent to a zoo along with her 2 cubs of the year.

⁷ Bear had 2 cubs of the year that were never captured. Their survival is unlikely.

Mitigation Measures

1. Allotment management plans will specify measures for timely removal, destruction or treatment of livestock carcasses when necessary to reduce human bear interaction.
2. Permittees and their employees will be made aware of their responsibilities through the allotment management plan in regards to laws and regulations concerning the taking of grizzly bears.
3. Schedule major range management activities such as the development of high intensity, long duration rangeland improvement projects outside of grizzly seasonal use periods when they are definable.
4. Establish utilization levels that will assure availability of vegetative food resources for bears.
5. Manage key areas through measures such as grazing systems, fencing and on/off dates that minimize overlap of use areas and periods between cattle and bears.

Management Guidelines

The following guidelines are currently found within the Interagency Grizzly Bear Guidelines (1986). These guidelines were developed for use within all grizzly bear recovery zones and are intended to provide a comprehensive and integrated approach to the goal of grizzly bear conservation.

1. All livestock use on allotments, including recreation horse allotments, will be evaluated for its effect upon grizzlies and/or their habitat. USDA Forest Service procedures and interagency Cumulative Effects Assessments (1986) may be used.
2. The allotment management plan will specify measures to meet agency grizzly management goals and objective. These measures will be reflected in grazing permits and annual permittee plans. All permits will include a clause allowing for cancellation or temporary cessation of activities if such are needed to resolve a grizzly-human conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits.
3. The allotment management plan will specify measures to protect, in time and space, food production areas important to grizzlies (i.e., wet alpine and subalpine meadows, stream bottoms, aspen groves and other riparian areas) from conflicting and competing use by domestic livestock. These measures will be reflected in grazing permits and annual permittee plans. Degrees of protection could range from partial to full protection as indicated by evaluation. Measures could include, but not be limited to, closing grazing units either temporarily or permanently, exclusion fencing, changing on and off dates and setting livestock utilization rates as levels compatible with grizzly needs. Range condition class objective will be good to excellent in order to achieve range conditions favorable to grizzlies.
4. Allotment management plans will specify measures for the timely removal, destruction or treatment of livestock carcasses when they may result in human bear interaction.

5. Allotment management plans will require that all human, prepared livestock and pet foods and human refuse associated with livestock operations be made unavailable to bears.

Northern bald eagle (Haliaeetus leucocephalus)

Habitat/Distribution

The bald eagle is primarily a winter resident on the Forest with small numbers of birds being observed, mostly along stream courses. Individuals or small groups of two or three birds have been recorded in various habitats on the Forest during migration periods. No active nests have been known to exist on the Forest within at least the last 5 years. However, an active nest (1994-95) and an inactive nest (active 1987-1992) are located on private land within a mile of the Forest Boundary north of Dubois. The two nest sites are about 1/2 mile apart and likely used by the same pair of nesting eagles (R. Oakleaf, pers. comm.).

Potential suitable habitat exists in several locations on the Forest although none is classified as a "key area" in the Pacific Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service 1986). Similarly, suitable habitat is not highlighted in A Bald Eagle Management Plan for the Greater Yellowstone Ecosystem (Greater Yellowstone Ecosystem Bald Eagle Working Team 1983). However, as the nesting population expands in the Yellowstone area, it seems likely that suitable Forest Habitat will become more important.

Determination of Effects

The approved decision framework (Fig. 2) was used to determine the potential effects on the bald eagle from grazing. The programmatic biological assessment for the bald eagle defined eagle habitat as all areas within 2.5 miles of a nest (Stangl and Maj 1995). Bald eagle habitat is divided into three zones: Zone I is the nest site area (1/4 mile around nest); Zone II is the primary use area (1/4 to 1/2 mile); and Zone III is foraging habitat within 2.5 miles of the nest.

There are no active bald eagle nests within the allotment groupings considered in this analysis and no Zone I or Zone II habitats on Forest Lands surrounding eagle nests on private lands adjacent to the Forest. It is determined that there is no effect to the bald eagle for all allotment groupings under the action alternatives, with the exception of the Parque Creek/Ramshorn/Horse Creek allotment. There are 708 acres of potentially suitable foraging habitat (Zone III) adjacent to an active nest site in the Ramshorn portion of this grouping. Under either alternative B or alternative C, grazing is not likely to occur within Zone III habitats in this allotment until after the young have left the nest. Disturbance to nesting birds may not be a factor. However, adherence to guidelines that will maintain important habitat components and a prey base is important. Grazing on this allotment grouping under alternative C and the Parque Creek/Ramshorn grouping under alternative B may effect, but is not likely to adversely affect the bald eagle with the application of the appropriate management guidelines for Zone III habitats within the allotment.

Should new nests be discovered during the term of the grazing permits. Application of the following management guidelines and mitigation options in appropriate areas around the nests will preclude any adverse effects.

Management Guidelines

Zone I - Nest Site Area: The area within a 1/4 mi (400 m) radius of active nest sites³.

Objective--Maintain and protect nest site characteristics including snags, nest trees, perch trees, roost trees and vegetative screening. Eliminate disturbances.

Human activities or development may stimulate abandonment of the breeding area, affect successful completion of the nesting cycle or reduce productivity.

Existing levels of human activities can continue if the breeding area has at least a 60% nesting success, has fledged at least 3 young during the preceding 5 years, and has a low potential hazard rating (refer to Montana Bald Eagle Management Plan).

Additional human activity should not occur within Zone I from initiation of the nest site to 1 month after hatching (ie. February 1 to August 15), unless the activity is consistent with bald eagle conservation.

Permanent development and habitat alteration that may negatively affect the suitability of the breeding area should be avoided or prohibited within this zone.

Zone II - Primary Use Area: This zone includes the area 1/4 mi (400 m) to 1/2 mi (800 m) from active nest sites in the breeding area where it is assumed that 75% of activities (foraging, loafing, bathing, etc.) of a bald eagle breeding pair occur.

Objective--Maintain habitat components and the ecological integrity of the nesting territory including currently used and potential nesting habitat. Minimize disturbances and eliminate hazards.

Low intensity activities can occur. High intensity activities should not occur during the nesting season (February 1 to August 15 respectively).

Habitat alterations should be designed and regulated to ensure that preferred nesting and foraging habitat characteristics are maintained.

Permanent developments that may increase human activity levels during the nesting season should not be constructed.

Minimize hazards such as overhead utility lines.

Zone III - Home Range: This area includes all suitable foraging habitat within 2.5 mi (4 km) of active nest sites³.

Objective--Maintain suitable foraging habitat, prey base, perch and roost sites. Minimize disturbance within key areas and minimize disturbances.

Human activities should be designed and regulated to minimize disturbance and avoid conflicts with bald eagle key use areas.

Human activity should not reach a level where cumulative effects decrease habitat suitability.

Habitat alterations should be designed to ensure that prey base and important habitat components are maintained or enhanced.

Pesticides should not be used in a manner that pose a hazard to bald eagles.

Structures that pose a hazard should be located and designed to minimize or avoid risk of injury to bald eagles or their prey.

The Montana Best Management Practices (BMP) for Forestry can provide guidelines for the preservation of water quality and fish and waterfowl prey bases.

³ Or of all nest sites in the breeding area that have been active in the last 5 years if the active nest has not been identified.

Mitigation Options

Permittees should be made aware of this concern (potential effects from ranching activities) and attempt to schedule round up activities later in the nesting period and away from nest sites.

Adhere to chemical regulations and State and Federal regulations addressing use of poisons in threatened and endangered species habitat.

Utilization standards and grazing strategies that protect and/or improve riparian habitat should be applied. Utilization standards should be developed specifically for riparian areas. It may not be appropriate to apply standards that are developed for other sites such as upland grazing sites to riparian or other more sensitive vegetative sites. Riparian areas should be monitored to assess cottonwood and riparian habitat condition.

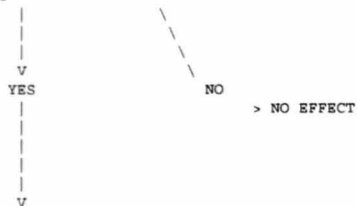
The following activities should be considered in cumulative effects analysis:

- Identify factors that influence productivity and attempt to reduce their limiting effect.
- Assess recreation levels within and adjacent to occupied and potential breeding territories.
- Identify existing and potential developments (private and public) within breeding territories.
- Identify special hazards such as power lines and pesticide use.
- Identify activities affecting feeding area and prey base needs (ie. reduction of perch habitat, whirling disease affects on fisheries).

Figure 2

BALD EAGLE BIOLOGICAL EVALUATION
DECISION FRAMEWORK

DOMESTIC LIVESTOCK GRAZING PROJECT OCCURS ON NATIONAL FOREST WITHIN EXISTING BALD EAGLE HABITAT



PROJECT HAS BIOLOGICAL OPINION



PROJECT APPLIES MANAGEMENT RECOMMENDATIONS FOR PROJECT ACTIVITIES THAT FALL WITHIN ZONES I, II, OR III AS FOUND IN EXISTING NEST SITE PLAN, HABITAT MANAGEMENT GUIDE FOR BALD EAGLES IN NORTHWESTERN MONTANA (1991), OR BALD EAGLE MANAGEMENT PLAN FOR THE GREATER YELLOWSTONE ECOSYSTEM (1983), OR THE MONTANA BALD EAGLE MANAGEMENT PLAN (1994).



American peregrine falcon (*Falco peregrinus anatum*)

Habitat/Distribution

During the past several years the Shoshone National Forest has played a key role in the recovery efforts for this species in Wyoming and the Greater Yellowstone Area. The Shoshone NF has supported reintroduction sites and survey work since 1987. Nine known peregrine eyries currently exist on the Forest, within no other known sites within 10 miles of the Forest Boundary. Additional suitable nesting habitat for the peregrine occurs on the Forest (R. Oakleaf, pers. comm.).

Effects Determination

The American Peregrine Falcon Recovery Plan (USFWS 1977, 1984, 1993) defines all areas within 10 miles of an eyrie as important hunting areas for peregrine falcons. The programmatic biological assessment for the peregrine falcon reiterated the importance of these areas and listed mitigation that must be applied within this 10 mile area (Maj and Torquemada 1995). The decision framework from the programmatic biological assessment (Fig. 3) was used to make the determination of the effects of livestock grazing on the peregrine falcon.

The following ten allotment groups are more than 10 miles from a peregrine falcon eyrie and grazing is determined to have no effect on the peregrine falcon with the application of mitigation measures 1 and 12 (USFWS 1977, 1984, 1993) listed below in areas containing suitable peregrine habitat. Should peregrine falcon eyries be discovered during the term of the grazing permit for these allotments, all the following mitigation measures will be applied to avoid adverse effects.

Dick Creek	Dickinson Park	East Fork/Sugarloaf	Sunshine
Meadow Creek	Hardpan	Kirwin/Wood River	Timber Creek
Carter Mtn./Meetetse Creek		Francs Peak/Yellowsteer	

Sixteen allotment groupings (Table 5), are within 10 miles of a peregrine falcon eyrie. Each of the individual allotments in these groupings contains peregrine falcon foraging habitat. Implementation of either alternative B or alternative C may effect, but is not likely to adversely affect the peregrine falcon with the application of the following mitigation measures in areas on the allotments within peregrine falcon hunting habitat (Table 5; USFWS 1977, 1984, 1993). The Wiggins Fork and Community allotments encompass two of the nine known eyries. The other seven eyries are located in areas not considered in this analysis.

Table 5. Acres of peregrine falcon hunting habitat and total acres in grazing allotment groupings within 10 miles of eyries on the Shoshone National, Wyoming.

Allotment	Acres of		
	Total Acres	Hunting Habitat	% of Total
Basin	83,910	64,480	77
Bear Creek	33,862	27,610	82
Bobcat/Ishawooa Hills	10,118	10,118	100
Community	19,005	19,005	100
Deep Creek/Little Rock (017)/			
Face of the Mountain	21,359	15,179	71
Doby Cliff	977	977	100
Fish Lake/Salt Creek	22,980	21,775	95
Hunter Creek	2,516	2,516	100
Lake Creek	23,572	16,982	72
Little Rock (008)	4,878	4,878	100
Parque Creek/Ramshorn/			
Horse Creek	67,708	43,411	64
Hays Park	9,541	5,639	59
Squaw Creek	7,744	7,744	100
Valley-Boulder	4,616	4,616	100
Whiskey Mountain	12,350	12,350	100
Wiggins Fork	39,063	39,063	100
TOTAL	364,199	296,347	81

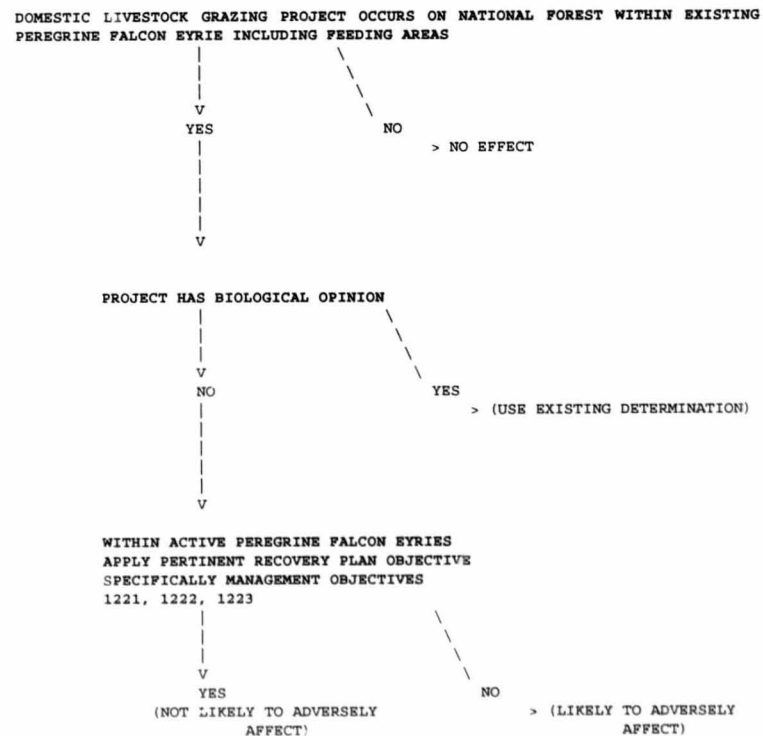
¹ Includes only allotments considered in this document.

Mitigation Measures

1. Determine, maintain and protect existing and potential habitat for population continuance and expansion.
12. Maintain and upgrade suitable habitats to insure they remain attractive to peregrines.
123. Eliminate unfavorable land use activities and public disturbances of key habitats.
 1221. Prohibit land use practices and development which alter or eliminate the character of the hunting habitat, prey base within 10 miles and the immediate habitats within 1 mile of the nesting cliff.
 1222. Prohibit disturbances and human activities between 1 February and 1 August (in excess of those which have historically occurred at the sites) which occur within 0.5 miles of the nesting cliff(s).
 1223. Prohibit use of pesticides and other environmental pollutants which are harmful and would accumulate in the peregrine or its food source.

Figure 3

PEREGRINE FALCON BIOLOGICAL EVALUATION DECISION FRAMEWORK



Rocky Mountain gray wolf (*Canis lupus irremotus*)

Habitat/Distribution

Several possible wolf sightings have been reported on the Forest in the last few years. However, none have been confirmed as actually being wolves. Potential habitat for wolves does exist on the Forest. Large numbers of big game animals occur year-round and provide suitable prey.

Wolves were reintroduced to Yellowstone National Park in 1995. Since their release, one of the packs spent a few days on the Clarks Fork District of the Shoshone National Forest. That pack has since returned to the Park.

Effects Determination

With the introduction of wolves to Yellowstone National Park, all wolves in Wyoming, including any that may have been present prior to the introduction, are now classified as non-essential experimental. Under provisions of Section 7 of the Endangered Species Act, the wolf is treated as a proposed species and consultation is not required. However, if the proposed project is determined to jeopardize the continued existence of the species, conferencing with the U.S. Fish and Wildlife Service is required.

The following paragraphs are included from the programmatic biological assessment prepared for the non-essential experimental population of wolves in the Yellowstone Ecosystem (Gore 1995). The decision framework for the determination call is also included (Fig. 4).

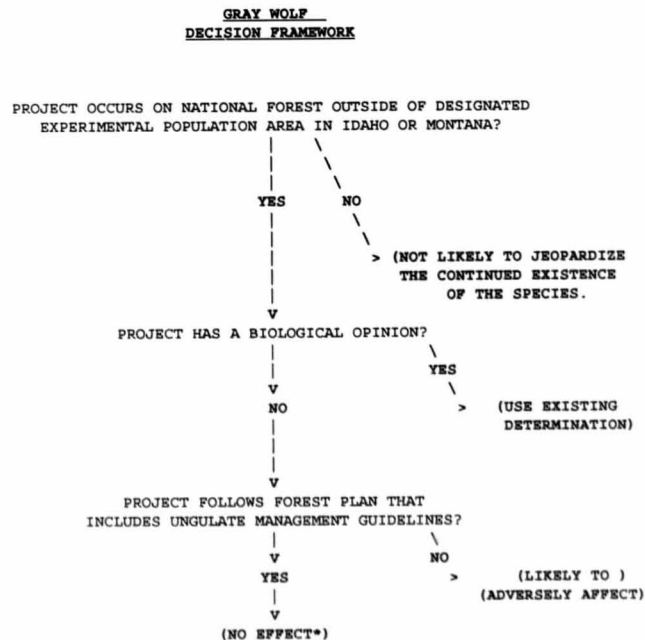
Wolves introduced to the park and GYE area have been designated as a non-essential experimental population in accordance with Section 10 of the Endangered Species Act. This designation provides greater flexibility in the management of wolves and allows greater accommodation in land use activities such as grazing of livestock. In the final rule published in the Federal Register, November 22, 1994, the U.S. Fish and Wildlife Service (FWS) found that the gray wolf reintroduction does not conflict with existing or anticipated Federal agency actions or traditional public uses of Park lands, wilderness areas, or surrounding lands (FR vol. 59, No. 224 p. 60252). In their final rule, FWS stated, "...there are no conflicts envisioned with any current or anticipated management actions of the Forest Service...". The National Forests are beneficial to the reintroduction effort in that they form a natural buffer to private properties and are typically managed to produce wild animals that wolves could prey upon. The FWS finds the less restrictive Section 7 requirements associated with the non-essential designation effort do not pose a threat to the recovery efforts and continued existence of the gray wolf (FR vol. 59, No. 224, p. 60256).

The Forest Service is a cooperating agency in the wolf reintroduction project which included the development of the Environmental Impact Statement for the reintroduction action. We are full partners in implementing the conservation measures outlined in the November 22, 1994 final rule. For Section 7 purposes, wolves, designated as non-essential experimental, on National Forest system lands are treated as proposed

species. Federal agencies are only required to confer with FWS when they determine that an action they authorize "is likely to jeopardize the continued existence" of the species.

The Forest Service finds that livestock grazing, an existing traditional use, is not likely to jeopardize the continued existence of the gray wolf in the GYE. The management of livestock and wolves according to the final rule published November 22, 1994, will not pose a threat to the gray wolf conservation/recovery effort. Therefore, conferencing with FWS is not required.

Figure 4



*In some situations, this determination may be NOT LIKELY TO ADVERSELY AFFECT.

Black-footed ferret (Mustella nigripes)

Habitat/Distribution

The black-footed ferret used to occur three to five airline miles outside of the Shoshone National Forest boundary near Meeteetse, Wyoming. The last known survivors of this population were captured and placed in captive breeding programs in 1986-87. There are no known prairie dog colonies or suitable habitats for prairie dogs on the Forest and subsequently no prairie dog control efforts.

Determination of Effects

The programmatic biological assessment (McDonald 1995) determined that there is no effect on the black-footed ferret from grazing on National Forests in the Rocky Mountain Region. Similarly, there is no effect on the black-footed ferret from grazing on the Shoshone National Forest.

Whooping crane (Grus americana)

Habitat/Distribution

A few past sightings of whooping cranes have occurred near the Wind River District in the Dunoir Valley. However, this appears to have been incidental use by migrating birds from the Gray's Lake cross-fostered program. The Gray's Lake program has been abandoned because of poor success. The whooping crane is not known or suspected to utilize habitats on the Forest.

Effects Determination

The programmatic biological assessment for the whooping crane in the Rocky Mountain Region determined that there would be no effect to the whooping crane from livestock grazing. The only documented use of National Forest lands has been incidental stopovers by migrant birds (Isdahl 1995). A supplemental assessment also determined that there is no effect to the whooping crane from livestock grazing on the Shoshone National Forest (Barber 1995).

LITERATURE CITED AND REFERENCES

- Barber, K. 1995. Supplemental Assessment to the Biological Assessment for the Whooping Crane (Grus americana). 2pp.
- Bruscino, M. 1995. Personal communication. Wyoming Game and Fish Department.
- Craighead, J., K. Greer, R. Knight, and H. Ihle Pac. 1988. Grizzly Bear Mortalities in the Yellowstone Ecosystem 1959-1987. Montana Division of Fish, Wildlife and Parks.
- Gore, J. 1995. B. E. Inserts for Yellowstone Wolf/Grazing Permit Reissuance. Unpublished paper. 2pp.
- Greater Yellowstone Ecosystem Bald Eagle Working Team. 1983. A Bald Eagle Management Plan for the Greater Yellowstone Ecosystem. Wyoming Game and Fish Dept., Cheyenne. 82 pp.
- Interagency Grizzly Bear Committee. 1986. Interagency Grizzly Bear Guidelines. USDA Forest Service. Washington, D.C.. 100 pp.
- Isdahl, C. 1995. Assessment on the Effects of Livestock Grazing on the Whooping Crane and It's Associated Habitat within the Rocky Mountain Region. 6 pp.
- Maj, M. and K. Torquemada. 1995. Biological Assessment on the Effects of Livestock Grazing on the American Peregrine Falcon (Falco peregrinus anatum). 5 pp.
- McDonald, P. 1995. Assessment on the Effects of Livestock Grazing on the Black-footed Ferret and Its associated Habitat within the Rocky Mountain Region. 5 pp.
- Montana Bald Eagle Working Group. 1994. Montana bald eagle management plan. Bureau of Reclamation, Billings, MT. 104 pp.
- Oakleaf, R. 1995. Personal communication. Wyoming Game and Fish Department.
- Paige, C., B. Madden, and W. Reudiger. 1991. Habitat Management Guidelines for Bald Eagles in Northwestern Montana. Written for the Montana Bald Eagle Management Group. 29 pp.
- Puchlerz, T. 1995. Biological Assessment on the Effects of Livestock Grazing on the Grizzly Bear (Ursus arctos horribilis). 8 pp.
- Stangl, J., and M. Maj. 1995. Biological Assessment on the Effects of Livestock Grazing on the Bald Eagle (Haliaeetus leucocephalus). 8 pp.
- USDA Forest Service. 1986. Shoshone National Forest Land and Resource Management Plan.
- USDI Fish and Wildlife Service. 1977. American Peregrine Falcon Recovery Plan (Rocky Mountain Southwest Populations). USDI Fish and Wildlife Service. Denver, Colorado. 183 pp.
- USDI Fish and Wildlife Service. 1984 (Revision). American Peregrine Falcon Recovery Plan (Rocky Mountain/Southwest Populations). USDI Fish and Wildlife Service. Denver, Colorado. 105 pp.

USDI Fish and Wildlife Service. 1993. American Peregrine Falcon (Western States) (Falco peregrinus anatum). Addendum to Pacific Coast (1982) and Rocky Mountain/Southwest Populations (Revised, 1984) American Peregrine Falcon Recovery Plans. USDI Fish and Wildlife Service. Denver, Colorado. 20 pp.

USDI Fish and Wildlife Service. 1986. Recovery Plan for the Pacific Bald Eagle. USDI Fish and Wildlife Service. Portland, Oregon. 160 pp.

Part II.

Summary of Biological Evaluations For Sensitive Species on the Shoshone National Forest

A group of biologists, botanists, range conservations/technicians, and ecologists met as teams and reviewed the entire sensitive species list for Region 2. Habitat requirements for each of the species were reviewed to determine if livestock grazing would affect the species, their habitat, and in the case of wildlife, the prey base. Based upon that review, species were placed into one of three screens. Screen 1 involved species for which it was determined that there was no relationship between the species and livestock grazing or that the species does not occur in grazing allotments. Screen 2 involved species for which there was not sufficient information to know if there was a relationship. Screen 3 included species for which there is a relationship and more detailed Biological Evaluations were needed to determine the impacts and the need for mitigation measures. The analysis for sensitive plants was done on a more site-specific basis than the other sensitive species, which were analyzed at a programmatic scale.

Several Biological Evaluations (BE) for these sensitive plant and animal species were conducted and prepared to evaluate and document the effects of livestock grazing on these sensitive species and their habitats. A BE covering all of the sensitive species in Screens One and Two which demonstrate that grazing will "not impact" or "may adversely impact individuals, but is not likely to result in the loss of viability on the Planning Area, nor cause a trend to federal listing or loss of species viability rangewide" was prepared. In instances where affects are unknown, a program and timeline were outlined to obtain information that will help identify whether species or habitat are being affected for those species in Screen Two. This Biological Evaluation is titled "Sensitive Plants and Wildlife That for the Most Part Are Not Impacted by Domestic Livestock Grazing".

A BE for riparian and those sensitive species associated with riparian ecosystem was also prepared. This BE applies to all riparian ecosystems based on the assumption that some of the species are present or would be present if habitat conditions were suitable. The BE is titled "Biological Evaluation for Sensitive Species in Riparian Areas Grazed by Domestic Livestock; Assessment of the Effects of Livestock Grazing on the Sensitive Species and Their Habitats Within the Rocky Mountain Region.

Individual species BE's were prepared for species in Screen Three which are present on more than one Forest. Remaining BE's for species in Screen Three

were assigned to individual Forests that contained the entire distribution of the species, especially for many of the plants. The following is a list of titles of Biological Evaluations that were prepared which apply to sensitive species that do or might occur on the Shoshone National Forest:

Biological Evaluation for the Water Vole (Microtis richardsoni),

Biological Evaluation of the Effects on the Boreal Toad,

Biological Evaluation of the Effects on the Northern Leopard Frog,

Biological Evaluation for Yellowstone Cutthroat Trout and Habitat Needed in Riparian Areas Grazed by Domestic Livestock on the Shoshone and Bighorn National Forests,

Biological Evaluation for the Ferruginous Hawk, Rocky Mountain Region,

Biological Evaluation for the Burrowing Owl, Rocky Mountain Region,

Biological Evaluation for the Upland Sandpiper, Rocky Mountain Region,

Biological Evaluation for the Long-billed Curlew, Rocky Mountain Region,

Biological Evaluation for the Mountain Plover, Rocky Mountain Region,

Biological Evaluation for the Trumpeter Swan, Rocky Mountain Region.

These Biological Evaluations are incorporated for the Shoshone National Forest and summary of those evaluations and effects determination are presented in Tables 1 and 2 of this Appendix. Determination statements in the individual species and the riparian ecosystem biological evaluations reference the implementation of mitigation measures and monitoring as part of the "no impact" or "may adversely impact individuals, but will not likely result in the loss of viability over the Planning area, nor cause a trend toward Federal listing or loss of species viability rangewide" determination statements. The mitigation measures and monitoring from these BEs that apply to the Shoshone National Forest are listed in this Appendix and incorporated into this analysis in Appendix H.

Sensitive Species Mitigation and Monitoring

The following mitigation measures and monitoring were taken from the riparian and individual species Biological Evaluations that were prepared in Region 2.

I. Riparian Mitigation Measures

These mitigation measures apply to the protection of grass/sedge, willow/shrub, and cottonwood riparian communities.

Based on monitoring and literature reviews, that there are four factors to restoring and maintaining riparian areas:

- 1) Stream Bank Stability
- 2) Stubble Height of Forage Plants
- 3) Use of Palatable Browse Species ("woody species", like willows)
- 4) Forage Utilization

Mitigation measures will generally be linked to these critical factors. It is recognized that there are numerous riparian community types, each of which may differ in sensitivity to livestock grazing. Ultimately, livestock management must vary according to community type and other unique landscape features. Desired plant communities and site specific livestock management practices will be developed for every community type during the planning process for allotment management plans. Until such time that the site specific management practices are developed, the following set of mitigation measures should be applied singularly or in combination.

1. Avoid season-long grazing in riparian pastures.
2. Implement short-duration spring grazing, where possible, to provide greater opportunity for re-growth and lower utilization of willows.
3. Implement total rest, where possible, in riparian pastures with deteriorated range where conditions are not likely to improve with livestock grazing.
4. Remove livestock from the grazing unit when the average stubble heights on Carex species reach 3-4 inches in spring-use pastures and 4-6 inches in summer/fall use pastures.
5. Remove livestock from the grazing unit when stream bank disturbance (trampling, exposed soils, etc) from current year's livestock grazing reaches 20-25% of the key area stream reach.
6. Limit utilization of woody plants to 15-20% of current annual growth.
7. Control the length of the grazing period in spring-use riparian pastures to minimize utilization of re-growth. This normally is 20-30 days.
8. Limit utilization of herbaceous species to 40-45 percent of weight.

Monitoring

Long-term trend monitoring should be conducted in representative riparian community types on a 3-5 year cycle to determine effectiveness of the mitigation measures listed in 1-8 above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

II. Water Vole Mitigation Measures

The mitigation measures outlined below were developed to protect riparian habitat. Clary and Webster (1989) state: "The level of utilization occurring on a site--including riparian areas--is the most important consideration. In fact, most riparian grazing results suggest that the specific grazing system used is not of dominant importance, but good management is--with control of use in the riparian area a key item. Specially designed grazing systems that control degree and timing of use in the riparian area can be highly beneficial.....They suggested that stocking rate is and always will be the major factor affecting the degradation of rangeland resources. No grazing system can counteract the negative impacts of overstocking on a long-term basis"

Cattle prefer riparian areas because of the quality and variety of forage, the easy accessibility, the cooler temperatures and shade, and the availability of water (Medin and Clary 1990). Permit compliance and monitoring livestock utilization levels will be essential to ensure grazing does not negatively impact water voles or their habitat. Proper utilization should also move any allotments in poor condition towards desired future condition and ensure those allotments in good condition remain so.

The following are general mitigation measures. More stringent measures may be needed if monitoring indicates known water vole populations or habitat are not being adequately protected.

- 1) Do not use season long grazing in riparian pastures.
- 2) Implement the most appropriate grazing system for protecting riparian habitat and water voles. This will have to be determined on a case by case basis. Some research indicates short-duration spring grazing reduces utilization of riparian vegetation because upland vegetation is still succulent. Spring grazing, followed by complete livestock removal, also allows plant regrowth to occur before the dormant period in the fall. However, streambanks may be more susceptible to damage due to the moist conditions; monitoring streambank condition will be of critical importance. Another point to consider when choosing the best grazing strategy is the fact that there is some indication late season grazing may result in fewer young being lost to predation (pers. comm. with Klaus 1995).
- 3) Implement complete rest in riparian pastures with deteriorated range to initiate the recovery process if the poor range condition is not likely to improve with even a low level of continued livestock grazing.

- 4) On the Bighorn National Forest, follow stubble height and willow utilization guidelines outlined in the Bighorn National Forest Vegetation Grazing Standards, approved by Larry D. Keown, Forest Supervisor, July 13, 1995. On the Shoshone National Forest, follow utilization guidelines, including those contained in the Regional Riparian Biological Evaluation, for both the grass/forb and riparian shrub communities that would result in riparian vegetation conditions similar to the Bighorn guidelines. However, if these guidelines fail to adequately protect water voles and their habitat, implement the following guidelines outlined by Clary and Webster (1989):

"Habitats where threatened, endangered, or sensitive species occur, or where streambanks/channels are highly erodible:

The herbaceous stubble height criterion may need to be increased to greater than 6 inches. Under extreme conditions, the area may need permanent protection, or at a minimum, grazing may need to be removed for long periods".

Known populations should be monitored to determine if current stubble height guidelines provide adequate cover from predators. Increased stubble heights may be needed in some instances.

- 5) Manage livestock activities to ensure bank stability within water vole habitat and potential habitat is maintained or improved to 80% of reference conditions. Reference sites are riparian areas that represent, or best approximate, the potential of the riparian habitat being monitored. The environmental conditions measured at the reference sites are used as a basis for comparison in monitoring.
- 6) In spring use pastures, limit length of use to 20 to 30 days to minimize utilization of regrowth.

Monitoring

Long term trend monitoring should be conducted to determine the effectiveness of grazing standards and the mitigation measures outlined above. Known water vole populations should be monitored to determine population and habitat conditions. Potential habitats should be surveyed to determine presence/absence of additional water vole populations on the Forest.

III. Boreal Toad General Mitigation Measures

Direct effects from grazing are not known for the boreal toad. However, grazing could exacerbate declines through habitat alteration, particularly since very few (less than 10) viable breeding demes are known. It is reasonable to assume that maintaining the integrity of the functioning of a riparian system that toads would have evolved under is a sensible course of action until more information can be obtained.

Mitigation Measures Recommended for Occupied Habitat

The following mitigation measures apply in occupied habitat only. If surveys are not conducted to determine toad presence for projects involving wetland or riparian ground-disturbing activities in potential toad habitat, assume occupancy for management purposes. Occupied habitat is divided in breeding activity zones, summer habitat associated with breeding sites, and movement corridors.

Breeding activity zones.

This area represents the primary protection zone established around bodies of water which have breeding activity. The breeding activity zone is intended to provide suitable habitat with minimal human disturbance for adults during the mating and egg laying period and a safe, relatively unmodified environment for tadpole and toadlet development.

A recommended boundary for this zone would be a minimum of 150 meters from the edge of the breeding site (based on information in Cambell, 1970) which states average of 4 movements per day * 35 m average distance).

Within this zone all activities and conditions which affect habitat quality should be evaluated to determine their impact to overall habitat conditions. Some parameters to consider are water quality and water quantity, local hydrology, vegetative communities, and level of disturbance. Grazing related activities which negatively affect these habitat parameters (if present) should be evaluated to determine the extent to which they can be modified or eliminated.

Summer Habitat zone.

After breeding, adult toads move away from the breeding sites into wet meadows and riparian areas for the remainder of the summer season. The areas of highest potential for summering habitat within 1 mile of breeding sites should be identified and special consideration afforded to management activities due to the importance of these areas for boreal toad recovery.

The objective of this zone is to provide habitat of sufficient quality and quantity to allow for needed growth and development to prepare for winter hibernation and future reproduction. Activities within this zone are not necessarily precluded but should maintain or enhance summer habitat conditions. As with the breeding activity zone, existing uses and conditions should be evaluated to determine what impact they have on habitat quality and what measures should be taken to minimize any adverse impacts. Any proposed activities should be consistent with the objective of maintaining or improving summer habitat conditions.

Movement Corridors

In order to use breeding sites and summer habitat, both must be accessible to toads. To ensure availability for toad use, the likely corridors or travelways between these habitat types should be identified. If a barrier poses a threat to toad movements, mitigation measures should be implemented to maximize toad movements. If livestock driveways or trails are

commensurate in size to game trails, we would not expect adverse effects based on the hypothesis that toads evolved under these conditions and have likely adapted. Attention to vegetation modification that is unduly severe should be evaluated in these areas. One source of helpful information regarding measures to ensure toad movement is Thomas Langton's Amphibians and Roads (Langton, 1989).

Breeding Activity and Summer Habitat

Incorporate drift fence construction for timber sale activities with the potential to increase or allow cattle access to breeding activity or summer breeding zone.

Utilization on upland areas within the occupied breeding activity or summer habitat zones will not exceed 30% by weight in order to maintain habitat quality.

Mitigation Measures Recommended for Occupied and Unoccupied Habitat

These mitigation measures will be applied to both occupied and unoccupied habitat. The purpose of applying these measures is to protect the health and functioning of riparian areas for multi-species benefits, including the boreal toad. The Biological Evaluation for Sensitive Species in Riparian Areas Grazed by Domestic Livestock (USDA FS, Rocky Mountain Region, 1995) is our reference for the development and application of these measures.

1. Avoid season-long grazing in riparian pastures.
2. Implement short-duration spring grazing, where possible, to provide greater opportunity for re-growth and to avoid utilization of willows.
3. Implement total rest, where possible, in riparian pastures with deteriorated range where conditions are not likely to improve with livestock grazing.
4. Remove livestock from a grazing unit when the average stubble heights on Carex species reach 3-4 inches in spring-use pastures and 4-6 inches in summer/fall use pastures.
5. Remove livestock from the grazing unit when stream bank disturbance (trampling, exposed soils, etc) from current year's livestock grazing reaches 20-25% of the key area stream reach.
6. Limit utilization of woody plants to 15-20% of current annual growth.
7. Control the length of the grazing period in spring-use riparian pastures to minimize the utilization of re-growth. This normally is 20-30 days.
8. Limit utilization of herbaceous species to 40-45% percent of weight.

IV. Leopard Frog Mitigation Measures

-Require the maintenance of a 4 inch stubble height of sedges and rushes in all riparian areas within grazing allotments. Part 3 of the Term Grazing Permit will require the removal of livestock from affected areas when sedge/rush stubble heights have been grazed so the end of season stubble height will be less than 4 inches.

-Livestock will be removed from the grazing unit when stream bank disturbance (trampling, exposed soils, etc.) from current year's livestock grazing reaches 20-25% of the key area stream reach.

-Key areas will be established in adjacent upland areas within cattle allotments grazed on a season long basis. To ensure suitable migration corridors between frog habitat, these key areas will not be grazed by more than 30% by weight, leaving an average of 70% by weight of the existing vegetation.

-Grazing of willows of over 40% of the current year's growth will require the removal of livestock from the affected area.

-Timber sale activities with the potential to increase or allow cattle access to frog habitat will incorporate drift fence construction into Sale Area Improvement Plans as well as subsequent KV plans. If KV funds are not available, cutting unit design modifications will occur and/or appropriated timber funds will finance the drift fence(s). [This measure is not applicable to the permit re-issuance analysis since it is outside the scope of this EA.]

V. Yellowstone Cutthroat Trout Mitigation Measures

The following Yellowstone cutthroat trout mitigation measures apply to the Shoshone National Forest:

1. Remove livestock from the grazing unit when any one of these criteria is reached:
 - a. Applicable riparian vegetation utilization (or a comparable utilization if stubble height is referenced) contained in the Forest Plan, Region 2 Riparian Biological Evaluation for Sensitive Species and Water Vole Biological Evaluation for the various grazing systems and current conditions of riparian areas within the units.
 - b. Stream bank alteration (hoof action, trampled banks, exposed soils) from current year's livestock grazing reaches 20%-25% on the key area stream reach. This measure does not apply to high gradient and/or boulder dominated streams that are very resilient to stream bank damage. In these instances, riparian vegetation will be impacted by ungulates before stream banks.
 - c. Limit utilization of woody plants by ungulates to 15-20% of the current year's leader growth.
2. Avoid grazing strategies that promote extended use of riparian areas. Season-long, late summer and fall grazing strategies have the potential to

adversely impact riparian areas since cattle concentrate here. Implement short-duration spring grazing in riparian areas, where possible, to provide greater opportunity for vegetative re-growth and lower utilization of willows.

3. In riparian areas with deteriorated range where conditions are not likely to improve with livestock grazing, more extraordinary mitigation measures may be needed. In severe cases, implement total rest for a specified period of time. This should be determined by an interdisciplinary team.

Where Mitigation Measures Apply

These mitigation measures were developed on the Shoshone Forest to meet the needs of both aquatic (including Yellowstone cutthroat trout) and terrestrial fauna and flora that utilize riparian. As a result, these measures will apply to all riparian areas within commercial grazing allotments on the Shoshone Forest.

Monitoring

The mitigation criteria included in this document were developed with best available information that may be further modified/refined, if needed, through monitoring. With reduced funding and personnel, we will only be able to monitor a limited number of allotments. Those units with deteriorated riparian/fish habitat conditions and in greatest need for recovery should be the focus of this monitoring effort. First, base-line existing conditions should be established in key areas. Then long-term trend monitoring, conducted on a limited number of representative key riparian areas on a 3-5 year cycle, will determine the effectiveness of these measures. Key monitoring criteria should include stubble height/utilization, stream bankfull width:depth ratios, stream bank stability, and pebble counts (Bevenger and King, 1995), where appropriate. If similar reference (unimpacted) streams are available, they should be used for comparative purposes. Other monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" and Bighorn National Forest Vegetation Grazing Standards (1995) should be incorporated where appropriate to determine if other resource needs within the allotments are attaining desired conditions.

The habitat condition rating portion of Cow-Fish (Lloyd, 1986) should be one of the criteria used to measure long term habitat condition trend and achievement of desired condition, where appropriate. The existing fish habitat condition should be established the first year. In 3-5 years, habitat conditions should be improving and moving towards a good habitat condition rating. Within 10 years of permit issuance, a good habitat rating should be achieved. If these desired conditions are not met, more extraordinary measures may be needed to achieve desired condition.

Monitoring should also include the development of a long term plan to determine the genetic status and habitat conditions of suspected and potential YSC streams on the Forest. It should be coordinated with the various affected agencies, groups and individuals and be included as part of a long term plan for Yellowstone cutthroat trout in the entire Yellowstone Basin.

VI. Ferruginous Hawk Mitigation Measures

1. In areas where isolated deciduous trees have been subjected to destruction, it is suggested that planting new trees in small fenced exclosures near semi-permanent water sources would be beneficial (Snow 1974).

2. In areas where range improvements are being planned, such as grass plantings, pesticide spraying, discing or burning, it is recommended that a minimum of 15% of the total area be left in its present successional stage. This provides islands of scattered vegetation throughout the treated area. In a Utah-Idaho study area, crested wheatgrass plantings had been in place for 6-8 years and did not appear to be detrimental to ferruginous hawks (Snow 1974).

3. Flexibility in nest site selection by ferruginous hawks has provided potential management opportunities in some areas, and may effectively reduce the impacts of some future habitat changes (Woffinden and Murphy 1983). On the Pawnee and Comanche National Grasslands in Colorado, several artificial platforms, containing artificial nests, were erected in areas where long-standing nest sites had fallen. The number of nesting ferruginous hawks increased from 7 to 15 pairs, and production increased from 1.8 to 3.1 young per nest attempt (Olendorff, et al 1980).

4. In critical habitats, productivity will be increased by limiting or prohibiting activities within 400 meters from nest sites during the nest building, egg laying and incubation period, which is normally from 3/10-6/10. This would include activities such as road construction, mineral exploration and development, recreation facility construction, and logging. Routine range improvement maintenance was not considered due to the low level of potential disturbance involved in such activity. Prescribed burns should not be performed until after 7/30 when fledging has most likely occurred (Becker 1980).

5. Implementing range management practices that produce and maintain rangelands in good condition, provide a greater abundance and variety of prey.

[There is no known nesting of Ferruginous hawks on the Shoshone National Forest and thus measures 1-4 are not applicable or outside the scope of the analysis for permit re-issuance]

Monitoring

Long-term monitoring shall be conducted in grassland ecosystems where ferruginous hawks are known to occur to determine the effectiveness of mitigation measures 1-5 above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

VII. Burrowing Owl Mitigation Measures

Mitigation measures that would benefit the burrowing owl deal mainly with the relationship the owl has with burrowing mammals. Other mitigative practices can be carried out on croplands and road rights-of-way. This has been discussed by several researchers in the following mitigative measures:

1. Haug et al. (1993) suggest:
 - a). Protection of burrowing mammal populations.
 - b). Wood or plastic artificial nest boxes or tunnels.
 - c). Artificial perches.
 - d). Vegetation management through fire or grazing.
2. Artificial burrows and release sites should be at least 600 m (1968 ft) from primary and secondary roads. Rights-of-way, haylands, and uncultivated areas should be maintained within 600 m (1968 ft) of owl nest burrows to supply habitat for prey (Haug and Oliphant 1990).
3. Haug and Oliphant (1990) suggest a 1968 foot buffer zone around owl nest burrows free of pesticide and herbicide application, control measures, and other human activities or disturbance.
4. Moderate levels of livestock grazing can promote initial establishment of owl habitat. Excessive and prolonged overgrazing can reduce the owl's prey base.

[There is no known nesting of Burrowing owls on the Shoshone National Forest and thus measures 1-3 are not applicable or outside the scope of the analysis for permit re-issuance]

Monitoring

Long-term monitoring shall be conducted in grassland ecosystems where burrowing owls are known to occur to determine the effectiveness of mitigation measures 1-4 above. Trend monitoring methods as described in Region 2's "Rangeland Management and Training Guide" shall be used.

VIII. Upland Sandpiper Mitigation Measures

It can be inferred from the literature that acceptable management would be implementation of grazing strategies that produce a mosaic of different grass height/density structures. Grasslands of an intermediate height/density with adequate cover to conceal upland sandpiper nests would be especially desirable.

1. Implement rotational grazing systems and well-managed seasonlong grazing systems which can sustain upland sandpiper habitat. The objective of management should be to sustain moderately dense grasses 6 to 24 inches in height during the nesting season (early May to late August) for upland sandpipers.

Monitoring

Grassland-nesting shorebird species are conspicuous enough in their prairie habitats so that direct censusing of birds during the breeding season is effective (Connors 1986). Long-term monitoring shall be conducted in grassland ecosystems where upland sandpipers are known to occur to determine the effectiveness of mitigation measures listed above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

IX. Long-billed Curlew Mitigation Measures

In order to be effective, management plans for the long-billed curlew must consider the size of territories and areas necessary for maintenance of the population in the area.

1. Maintain large expanses of short-grass habitat away from human development.
2. Implement grazing systems that reduce vertical cover components during pre-laying and nesting periods. Of particular value are grazing activities that results in a diversity of grassland structure (emphasis towards shortgrass) are beneficial to this species in mixed grass and sandhills prairie. Grazing systems that reduce residual cover in Spring, rest rotation with high stocking in Winter and Fall, for example, benefit curlews.
3. Utilize sheep grazing where possible in occupied habitat to create and maintain suitable conditions.
4. Use fire combined with grazing to maintain suitable habitat throughout the breeding season.
5. Convert areas planted to crested wheatgrass back to short-grass prairie where possible.
6. Minimize human activity in areas frequented by curlews.
7. The effects of any proposed grasshopper spraying project in areas occupied by curlews should be thoroughly assessed in a site-specific NEPA process.

[There is no known nesting of long-billed curlews on the Shoshone National Forest and thus measures 2-4 apply only if nesting is detected and the remaining measures are not applicable or outside the scope of the permit re-issuance]

Monitoring

Long-term monitoring shall be conducted in grassland ecosystems where long-billed curlews are known to occur to determine the effectiveness of the mitigation measures listed above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

X. Mountain Plover Mitigation Measures

Mitigations #1 and #2 apply specifically to the Pawnee national Grassland core area. Mitigations #3 through #6 apply region-wide within occupied mountain plover habitat.

1. In the Pawnee National Grassland (PNG) core area, maintain current grazing management and vegetative structure until research can validate which changes to current condition maintain viable populations.
2. Utilization standards in the PNG core area are to leave 300 pounds per acre forage on all range sites. This will maintain the vegetative structure for effective plover habitat.
3. Within occupied plover habitat, grazing management may be a necessary tool to maintain habitat effectiveness for the mountain plover. In these areas utilization standards should maintain vegetative structure to approximately 4 inches or less in nesting habitat.
4. Construction and maintenance of range improvements within plover habitat will generally not be allowed from April 10 through July 10 unless these activities are needed to achieve forage utilization necessary to maintain habitat effectiveness. Activities, not necessary to maintain habitat effectiveness, may be approved on a case by case basis following a plover clearance survey. Surveys will be conducted to standards outlined in the monitoring section below.
5. Control methods employed on prairie dog towns utilized by mountain plover will be designed to maintain habitat effectiveness.
6. Authorized administrative vehicle use for range management on roads and cross-country may continue as needed throughout the year in mountain plover habitat. Administrative cross-country travel occurring between April 10 and July 10 will be at 10 miles per hour or less. This will allow for observation and avoidance by the driver. Personnel will remain in vehicles and travel on developed roads, as feasible. Other permitted cross-country travel such as for recreational uses will be handled through educational programs at the unit level. If monitoring shows the educational process to be ineffective, then units will implement necessary travel management.

[There is no known nesting or occupancy of mountain plovers on the Shoshone National Forest and thus measures 3-6 are not applicable or outside the scope of the analysis for permit re-issuance]

Monitoring

Plover Clearance Survey. The plover clearance survey is an important mitigation measure for decreasing management disturbance to mountain plover. If a plover nest or a plover exhibiting prenesting or nesting behavior are observed within a 200 meter radius of the project site or to the sides of the planned access, the project will be delayed for 30 days. This will allow for hatching and dispersal from the nest site. At that time, another survey will be completed to insure new nesting has not occurred. If no observations are

made, project work must be initiated within 7 days of the clearance or another survey will be necessary.

Long-term monitoring shall be conducted in grassland ecosystems where mountain plover are known to occur to determine the effectiveness of mitigation measures listed above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

XI. Trumpeter Swan Mitigation

1. Conduct management activities before April 1 and after August 1. Provide a barrier of 1500 feet between disturbance and active nesting territories. The distance could be reduced if topography and vegetation provide increased visual and sound screen.
2. Build take-down fences along winter habitat shorelines. Build the distance necessary to avoid hazards to the flight approach to and from the wetland.
3. Fence livestock out of wetlands. However, allow access if the wetland is an important source of water for livestock. If building fences is prohibitive, set a utilization standard that would reduce shoreline break down and maintain residual shoreline cover of no less than 12 inches by the end of the grazing season. Grazing could be tolerated to the extent that it does not cause long term loss of composition change to less desirable species. Season long grazing of shoreline should be held off until after hatching (June 15- July 1).
4. Allow draw-down of wetlands or ponds only after September 1 or after the Trumpeter Swan brood has fledged. Ensure that water levels are returned to levels that were present during the nesting season.
5. Consider implementing late fall or winter season livestock grazing use in pastures that have excellent potential for providing nesting and brooding habitat, thus reducing the need for more structures or other measures to mitigate the effects of grazing during the growing season.

[There is currently no known nesting or occupancy of trumpeter swans on the Shoshone National Forest and thus measures 1-5 are not applicable or outside the scope of the analysis for permit re-issuance]

Monitoring

Long-term monitoring shall be conducted in wetland ecosystems where Trumpeter swans were known to occur to determine the need for mitigation measures 1-5 above. Trend monitoring methods as described in Region 2's "Rangeland Management and Analysis Training Guide" shall be used.

Table 1

Summary of Biological Evaluations for Sensitive Wildlife Species that Occur or May Occur on the Shoshone National Forest.

Species	Screen ¹	BE ₂ Type ²	BE General Habitat Description	Monitoring and/or Mitigation Specified	Shoshone NF Specifics	Determination ³
Dwarf shrew	1	Group	Alpine	No	Beartooth Plateau	No impact
Spotted bat	1	Group	Caves	No	Presence unconfirmed	No impact
Fringed-tailed myotis	1	Group	Caves	No	Presence confirmed	No impact
Townsend's big-eared bat	1	Group	Caves	No	Presence confirmed	No impact
Allen's thirteen-lined ground squirrel	2	Group	Prairie	Monitoring ⁴	May be extirpated ⁵	None ⁴
Water vole	3	Separate	Water	Yes-II ⁶	Found in high elevation wet meadows and riparian areas	May impact
Marten	1	Group	Forested	No	Presence confirmed	No impact
Fisher	1	Group	Forested	No	Presence suspected	No impact
Wolverine	1	Group	Generalist	No	Presence suspected in upper montane ecosystems	No impact
Lynx	1	Group	Forested	No	Presence confirmed	No impact
Common loon	1	Group	Water	No	Presence confirmed	No impact
Trumpeter swan	3	Separate	Wetlands	Yes-XI ⁶	Past and suspected presence	May impact
Harlequin duck	1	Group	Riparian	No	Presence confirmed	No impact
Ferruginous hawk	3	Separate	Prairie	Yes-VI ⁶	Presence possible on eastern edge of Forest in appropriate habitat	May impact
Osprey	1	Group	Water	No	Presence confirmed	No impact
Merlin	1	Group	Prairie	No	Presence possible in appropriate habitat	No impact
Greater sandhill crane	3	Riparian	Wetlands/ Riparian	Yes-I ⁶	Occasional presence in appropriate habitat	May impact
Mountain plover	3	Separate	Prairie	Yes-X ⁶	Presence possible on eastern edge of Forest in appropriate habitat	May impact
Long-billed curlew	3	Separate	Prairie	Yes-IX ⁶	Presence possible on eastern edge of Forest in appropriate habitat	May impact

Table 1 (Continued)

Summary of Biological Evaluations for Sensitive Wildlife Species that Occur or May Occur on the Shoshone National Forest.

Species	Screen ¹	BE ² Type	BE General Habitat Description	Monitoring and/or Mitigation Specified	Shoshone NF Specifics	Determination ³
Upland sandpiper	3	Separate	Prairie	Yes-VIII ⁶	Presence possible on eastern edge of Forest in appropriate habitat	May impact
Western burrowing owl	3	Separate	Prairie	Yes-VII ⁶	Presence possible on eastern edge of Forest in appropriate habitat	May impact
Boreal owl	1	Group	Forested	No	Presence suspected	No impact
Lewis' woodpecker	3	Riparian	Riparian	Yes-I ⁶	Presence suspected	May impact
Black-backed woodpecker	1	Group	Forested	No	Presence confirmed	No impact
Northern 3-toed woodpecker	1	Group	Forested	No	Presence confirmed	No impact
Olive-sided flycatcher	1	Group	Forested	No	Presence confirmed	No impact
Pygmy nuthatch	1	Group	Forested	No	Presence unconfirmed	No impact
Golden-crowned kinglet	1	Group	Forested	No	Presence confirmed	No impact
Loggerhead shrike	1	Group	Generalist	No	Presence suspected occasionally on the eastern edge of the Forest	No impact
Fox sparrow	3	Riparian	Riparian	Yes-I ⁶	Presence suspected	May impact
Tiger salamander	1	Group	Water	No	Presence suspected	No impact
Boreal western toad	3	Separate	Wetlands	Yes-III ⁶	Presence confirmed	May impact
Northern leopard frog	3	Separate	Wetlands	Yes-IV ⁶	Presence confirmed	May impact
Spotted frog	3	Riparian	Riparian/ Wetlands	Yes-I ⁶	Presence confirmed	May impact
Yellowstone cutthroat trout	3	Separate	Riparian	Yes-V ⁶	Presence confirmed	May impact

¹Screen 1 identifies species where it was determined that there was little or no relationship between the species and livestock grazing (No additional analysis needed). Screen 2 revealed species for which there was not sufficient information to know if there was a relationship (Insufficient information). Screen 3 includes species for which there is a relationship and more detailed BEs were needed to determine the impacts and the need for mitigation measures (Needs further analysis).

²Group = BE for sensitive plants and wildlife that for the most part are not impacted by domestic livestock grazing. Separate = Individual BEs were prepared for individual species. Riparian = BE for sensitive species in riparian areas grazed by domestic livestock.

³No impact = Domestic grazing will have no impact on the species, its habitat, or its prey base. May impact = May adversely impact individuals, but is not likely to result in the loss of viability on the Planning Area, nor cause a trend to federal listing or loss of species viability rangewide.

Table 1 (Continued)

⁴No determination is made because of insufficient information. Information will be collected over the next 2 year period on the habitat requirements of this species and its distribution. Inventories for this species will be started in the next five years to determine the presence of this species within areas grazed by livestock. Based on this additional information, a determination will be made as to whether a more detailed BE needs to be prepared to address the effects of livestock grazing on this species or its habitat.

⁵The following excerpt about the subspecies, Allen's thirteen-lined ground squirrel, is from Mammals of Wyoming (Charles A. Long 1965):

Distribution.- Only six specimens have been reported from four localities in western Wyoming, all from the Transition Life-zone. A.H. Howell (1938: 114) states: "The Bighorn ground squirrel [= S.t. alleni] is an inhabitant of mountains and foothills, and is decidedly darker than the races living on the plains. The limits of its range are not well known."

Remarks.- The status of S.t. alleni has not been clarified by field and laboratory studies since A.H. Howell's study (1938:114-115). In fact, intensive collecting of vertebrates within the geographic range of this subspecies by field parties from the Museum of Natural History of the University of Kansas has yielded no additional specimens. E.R. Hall (personal comm.) told me he thought that poisoning of mammals in Wyoming may have exterminated this subspecies.

Records of occurrence.- Specimens examined, 6 as follows: Fremont Co.: Miners Delight, near head of Twin Creek, 1 USNM [United States National Museum]. [This site is near or on the Washakie RD of the Shoshone National Forest.] Hot Springs Co.: Head of Kirby Creek, 1 USNM. Johnson Co.: West slope of Bighorn Mtns., near head of Canyon Creek, 2 USNM. Sublette Co.: New Fork of Green River (Lander Road), 2 USNM.

⁶The roman numerals refer to the mitigation and monitoring sections from each BE for riparian and individual species in the last section of this appendix.

Table 2

Summary of Biological Evaluations for Sensitive Plant Species that Occur on the Shoshone National Forest.

Species (Common name)	Screen ¹	Region 2 BE Information Strategy ²	Region 2 BE General Habitat Relationship Description	Region 2 BE Relationship To Grazing ³	Shoshone NF Specifics	Determination ⁴
<u>Agoseris lachshewitzii</u> (Pink agoseris)	1		Wet montane & subalpine meadows	tolerant	Present in Park Co. in the Beartooth Plateau	May impact
<u>Amerorchis rotundifolia</u> (Round-leaved orchid)	1		Mossy, moist seepage areas in conifer forests	inaccessible ⁵	Present in Park Co. in the Swamp Lake area	May impact ⁵
<u>Arctostaphylos rubra</u> (Red manzanita)	1		Moist, calcareous sites w/ low shrubs bordering white spruce swamp forests	inaccessible ⁵	Present in Park Co. in the Swamp Lake area	May impact ⁵
<u>Botrychium ascendens</u> (Upward-lobe moonwort)	2	B ⁶	Moist meadows & thickets in mountains	not known	Present in Fremont Co. in Double Cabin and East Fork areas	None ²
<u>Carex livida</u> (Livid sedge)	2	B	Floating mats, bogs, and fens or calcareous wetlands	not known ⁵	Present in Park Co. in the Swamp Lake area	None ⁵
<u>Descurainia torulosa</u> (Wind River tansy-mustard)	1		Sparsely vegetated sandy slopes at base of cliffs of volcanic breccia or sandstone.	inaccessible	Present in Fremont and Park Cos. in the Absaroka Mountains	May impact
<u>Festuca hallii</u> (Hall's fescue)	2	B	Alpine tundra in Kobresia stands, meadows, slopes and open woods.	not known	Known from the Absaroka Mountains	None
<u>Ipomopsis spicata</u> ssp. <u>robertyi</u> (Kirkpatrick ipomopsis)	2	A	Sandy to rocky scree derived from andesite volcanic rock	not known	Known from the Absaroka Range	None
<u>Lesquerella fremontii</u> (Fremont's bladderpod)	1		Rocky limestone slopes and ridges	tolerant	Known from SE Wind River Range	May impact
<u>Muhlenbergia glomerata</u> (Marsh muhly)	1		Bogs, springs, peaty or calcareous meadows, floating mats, stream edges and shores	inaccessible ⁵	Present in Park Co. in the Swamp Lake area	May impact ⁵
<u>Parrya nudicaulis</u> (Naked-stemmed wallflower)	1		Alpine talus, often on limestone substrates	inaccessible	Present in the Beartooth and Wind River Mountains	May impact
<u>Primula egalikensis</u> (Greenland primrose)	2	A	Wet meadows along streams and calcareous montane bogs	not known ⁵	Present in Park Co. in the Swamp Lake area	None ⁵
<u>Pyrocoma carthamoides</u> var. <u>subsquarrosus</u> (Absaroka goldenweed)	2	A	Open meadows, slopes, and ridges on sandstone or limestone substrates	not known	Present in Park Co. in Absaroka Mountains	None
<u>Salix myrtillofolia</u> var. <u>myrtillofolia</u> (Myrtle-leaf willow)	1		Lake and streambanks, floodplain thickets, bogs, and white spruce forests	inaccessible ⁵	Present in Park Co. in the Swamp Lake area	May impact ⁵

Table 2 (Continued)

Summary of Biological Evaluations for Sensitive Plant Species that Occur on the Shoshone National Forest.

Species (Common name)	Screen ¹	Region 2 BE Information Strategy ²	Region 2 BE General Habitat Relationship Description	Region 2 BE Relationship To Grazing ³	Shoshone NF Specifics	Determination ⁴
<u>Scirpus rollandii</u> (Rolland's bulrush)	1		On moss hummocks in rich calcareous montane fens, sometimes on margins in willow dominated areas	inaccessible ⁵	Present in Park Co. in the Swamp Lake area	May impact ⁵
<u>Shoshonea pulvinata</u> (Shoshonea)	1		Shallow, stony calcareous soils of exposed limestone outcrops, ridgetops, and talus slopes	inaccessible	Present in Absaroka Mountains in Park Co.	May impact
<u>Townsendia condensata</u> var. <u>anomala</u> (Cushion townsend-daisy)	2	A	Sparsely vegetated rocky slopes and ridges	not known	Present in the Absaroka Mountains	None

¹ Screen 1 identifies species where it was determined that there was little or no relationship between the species and livestock grazing (No additional analysis needed). Screen 2 revealed species for which there was not sufficient information to know if there was a relationship (Insufficient information). Screen 3 includes species for which there is a relationship and more detailed BEs were needed to determine the impacts and the need for mitigation measures (Needs further analysis).

² No determination was made because of insufficient information. A program and timeline in the form of the following strategies is presented to obtain information that will help identify whether species or habitat is being affected for those species in Screen 2:

Strategy A. The species is known to occur in range allotments up for renewal this year, but information about the effects of livestock grazing on the species is inadequate. The Forests can issue grazing permits and will conduct studies to determine the effects of livestock grazing (direct grazing or trampling effects, or indirect effects such as changes in hydrology, as appropriate) on the species, with appropriate monitoring. These studies are intended to enable the development of some type of conservation strategy (utilization standards, other Standards and Guidelines, formal Conservation Strategies or Conservation Agreements, or other devices). The objective will be to obtain adequate information to enable the development of such conservation strategies within five to ten years.

Strategy B. The species is not known to occur in allotments up for renewal this year, but potential habitat is thought to occur within these allotments and information about the effects of livestock grazing on the species is inadequate. The Forests can issue grazing permits and will conduct inventories within the next five to ten years to determine if the species occur in active allotments. If the species is found in allotments, then studies will be conducted as in Strategy A.

³ Not in R2 Allotments = Sensitive plants not in grazing allotment up for permit in 1996 in Region 2. Not in NF Allotments = Sensitive plants not in allotments up for permits in 1996 on selected forests. Inaccessible = Sensitive plants occurring in habitats which are not accessible to livestock, or are only very minimally grazed. Tolerant = Sensitive plants unaffected by or tolerant of grazing effects.

⁴ No impact = Domestic grazing will have no impact on the species or its habitat. May impact = May adversely impact individuals, but is not likely to result in the loss of viability on the Planning Area, nor cause a trend to federal listing or loss of species viability rangewide.

⁵ Swamp Lake area is in an allotment (Ghost Creek) whose permit is now not up for renewal in 1996. Thus, this plant's relationship to grazing should be "Not in NF Allotments" and the determination should be "no impact" for the Shoshone National Forest.

⁶ Further surveys have found this plant in allotments whose permits are up for renewal in 1996. Thus, the strategy for collecting information should be "A" for the Shoshone National Forest.

Appendix G

Mitigation Measures and Monitoring

The information contained in this appendix represents a compilation of actions considered necessary to continue or begin implementing on some or all allotments to insure maintaining the compatibility of commercial livestock grazing with other land management objectives on the Shoshone Forest.

This appendix addresses both mitigation measures and monitoring requirements. The mitigation measures are actions that will be applied by the permittee as conditions of the livestock grazing permit (Part III), the Forest Service, or both, to lessen the effects of commercial livestock grazing below a level of significance and maintain or move the Forest toward desired conditions.

The monitoring requirements will be applied by the permittee, the Forest Service, or both. Monitoring is used to assess and determine if the project goals and objectives are being met.

Mitigation Measures

Where applicable, the following mitigation measures are considered necessary to reduce environmental effects below the level of significance. Measures followed by a (P) are the responsibility of the permittee for implementation. These measures will be incorporated, as clauses, into Part III of the grazing permit. Measures followed by a (FS) are the responsibility of the Forest Service for implementation. These measures will be implemented as part of permit administration.

A. Commercial livestock, grazing system and ungulate allowable use:

Implement the allowable use guides found in the forest plan and listed below for the permitted grazing system.

Allowable use will be measured on key areas (see glossary). Key areas will be established and monitored by a Forest representative, the permittee, and other participants.

Once allowable use is met, the permittee will remove livestock from the unit or allotment.

Total livestock and wild herbivore allowable forage use by grazing system and range type are:

1. Rest Rotation System: (P) (FS)

(a) Use by range type:

Mainly seed reproduction (Bunchgrass, plains grassland, foothills shrub and alpine range types): 50 to 60 percent on heavy use pastures. Up to 45 percent on light use pastures.

Mainly vegetation reproduction (meadow, sand hill prairie, bluegrass bottoms, and aspen range types): Bluegrass: maximum up to 80 percent; others 55 to 65 percent on heavy use pastures, 40 to 50 percent on light use pastures.

BLANK PAGE

2. *Deferred Rotation System: (P) (FS)*

(a) Use by range type:

Mainly seed reproduction: 40 to 50 percent on all pastures.

Mainly vegetation reproduction: 45 to 55 percent on all pastures.

3. *Rotation System: (P) (FS)*

(a) Use by range type:

Mainly seed reproduction: Maximum of 50% on last used pastures; maximum of 40% on first used pasture.

Mainly vegetation reproduction: Maximum of 55% on last used pasture; maximum of 45% on first used pasture.

4. *Continuous System (Grazing same time and place every year): (P) (FS)*

Mainly seed reproduction:

Use By Condition Class on Key Area

Season	Good/Excellent	Fair	Poor	Very Poor
Full				
Grazing	31% to	21% to	11% to	0% to
Season or 40%	30%	20%	10%	
Spring				
	36% to 26%	26% to 11%	11% to 0%	0% to
Summer	45%	35%	25%	10%
Fall &/or	46%	31%	16%	0%
Winter	55%	45%	30%	15%

Mainly vegetation reproduction:

Same as primarily seed reproduction except increase utilization by 10% on bluegrass.

5. *Alternate Years System: (P) (FS)*

(a) Use by range type on key areas:

Mainly seed reproduction:

Condition Class on Key Area	Use
Good/Excellent	51% to 60%
Fair	36% to 50%
Poor	21% to 35%
Very Poor	0% to 20%

Mainly vegetation reproduction:

Condition Class on Key Area	Use
Good/Excellent	56% to 65%
Fair	41% to 55%
Poor	31% to 40%
Very Poor	0% to 30%

Bluegrass 80% on good or better condition and same proper use percent for fair and lower as above.

B. **Grizzly Bear and Bald Eagle**

1. **Grizzly Bear Mitigation**

The authorized officer may order an immediate modification or, if needed, the cancellation of any or all activities authorized by this permit when, in his/her judgement, such action is necessary in order to prevent confrontation or conflict between humans and grizzly bear. The permittee shall immediately comply with this order. The United States shall not be liable for any consequences from such a modification or cancellation. (P) (FS)

The permittee, his/her agents, and employees are responsible for notifying the Forest Service immediately of any grizzly sightings, encounters, suspected predation by grizzlies, or potential or existing grizzly conflict situations. Failure to do so could result in modification or cancellation of the grazing permit. (P)

The permittee assumes full responsibility and shall hold the United States harmless from any and all claims by him/her or by third parties for any damages to life or property (including livestock) arising from the activities authorized by this permit and encounters with grizzly bears, or from modifications or cancellation of activities authorized by this permit. (P)

The permittee, his/her agents, employees, contractors, and subcontractors will comply with the Grizzly Bear Special Order where it has been implemented and the following provisions for both areas within and outside the 'Grizzly Bear Use Area' as defined in the special order. This requirement applies to any and all activities authorized by this permit or Allotment Resource Management Plan, including temporary and/or permanent camps. The following

requirements for carcass disposal and food storage are consistent with specifications in the special order with some additions. (P)

Death of any livestock will be reported to the nearest Forest Service officer in as timely manner as possible. (P)

All livestock carcasses, or parts of carcasses, must be either packed, dragged, destroyed with explosives or otherwise transported to a location a minimum of 1/2 mile from any sleeping area or tent, forest road, trail or recreation site in as timely manner as possible, unless otherwise directed by a Forest Service officer. Other options for carcass disposal may include using explosives or burning the carcasses at the discretion of a Forest Service officer. Move carcasses to a location with a good site distance and at least 100 feet from live water. (P)

All human and prepared livestock and pet food, beverages, garbage, cooking grease, and other odorous substances must be stored, handled and disposed of in such a manner as to make it totally unavailable to bears at night and during the day when unattended. Unavailable means stored in a bear-resistant container (approved by Forest Officer), stored in a closed vehicle constructed of solid nonpliable material, or suspended at least ten feet clear of the ground at all points and 4 feet horizontally from any supporting tree or pole. (P)

Uneaten horse feed may not be left on the ground after feeding livestock. It must be gathered and properly stored unavailable to bears. (P)

Burying food, garbage, refuse, or grease is prohibited. (P)

Burnable garbage and grease may be burned as long as it is burned completely in a very hot fire. All garbage will be stored unavailable to bears and non-burnable garbage should be packed out on a regular basis and not allowed to accumulate. (P)

Any authorized camps must be at least 1/2 mile from any livestock carcass unless carcass is acceptably stored, as indicated above, at which time the camp must be at least 100 yards from the carcass. (P)

Intentional or negligent acts by the permittee, his/her agents, employees, contractors, and subcontractors that result in injury or death of a grizzly bear will be cause for modification or cancellation of this grazing permit. The only aggressive action that may be appropriate is where threat to personal life is imminent. However, the individual may be required to stand trial in a court of law to determine if the action was justified. (P) The appropriate riparian and allowable use guides, combined with the appropriate grazing system and season of use will assure the necessary vegetative resources are available for bears. (P) (FS)

The authorized officer will annually determine if special measures are necessary to protect, in time and space, food production: areas important to grizzly bears. These measures will be specified in the Shoshone National Forest Annual Instruction Form and covered with the permittee at the annual instruction meeting. Conflicting and competing uses of resources by grizzly bears and livestock that are determined to be of a long-term nature may result in modification of this permit. (FS)

2. Bald Eagle Mitigation

The following guidelines are from the Greater Yellowstone Ecosystem Bald Eagle Workgroup (GYEBEW). The only area where this mitigation applies is in the Dunoir drainage of the Wind

River Ranger District, on the Parque Creek/Ramshorn allotments. There is a nesting site on private land, within 2 miles of the allotments. This is Zone III habitat.

Zone III - Home Range: This area includes all suitable foraging habitat within 2.5 mi (4 km) of active nest sites³.

Objective--Maintain suitable foraging habitat, prey base, perch and roost sites. Minimize disturbance within key areas and minimize disturbances.

Human activities should be designed and regulated to minimize disturbance and avoid conflicts with bald eagle key use areas.

Human activity should not reach a level where cumulative effects decrease habitat suitability. Implement through annual instructions to permittee. (FS)

Habitat alterations should be designed to ensure that prey base and important habitat components are maintained or enhanced. Implemented through appropriate allowable use guide and grazing system. (P) (FS)

Pesticides should not be used in a manner that pose a hazard to bald eagles. Implement through project level NEPA. (FS)

Structures that pose a hazard should be located and designed to minimize or avoid risk of injury to bald eagles or their prey. Implement through project level NEPA. (FS)

The Montana Best Management Practices (BMP) for Forestry can provide guidelines for the preservation of water quality and fish and waterfowl prey bases. Implement through application of riparian guides. (P) (FS)

Permittees will be made aware of the potential for disturbance to breeding and nesting eagles and will be directed to schedule roundup activities later in the nesting period and away from nest sites where applicable. Implement through annual instructions to permittee. (FS)

The following activities will be considered in cumulative effects analysis for any proposed activities within 2.5 miles of bald eagle nests.

- Identify factors that influence productivity and attempt to reduce their limiting effect. (FS)
- Assess recreation levels within and adjacent to occupied and potential breeding territories. (FS)
- Identify existing and potential developments (private and public) within breeding territories. (FS)
- Identify special hazards such as power lines and pesticide use. (FS)
- Identify activities affecting feeding area and prey base needs (i.e. reduction of perch habitat, whirling disease affects on fisheries). (FS)

Utilization levels in key riparian areas adjacent to bald eagle nests will be monitored to assess habitat condition. Implement appropriate riparian guides. (FS) (P)

C. Other

1. Transitory Range: (P) (FS)

Where livestock are using transitory range in clearcuts within the suitable timber base, maximum grazing use will be:

Key shrubs 20% of current growth

Grasses 40-50% of current growth

Forbs 20% of total production

The assumption is made that adherence to the applicable allowable use guide(s) will result in meeting this guide.

2. Aspen Management:

- (a) Closely manage grazing by domestic stock in treated aspen stands until regeneration is 6 feet tall. The assumption is made that adherence to the applicable allowable use guide(s) will result in meeting this guide. (P)
- (b) Where there has been manipulation to induce aspen regeneration, do not allow aspen seedlings to be grazed by livestock more than one out of three years. Implement through annual instructions to the permittee. (FS)
- (c) Adjust the number and/or season of use for permitted livestock to provide sufficient forage for wildlife, especially on winter range, and protect areas under treatment to attain vegetation diversity objectives. Implemented through the appropriate grazing system (FS) and allowable use guide(s) (P).

3. Watershed, Riparian and Fisheries:

- (a) Remove livestock from the grazing unit when any one of these criteria is reached:

Limit utilization of herbaceous species to 40-50 percent of weight which is generally equivalent to an average stubble height of 3-4 inches on Carex on spring use pastures and 4-6 inches in summer/fall pastures. (P, FS).

Stream bank disturbance (hoof action, trampled banks, exposed soils) from current year's livestock grazing reaches 20%-25% on the key area stream reach. This measure does not apply to high gradient and/or boulder dominated streams that are very resilient to stream bank damage. In these instances, riparian vegetation will be impacted before stream banks (P) (FS).

Limit utilization of woody plants to 15-20% of current annual growth (FS) (P)

- (b) Avoid season long grazing in riparian pastures. Implement short duration spring grazing, where possible, to provide greater opportunity for re-growth and lower utilization of browse. (FS).
- (c) Control the length of the grazing period in spring-use riparian pastures to minimize utilization of re-growth. This should not exceed 30 days or go beyond August 1 (FS).

(d) In riparian areas with deteriorated range where conditions are not likely to improve with existing livestock grazing, more extraordinary mitigation may be needed. In severe cases, total rest for a specified period of time should be implemented (FS).

(e) Prohibit trailing of livestock along the length of riparian areas except where existing stock driveways occur (P) (FS). Rehabilitate existing stock driveways where damage is occurring in riparian areas. Relocate them outside riparian areas if possible, and if necessary to achieve riparian areas goals (FS).

4. Winter Range

(a) Utilization will not exceed 40% (by weight) on riparian or upland vegetation on crucial winter range areas for elk, bighorn sheep, and moose, or alternatively, utilization will not exceed leaving less than a 4 inch stubble height (P) (FS). Utilization measurements will be made on key areas and must be taken within a week of the time livestock are moved from the pasture or unit.

5. Sensitive Species:

(a) *Yellowstone cutthroat trout*: The application of appropriate allowable use and riparian guides should meet mitigation needs for this species. (P) (FS)

(b) *Boreal Toad*: The application of appropriate allowable use and riparian guides should meet the mitigation needs for this species. If surveys identify an active breeding zone, the mitigation measures contained in the BE will be followed as appropriate. (FS)

(c) *Leopard Frog*: The application of appropriate allowable use and riparian guides should meet mitigation needs for this species. (P) (FS)

(d) *Water Vole*: The application of appropriate allowable use and riparian guides should meet the mitigation needs for this species. (P) (FS)

(e) *Ferruginous Hawk*: The application of appropriate allowable use guides should meet mitigation needs for this species. (P) (FS).

(f) *Burrowing Owl*: The application of appropriate allowable use guides should meet the mitigation needs for this species. (P) (FS).

(g) *Upland Sandpiper*: The Forest offers very limited habitat possibilities for this species. The application of appropriate allowable use and riparian guides should meet possible mitigation needs. (P) (FS)

(h) *Long-billed Curlew*: The Forest offers very limited habitat possibilities for this species. The application of appropriate allowable use guides should meet possible mitigation needs. (P) (FS)

(i) *Mountain Plover*: The application of livestock grazing and the appropriate allowable use guide should meet the mitigation needs for this species. (P) (FS)

6. Gray Wolf

A permittee may chase wolves away from livestock in a manner in which wolves will not be injured. If livestock depredation occurs, Animal Damage Control should be contacted in Cheyenne at 307-261-5336. In the future, once more than 6 packs are established, the

permittee may be granted a permit by the U.S. Fish and Wildlife Service (406-449-5525) to remove a problem wolf. Any wolf deaths must be reported to the U.S. Fish and Wildlife Service within 24 hours. Three criteria will be used by the agencies to determine the status of problem wolves. They include: 1) clear evidence that wounded or dead livestock was attacked/killed by a wolf, 2) no improperly disposed livestock carcasses are located in the area as these will serve as attractants, and 3) animal husbandry practices identified in allotment management plans and annual operating plans have been followed. (P) (FS)

7. American Peregrine Falcon

The following measures, which were taken from the American Peregrine Falcon Recovery Plan (APFRP), will be applied to ensure the continued recovery of the Peregrine falcon.

(a) Determine, maintain and protect existing and potential habitat for population continuance and expansion.(APFRP #1) The application of the allowable use guide will provide for the habitat needs of this species. (P)

(b) Maintain and upgrade suitable habitats to insure they remain attractive to peregrines.(APFRP # 12) The application of grazing systems and the allowable use guide will provide for the habitat needs of this species. (P)

(c) Eliminate unfavorable land use activities and public disturbances of key habitats. (APFRP # 123) Implement through normal administration of permit activities such as annual instructions. (FS)

(d) Prohibit land use practices and development which alter or eliminate the character of the hunting habitat, prey base within 10 miles and the immediate habitats within 1 mile of the nesting cliff.(APFRP # 1221) Implement through normal administration of permit activities such as annual instructions. (FS)

(e) Prohibit disturbances and human activities between 1 February and 1 August (in excess of those which have historically occurred at the sites) which occur within 0.5 miles of the nesting cliff(s).(APFRP # 1222) Implement through annual instructions to permittee. (FS)

(f) Prohibit use of pesticides and other environmental pollutants which are harmful and would accumulate in the peregrine or its food source.(National std # 1223) Outside scope???? Implement through project level NEPA. (FS)

8. Heritage:

In the case of known heritage (cultural) resource sites.

It is prohibited to dig into, excavate, disturb, injure, destroy, and in any way knowingly damaging any prehistoric, historic, or archaeological resource, structure, site, artifact or property. It is further prohibited to remove any prehistoric, historic, or archaeological resource, structure, site, artifact, or property. Information shared regarding location of such resources, structures, sites, artifacts, or properties is to be considered confidential and not to be released to the general public. This provision is also applicable to ceremonial sites. (FS) (P)

In the event of unanticipated discoveries.

In the event that previously unidentified cultural resources are discovered during any permit activities, care shall be exercised by the permittee and the Forest Service to ensure that such finds are not disturbed. The permittee shall inform the authorized Forest Service of a

discovery(s) as soon as is possible. The Forest Service shall expeditiously implement measures and procedures to evaluate the significance of such a find. If the subject cultural resource(s) is determined to be significant, the Forest Service shall prescribe and implement appropriate action(s) to preserve or conserve the subject resource(s). The permittee shall not continue with any activity that may disturb the discovery until permission to proceed is received from the Forest Service. (FS) (P)

9. Native American Cultures:

Permittee will not restrict or attempt to restrict Native American access to traditional ceremonial sites or other areas connected with traditional cultural activities. Where there are questions, conflicts or potential conflicts regarding such access, the permittee will contact the Forest Service to allow for consultation to resolve these conflicts. (P)

10. Miscellaneous:

These measures are included as a part of this analysis because they are within the scope of the decision to be made, and when applied to the permit, will directly or indirectly aid in reducing the environmental effects of grazing below the level of significance and maintain or move the allotment toward desired condition.

(a) Predator Control

The permittee and/or his employees shall not use or place poison or devices for predator control on the National Forest. Predator or Trophy animal predation control actions will be carried out by the Wyoming Game and Fish Department or the U.S. Department of Agriculture, whichever has the responsibility for the offending species. If predation problems arise, the permittee shall immediately notify the Forest Service and the appropriate agency. (P)

(b) Supplemental forage.

Only pellets and rolled grains are allowed in Wilderness areas. Alfalfa cubes are allowed in wilderness if certified weed free. On National Forest outside wilderness, only certified weed free hay, straw or mulch is allowed to be used or stored. Pellets or certified weed free cubes are also allowed outside Wilderness. (P)

(c) Range Readiness

The permittee will not enter the allotment or National Forest until the Shoshone National Forest range readiness guides are met. The Forest Service and the Permittee will be responsible for determining range readiness. (P) (FS)

(d) Unless otherwise approved, Locate salt at least 400 yards from perennial surface water and natural lakes and ponds. (P)

IV. Monitoring

There are two kinds of monitoring designed into this EA: implementation and effectiveness. Implementation monitoring determines if the project, including the mitigation, was implemented as intended. Effectiveness monitoring determines if project implementation, including the mitigation, accomplished what was intended. Minimum monitoring requirements common to all selected alternatives include:

Appendix H Bibliography

A. Forest Service (FS):

A Forest Service Interdisciplinary Team will review at least one allotment on both the north and south zones of the Forest annually to review grazing activities. The review will assess permit administration, implementation and effectiveness of the mitigation measures, other land uses that may be influencing the management of the allotment, and overall general trend and condition. Additionally, the Forest Service will check selected allotments and units for compliance through the normal range administration program of work.

B. Permittee (P)

Through self monitoring, the permittee will assure the terms and conditions of the permit are followed.

C. Forest Service, permittees and other participants or interests (FS)

Over time, representative key areas will be established by the Forest Service on all allotments to determine range condition and trend, and serve other monitoring purposes. Affected permittees and other interested parties will be encouraged to participate in this process. Key areas will be delineated on the ground, mapped and included in the permit/AMP. Where possible, benchmark/reference areas that represent desired conditions will be established for comparative purposes.

Forest range monitoring will focus on establishing key areas, monitoring utilization, and resource impacts especially in riparian areas. Where applicable, we will determine livestock versus wildlife grazing use, address vacant allotments, and trespass cattle.

The Region 2 Rangeland Analysis and Management Training Guide and other appropriate monitoring tools will be used to validate existing condition and trend, and determine if desired conditions are being achieved. After establishment of key areas and initial data collection, follow-up monitoring will be conducted to determine if mitigation measures are effective and if the allotment is satisfactorily moving towards desired condition.

Monitoring will be developed and prioritized annually. The level of detail and number of allotments monitored in each year will depend on available funding, personnel, and other Forest priorities.

Bighorn National Forest Vegetation Grazing Standards. 1995. Bighorn National Forest, Sheridan, Wyoming.

Bock, C.E., V. Saab, T. Rich and D. Dobkin. 1993 in press. Effects of livestock on neotropical landbirds in western North America. Proc. national training workshop, status and management of neotropical migratory birds. Gen. Tech. Rep. RMR USDA - FS.

Chaney, E., W. Elmore, and W.S. Platts. 1990. Livestock grazing on western riparian areas. U.S. Environmental Protection Agency. In Livestock Management Effects on Wildlife, Fisheries and Riparian Areas - A Selected Literature Review by Steve Anderson, Humboldt National Forest May, 1993.

Clary, Warren P., and Bert F. Webster. 1989. Managing grazing of riparian areas in the Intermountain Region. Gen. Tech. Rep. INT-263. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 11 pp.

Coggins, V. L. 1988. The Lostine Rocky Mountain Bighorn Sheep Die-off and Domestic Sheep. In Proc. Sixth Biennial Symposium; Northern Wild Sheep and Goat Council. W.M. Samuel Editor. 57-64.

Cody Area Big Game Winter Range Analysis Study, WGFD, B. Kroger, 1993.

Kauffman, J.B. and W.C. Krueger. 1984. Livestock impacts on riparian plant communities and streamside management implications, a review. J. Range Management 37 (5): 430-437.

Knight, Mountains and Plains, 1994. The Ecology of Wyoming Landscapes.

Kruse, C.G. 1995. Genetic purity, habitat, and population characteristics of Yellowstone cutthroat trout in the Greybull River Drainage, Wyoming. Master's Thesis, University of Wyoming, Zoology and Physiology Dept.

Meehan, William, 1991. Influences of Forest and Rangeland Management. American Fisheries Society Special Publication 19.

Range Analysis Handbook, Rocky Mountain Region, U.S. Forest Service, 1986.

Rangeland Analysis and Management Training Guide, Rocky Mountain Region, U.S. Forest Service, 1994.

Shoshone National Forest. 1986. Final Environmental Impact Statement and Forest Plan.

Shoshone National Forest Range Data. Forest Supervisor's Office and District 2200 files.

USDA Forest Service. 1992. Shoshone National Forest Oil and Gas Leasing EIS.

USDA Forest Service. 1994. Shoshone National Forest Allowable Sale Quantity EIS.

Wyoming Department of Environmental Quality, Water Quality Division. 1994 Wyoming Water Quality Assessment, 1994.

Wyoming Department of Environmental Quality, Water Quality Division. Water Quality Rules and Regulations, Chapter 1, 1990.