

United States
Department of
Agriculture

Forest
Service

November 2003



Rangeland Allotment Management Planning on the Pine Ridge Geographic Area Draft Environmental Impact Statement

USDA Forest Service, Nebraska National Forest, Pine Ridge Ranger District,
Dawes and Sioux County, Nebraska



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Draft Environmental Impact Statement

Rangeland Allotment Management Planning Pine Ridge Geographic Area

Dawes and Sioux County, Nebraska

Lead Agency: USDA Forest Service

Responsible Official: CHARLES R. MARSH
District Ranger
1240 W. 16th Street, Chadron, NE 69337
308-432-4475

For Information Contact: JEFFREY S. ABEGGLEN, PROJECT LEADER
Pine Ridge Ranger District
1240 W. 16th Street, Chadron, NE 69337
308-432-4475

Abstract: This Environmental Impact Statement (EIS) will compare the existing conditions on the 34 grazing allotments in the Pine Ridge Geographic Area (PRGA) with the desired conditions relative to the goals, objectives, standards and guidelines contained within the Nebraska National Forest Land and Resource Management Plan (LRMP). This comparison will identify any differences between the existing and desired conditions, and establish the need for the project.

The purpose of the project is to address the established need by determining whether to continue to permit livestock grazing on all, or part, of the 34 grazing allotments in the project area, and under what conditions, if grazing is to be continued.

Preliminary scoping was conducted and several issues were developed from this outreach. They include: economic effects; effects on natural ecosystems; and effects on recreational activities and/or experiences.

From these issues, three alternatives were developed for consideration. They are 1) No grazing; 2) No change with current management; and 3) Allow grazing with incorporating adaptive management strategies. Alternative 3 has been identified as the preferred alternative. It proposes to continue to permit livestock grazing on 33 of the 34 allotments within the Pine Ridge Geographic Area (PRGA), while meeting Land and Resource Management Plan (LRMP) direction which provides for a wide range of values and uses. The proposed action is designed to improving the trends in vegetation, watershed conditions, and in ecological sustainability relative to livestock grazing within the PRGA.

Reviewers should provide the Forest Service with their comments during the review period of the draft environmental impact statement. This will enable the Forest Service to analyze and respond to the comments and to use information acquired in the preparation of the final environmental impact statement. Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers' position and contentions. (*Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978)). Comments or concerns that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement. *City of Angoon v. Hodel* (9th Circuit, 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Only those who submit timely and substantive comments will be accepted as appellants. Comments on the draft environmental impact statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3). Comments submitted in electronic format must be in either a Microsoft Word format (.doc file extension) or in Rich Text Format (.rtf file extension). For appeal eligibility each individual or representative from each organization submitting substantive comments must either sign the comments or verify identity upon request.

Send Comments to:

JEFFREY S. ABEGGLEN, PROJECT LEADER
Nebraska National Forest
Pine Ridge Ranger District
1240 W. 16th Street, Chadron, NE 69337

Comments can also be emailed to: comments-rocky-mountain-nebraska-pine-ridge@fs.fed.us

Comments will be accepted for 45 days following the date of publication of the Notice of Availability (NOA) in the Federal Register.

SUMMARY

The Nebraska National Forest proposes to continue to permit livestock grazing on 33 of the 34 allotments within the Pine Ridge Geographic Area (PRGA), while meeting Land and Resource Management Plan (LRMP) direction which provides for a wide range of values and uses. The proposed action is designed to improve the trends in vegetation, watershed conditions, and in ecological sustainability relative to livestock grazing within the PRGA.

The area affected by the proposal encompasses about 50,529 acres of National Forest System lands in northwestern Nebraska. The topography of the area is dominated by the Pine Ridge, an escarpment of sandstone bluffs that extends just beyond the border in Wyoming, through northwestern Nebraska, then into southwestern South Dakota. The Pine Ridge is characterized by extensive growth of ponderosa pine, with some small inclusions of quaking aspen. Drainages flow mainly toward the north (except for South, Middle, and North Forks of Soldier Creek, which flow to the southeast) into the White River. Vegetation consists of a grass/forest mix dominated by ponderosa pine, cool-season and warm-season grasses, and a variety of forbs. Areas of open coniferous forest/grassland (savannah) also make-up this geographic area. Open grassland (parkland) areas are frequently found throughout the forested area. The woody draw and riparian woodland habitats comprises a small portion of the geographic area but are considered critical for many wildlife species. The primary creeks and drainages include Bordeaux, Chadron, Dead Horse, Indian, Cunningham, East Ash and West Ash. Soldier Creek Wilderness includes the North, Middle, and South Forks of Soldier Creek. The wetland/aquatic habitat provides a cold-water brown and brook trout recreational fishery.

The Forest Service will compare the existing conditions on the 34 allotments in the project area with the desired conditions relative to the goals, objectives, standards and guidelines contained within the LRMP. This comparison will identify any differences between the existing and desired conditions, and establish the need for the project.

Two primary influences help to shape the need for this project. 1) The Rescission Act of 1995 (P.L. 104-19, Section 504) directed the Forest Service to complete NEPA analysis on all grazing allotments. 2) The revised LRMP establishes goals, objectives, standards, and guidelines for resource management on the Nebraska National Forest and Associated Units. This analysis will comply with the above direction.

A preliminary scoping letter was sent to interested parties on March 7, 2003. This letter asked for public comments from March 7 to April 7, 2003 on the proposal. The project was also identified in the Schedule of Proposed Actions (SOPA) for the Nebraska National Forest. The Notice of Intent (NOI) was published in the Federal Register on June 19, 2003. The NOI officially asked for public comments concerning the scope of the analysis from June 19 to July 19, 2003. Comments received from the initial scoping effort (March 7, 2003) and the NOI revealed the following social and environmental issues. These issues are as follows:

- 1) Changes in livestock management strategies will impact the financial well-being of the permittees and the local economies.

- 2) Livestock grazing negatively impacts natural ecosystems. This includes over utilization of native upland grasslands and desirable nonnative plant communities, resulting in negative impacts to animal communities; reducing riparian and wooded draw plant regeneration; reducing ponderosa pine forest regeneration; lack of grazing will increase areas of hazardous fuels; and livestock grazing will impact habitats of threatened, endangered, sensitive, management indicator, and local concern species.
- 3) Livestock grazing negatively impacts recreational activities and experiences because of associated structures (fences, gates, etc) impede recreationist travel.

These issues led to the development of alternatives, which include:

- No Action – No Livestock Grazing.
- No Change – Livestock Grazing under Current Allotment Management Plans - Livestock grazing would be implemented under current allotment management plans. This alternative would require an amendment to the current LRMP.
- The Proposed Action – Livestock Grazing using Adaptive Management - Current LRMP direction would continue to guide management of the project area. Livestock grazing would be implemented incorporating adaptive management to meet the LRMP goals, objectives, standards, and guidelines.

Major conclusions include:

- Economic and social impacts will be limited on a large-scale basis. Individual permittees may be financially impacted.
- There may be impacts to the following resources, cultural, paleontological, wildlife, and the economy, but by implementing management requirements and as listed in the proposed action, and adaptive management strategies, these impacts will be limited or avoided.
- Incorporating user-friendly management strategies will reduce recreational impacts.
- LRMP standards and guidelines have been addressed for compliance.

TABLE OF CONTENTS

SUMMARY III

INTRODUCTION..... 11

 DOCUMENT STRUCTURE 11

CHAPTER 1. PURPOSE AND NEED FOR ACTION 13

 1.1 INTRODUCTION 13

 1.2 PROPOSED ACTION 13

 1.2.1 *Develop AMPs Consistent with the Nebraska LRMP Direction..... 14*

 1.3 SITE-SPECIFIC PURPOSE AND NEED 14

 1.4 SCOPE OF THE ANALYSIS 28

 1.4.1 *Geographic Scope..... 28*

 1.4.2 *Temporal Scope 28*

 1.4.3 *Administrative Scope 29*

 1.5 DECISION FRAMEWORK 29

 1.6 PUBLIC INVOLVEMENT..... 30

 1.7 KEY AND NON-KEY ISSUES 30

 1.8 OTHER RELATED EFFORTS..... 31

CHAPTER 2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION..... 33

 2.1 INTRODUCTION 33

 2.2 ALTERNATIVES CONSIDERED..... 33

 2.2.1 *Alternative 1..... 33*

 No Action – No Livestock Grazing 33

 2.2.2 *Alternative 2..... 33*

 No Change – Livestock Grazing under Current Allotment Management Plans... 33

 2.2.3 *Alternative 3..... 33*

 The Proposed Action – Livestock Grazing using Adaptive Management..... 33

 2.3 THE PROPOSED ACTION ALTERNATIVE CONSIDERED IN DETAIL 34

 2.3.1 *Proposed Action..... 34*

 2.3.2 *General Management Requirements..... 61*

 2.3.3 *LRMP Guideline Deviation..... 61*

 2.3.4 *Meeting LRMP Direction Objectives, Standards and Guidelines 63*

 2.3.5 *Monitoring Strategy..... 63*

 Short-Term Monitoring (Implementation Monitoring) 63

 Long-term Monitoring (Effectiveness Monitoring)..... 64

 2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY 66

 2.5 COMPARISON OF ALTERNATIVES CONSIDERED 68

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 81

 3.1 INTRODUCTION 81

 3.2 WATER RESOURCES..... 81

 3.2.1 *Water - Affected Environment..... 81*

 3.2.2 *Alternative 1 – No Action – No livestock Grazing..... 83*

 Direct and Indirect Effects 83

3.2.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	83
Direct and Indirect Effects.....	83
3.2.4 Alternative 3 – Livestock Grazing using Adaptive Management.....	83
Direct and Indirect Effects.....	83
3.3 RIPARIAN RESOURCES	83
3.3.1 Affected Environment.....	83
3.3.2 Alternative 1 – No Action – No livestock Grazing.....	85
Direct Effects and Indirect Effects.....	85
3.3.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	88
Direct Effects and Indirect Effects.....	88
3.3.4 Alternative 3 – Livestock Grazing using Adaptive Management.....	90
Direct Effects and Indirect Effects.....	90
3.4 ARCHEOLOGICAL RESOURCES	93
3.4.1 Affected Environment.....	93
3.4.2 Alternative 1 – No Action – No livestock Grazing.....	96
Direct Effects and Indirect Effects.....	96
3.4.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	96
Direct Effects and Indirect Effects.....	96
3.4.4 Alternative 3 – Livestock Grazing using Adaptive Management.....	96
Direct Effects and Indirect Effects.....	97
3.5 PALEONTOLOGICAL RESOURCES.....	97
3.5.1 Affected Environment.....	97
3.5.2 Alternative 1 – No Action – No livestock Grazing.....	98
Direct Effects and Indirect Effects.....	98
3.5.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	99
Direct Effects and Indirect Effects.....	99
3.5.4 Alternative 3 – Livestock Grazing using Adaptive Management.....	99
Direct Effects and Indirect Effects.....	99
3.6 FORESTED RESOURCES AND FIRE/HAZARDOUS FUELS	99
3.6.1 Affected Environment.....	99
3.6.2 Alternative 1 – No Action – No livestock Grazing.....	103
Direct & Indirect Effects.....	103
3.6.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	104
Direct & Indirect Effects.....	104
3.6.4 Alternative 3 – Livestock Grazing using Adaptive Management.....	105
Direct & Indirect Effects.....	105
3.7 SOIL & RANGELAND RESOURCES	106
3.7.1 Affected Environment.....	106
3.7.2 Alternative 1 – No Action – No livestock Grazing.....	108
Direct and Indirect Effects.....	109
3.7.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans.....	109
Direct and Indirect Effects.....	109

3.7.4 <i>Alternative 3 – Livestock Grazing using Adaptive Management</i>	110
Direct and Indirect Effects	110
3.8 THREATENED, ENDANGERED, CANDIDATE, FOREST SERVICE SENSITIVE SPECIES, AND OTHER WILDLIFE SPECIES.....	112
3.8.1 <i>Affected Environment</i>	112
3.8.2 <i>Effects of All Alternatives</i>	120
Direct Effects and Indirect Effects.....	120
3.9 RECREATION	125
3.9.1 <i>Affected Environment</i>	125
3.9.2 <i>Alternative 1 – No Action – No livestock Grazing</i>	127
Direct and Indirect Effects	127
3.9.3 <i>Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans</i>	128
Direct and Indirect Effects	128
3.9.4 <i>Alternative 3 – Livestock Grazing using Adaptive Management</i>	129
Direct and Indirect Effects	129
3.10 SOCIAL & ECONOMIC FACTORS.....	130
3.10.1 <i>Affected Environment</i>	130
3.10.2 <i>Alternative 1 – No Action – No Livestock Grazing</i>	135
Direct Effects and Indirect Effects.....	135
3.10.3 <i>Alternative 2 – No Change – Livestock Grazing under Current Allotment Management Plans</i>	136
Direct and Indirect Effects	136
3.10.4 <i>Alternative 3 – Livestock Grazing using Adaptive Management</i>	136
Direct Effects and Indirect Effects.....	136
3.11 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY	137
3.12 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES.....	137
3.13 CUMULATIVE EFFECTS.....	137
3.13.1 <i>Effects Common to All Alternatives</i>	137
3.13.2 <i>Alternative 1 – No Action Cumulative Effects</i>	140
3.13.3 <i>Alternative 2 – No Change Cumulative Effects</i>	141
3.13.4 <i>Alternative 3 – Grazing with Adaptive Management Cumulative Effects</i> ...	143
3.14 OTHER REQUIRED DISCLOSURES	144
CHAPTER 4. LISTS.....	145
INCLUDING PREPARERS, SCOPING, BIBLIOGRAPHY, AND ACRONYMS	145
4.1 PREPARERS AND CONTRIBUTORS	145
4.2 SCOPING	146
4.2.1 <i>Scoping - Consulted Agencies, Tribes, Organizations and Individuals</i>	146
FEDERAL, STATE, AND LOCAL AGENCIES:	146
TRIBES:	146
ORGANIZATIONS	146
OTHERS CONSULTED:	147
4.3 BIBLIOGRAPHY	149
4.4 ACRONYMS	155
4.4 INDEX.....	157
APPENDICES.....	159

APPENDIX A.....	159
<i>LRMP Direction (Objectives, Standards and Guidelines) Compliance</i>	159
APPENDIX B.....	173
<i>Allotment Management Summary</i>	173
ALT. 2. CURRENT CONDITION	175
Aristocrat Butte.....	183
Aspen	187
Barrel Butte.....	189
Big Bordeaux	193
Brickner.....	197
Chadron Creek	201
Cherry Creek.....	205
Collons	209
Dairy	213
Deadhorse	217
Deadman	221
East Ash	223
Flannigan Butte.....	227
Gobbler	231
Hallsted	235
Homestead.....	239
Horseshoe.....	241
Kings Canyon.....	243
Little Creek	247
Lower Sawlog	251
Rattlesnake Butte	255
Roberts	259
Rock Canyon.....	263
Sandy Trail.....	265
School Section	267
Scott	269
Slicker	273
Soldier Creek	277
Steffensen.....	281
Strong Canyon	283
Table Road	287
Trunk Butte.....	291
West Ash.....	295
Wetterstrom.....	299
APPENDIX C.....	303
<i>Glossary</i>	303

List of Tables

Table 1-1 Allotments (Management Units) in the PRGA	14
Table 1-2 LRMP Desired Condition for Resource Ecosystems	15
Table 1-3 Comparison of Conditions Establishing the Need for the Project.....	17
Table 2-1 Grazing Management Toolbox	34
Table 2-2 Proposed Actions by Allotment/Management Unit	36
Table 2-3 Comparison of Alternatives.....	68
Table 3-1. Riparian Conditions Under Alternative 1	86
Table 3-2 Riparian Conditions Under Alternative 2	88
Table 3-3 Riparian Conditions Under Alternative 3	90
Table 3-4 Summary of Heritage Resource Inventories - Percent of Allotment Surveyed.....	94
Table 3-5 Known Heritage Resources Within the Project Area	95
Table 3-6 Distribution of vegetative structural stages (VSS).....	100
Table 3-7 Percent of Existing Plant Species Composition in the PRGA	108
Table 3-8 Estimated Percent of Vegetative Grass Structure in the PRGA.....	108
Table 3-9 Reptiles and Amphibians on the Pine Ridge region.....	112
Table 3-10 Breeding birds in the Pine Ridge Region.....	113
Table 3-11 Fish species in or near the project area.....	114
Table 3-12 Mammal species known or suspected to occur on or near the project area*	115
Table 3-13 Federally listed species considered for analysis	117
Table 3-14 Region 2 Forest Service sensitive species considered for analysis	117
Table 3-15 Management Indicator Species on the planning area	119
Table 3-16 Additional priority species of local interest considered for analysis	119
Table 3-17 Species analyzed for Pine Ridge allotment management plan.....	120
Table 3-18 Determinations for USFS Sensitive Species	123
Table 3-19 Estimate of Existing Grassland Structure for the Pine Ridge Geographic Area	124
Table 3-20 Projected effects of alternatives for sharp-tailed grouse on the project area.....	124
Table 3-21 Impacts of alternatives on priority species.....	125
Table 3-22 Population and Housing Statistics for Nebraska and Dawes County	131
Table 3-23 Annual Average Employment.....	132
Table 3-24 Employed Civilian Population by Industry.....	133
Table 3-25 Annual earnings by category for Dawes County and Nebraska by Dollars.....	133
Table 3-26 Components of total personal income for the US, Nebraska and Dawes County, 1999 (by percentage).....	134
Table 3-27 Estimated Revenues from Grazing Fees.....	135
Appendix B. Table 1. Comparison Between Alternative 2 - Current Condition and Alternative 3 - Proposed Action	175
Appendix B. Table 2. Total AUMs by Allotment and Change by Alternative.....	181

INTRODUCTION

Document Structure

How to Read this EIS Document. The Forest Service has prepared this Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters. Chapters 1 and 2 are summaries while Chapter 3 contains detailed supporting information.

- *Chapter 1. Purpose and Need for Action:* This chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on key issues raised by the public and other agencies. This discussion may also include mitigation or management requirements. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences:* This chapter describes the environmental effects of implementing the proposed action and other alternatives. Resource areas, including soil, water, air, archeology, paleontology, fire/hazardous fuels, forest, rangeland, wildlife, threatened, endangered, and sensitive species, recreation, and social and economical factors are listed here.
- *Chapter 4. Lists:* This chapter provides a list of: preparers; agencies, tribes, organizations, and individuals consulted during the development of the environmental impact statement; bibliography; and acronyms.
- *Index:* The index provides page numbers by document topic.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Pine Ridge Ranger District office.

Note: LRMP page references may or may not exactly conform to the initial CD version or the printed-paper version page numbers.

CHAPTER 1. PURPOSE AND NEED FOR ACTION

1.1 Introduction

The 2001 revision of the Nebraska National Forest Land and Resource Management Plan (LRMP), also known as the “Forest Plan”, identifies livestock grazing as an appropriate multiple use under certain conditions described as standards and guidelines. Term grazing permits currently authorize cattle grazing on 34 allotments within the Pine Ridge Geographic Area (PRGA), which includes all national forest lands in the Pine Ridge between Bordeaux Road east of Chadron, Nebraska and Soldier Creek Wilderness west of Ft. Robinson, near Crawford, Nebraska.

Two primary influences help to shape the need for this project. 1) The Rescission Act of 1995 (P.L. 104-19, Section 504) directed the Forest Service to complete NEPA analysis on all grazing allotments. 2) The revised LRMP establishes goals, objectives, standards, and guidelines for resource management on the Nebraska National Forest and Associated Units. This analysis will comply with the above direction.

The Forest Service will compare the existing conditions on the 34 allotments in the project area with the desired conditions relative to the goals, objectives, standards and guidelines contained within the LRMP. This comparison will identify any differences between the existing and desired conditions, and establish the need for the project.

The purpose of the project is to address the established need by determining whether to continue to permit livestock grazing on all, or part, of the 34 allotments in the project area, and under what conditions, if grazing is to be continued.

1.2 Proposed Action

The proposed action is to continue to permit livestock grazing by incorporating adaptive management strategies on 33 of 34 allotments within the PRGA, while meeting LRMP direction which provides for a wide range of values and uses. The proposed action is designed to improving trends in vegetation, watershed conditions, and in ecological sustainability relative to livestock grazing within the PRGA. The proposal generates the need to develop new allotment management plans (AMPs), which incorporate results from scientific research, analysis and documentation, and meet LRMP direction.

Collectively these 34 allotments contain approximately 50,529 acres of National Forest System (NFS) lands. Private lands within the allotment are those acres that are managed in the same manner as the Federal acres. However, the private landowner can fence these areas separate from NFS lands as they choose, and exclude them from Federal management. Therefore this document discloses affects that only address NFS lands.

Chapter 2 presents a more detailed description of the proposed action.

The project area is located in Dawes and a small portion of Sioux County, Nebraska. Map 1-1 displays the project area and the 34 allotments on the PRGA.)

Table 1-1 illustrates the allotments in the PRGA. The allotment name and management unit identifier (i.e. PR28) has been listed to help the reader identify specific areas of interest.

Table 1-1 Allotments (Management Units) in the PRGA

Allotments (Management Units) in the Pine Ridge Geographic Area	
Aristocrat Butte (PR28)	King's Canyon (PR33, PR61)
Aspen (PR11)	Little Creek (PR12S, PR12W)
Barrel Butte (PR60A, PR60B, PR60)	Lower Sawlog (PR0, PR01, PR4)
Brickner (PR38)	Rattlesnake Butte (PR25)
Big Bordeaux (PR37N, PR37S, PR37E)	Roberts (PR17, PR17E, PR17W, PR17N)
Chadron Creek (PR24A-F)	Rock Canyon (PR5)
Cherry Creek (PR51, PR51A)	Sandy Trail (PR27)
Collons (PR35, PR35N, PR35M, PR35S)	School Section (PR34)
Dairy (PR6, PR7)	Scott (PR44, PR46)
Deadhorse (PR20, PR20A)	Slicker (PR30A, PR30B, PR30C)
Deadman Creek (PR52E, PR52W)	Soldier Creek (PR53NW, PR53NE, PR53SW, PR53SE)
East Ash (PR14, PR15, PR16)	Steffensen (PR21, PR22)
Flannigan Butte (PR26, PR47)	Strong Canyon (PR41W, PR41M, PR41E)
Gobbler (PR39, PR40, PR43)	Table Road (PR13, PR15A)
Hallsted (PR42A-D)	Trunk Butte (PR19N, PR19S, PR18)
Homestead (PR29)	West Ash (PR8, PR9, PR10, PR11A)
Horseshoe (PR1N, PR1S, PR1AN, PR1AS)	Wetterstrom (PR31W, PR31M, PR31E)

1.2.1 Develop AMPs Consistent with the Nebraska LRMP Direction.

In accordance with FSM 2210, AMPs will consist of four elements designed to move the allotment towards the desired condition. These are: (1) Objectives; (2) Management Requirements; (3) Improvements Needed; and (4) Monitoring and Evaluation Standards.

The proposed action addresses each of these elements in Appendix B. A complete AMP will be developed incorporating the decision(s) made from this document. The revised AMPs will be prepared for individual allotments and implementation will begin in fiscal year 2004.

1.3 Site-Specific Purpose and Need

The following table illustrates the LRMP (Chapter 2) desired condition for each general resource ecosystem found within the Pine Ridge Geographic Area.

Table 1-2 LRMP Desired Condition for Resource Ecosystems

Resource Ecosystem	Desired Condition (LRMP Pg 2-83)
Ponderosa Pine Forest	Healthy, sustainable yields, old growth communities, and standing and down snags across forested areas.
Parklands (grass uplands)	Mixed grass and forb communities providing a mosaic of varying grassland vegetative structure levels; principle grass species include western wheatgrass, green needlegrass, little bluestem, needleandthread, blue grama, and big bluestem.
Wooded Draws	Multiple layers and age classes of forbs, shrubs, and trees that includes a diverse composition of native species.
Streams and Riparian Areas (including seeps and springs)	Long-term soil productivity and properly functioning water cycles; perpetuating riparian plant communities, emphasize healthy submergent and emergent vegetative cover along streams while reducing sediment levels; plant species include sedges, rushes, willows, green ash, cottonwood, boxelder, and hackberry.

The site-specific purpose and need for the proposed action is to move toward the desired conditions for the resource ecosystems in a manner that is consistent with LRMP objectives, standards and guidelines. Appendix A lists those LRMP objectives; standards and guidelines related to livestock grazing and associated activities. This appendix addresses how the proposed action will meet or address this direction.

Table 1-3 identifies the desired condition, existing condition, and the need for action. Several elements of the desired and existing conditions warrant further detailed discussion to help the reader understand the proposed need for action. They are:

Desired Condition

Vegetative grass structure – vegetative grass structure management on open parkland areas may incorporate a rotational grazing system on the allotment as a whole. Not all the allotment will have the same vegetative grass structure at one time. Specific desired vegetation structures will be rotated between management units throughout the rotation cycle. High vegetative grass structure, generally achieved through a light grazing intensity, will meet management indicator species (sharp-tailed grouse) requirements for quality habitat and upward population trends. Rare plants and communities will benefit from this desired condition. High structure management will promote a diverse vegetative component that will benefit other wildlife species (i.e. wild turkey, raptors, etc). A low vegetative grass structure, generally achieved through a heavy grazing intensity, will provide quality foraging habitat for those species that use low vegetative structure areas, such as the ferruginous hawk and lark bunting.

Hazardous Fuels – Some areas will be managed for a lower vegetative structure component due to the desire to reduce fuel loads, especially in an urban interface mix area.

Bighorn Sheep Management – management in these areas will promote a moderate to high vegetative component and promote a forb component that will maintain or enhance bighorn sheep foraging habitat.

Special Interest Areas (SIA) Management – special interest areas will be protected or managed to maintain or enhance the qualities of the special botanical feature(s).

Existing Condition

Rangeland condition is determined by percent of present climax species. Current rangeland condition is measured in relation to a known potential condition or climax for a particular range site and expressed as percent departure from 100 percent climax vegetation. Species composition described in ecological seral stages (early, early intermediate, late intermediate and late) have been cross-walked from the NRCS rangeland analysis version. The following illustrates rangeland condition class by percent climax community and cross-walked to seral stage:

<u>Condition Class</u>	<u>Percent Climax Community</u>	<u>Seral Stage</u>
Excellent	76 – 100	Late
Good	51 – 75	Late Intermediate
Fair	50 – 26	Early Intermediate
Poor	0 – 25	Early

Rangeland condition (seral stage) was determined from USDA Natural Resource Conservation Service (NRCS) rangeland analysis conducted on the PRGA from 1989 to 1994. General rangeland condition trend was determined by comparing this analysis with rangeland analysis conducted in the early 1960's, 1970's and 1980's.

Those rangeland conditions identified with an * are noted that NRCS rangeland analysis does not take into account introduced species such as Kentucky bluegrass (*Poa pratensis*), crested wheatgrass (*Agropyron cristatum*), and smooth brome (*Bromus inermis*), which exists in these units and accounts for significant amounts of forage. Several management units have a poor rangeland condition rating and a static trend but have a “no need for action”. This is because of the existing introduced species that provides significant amounts of forage.

Riparian/wooded draw and other areas were evaluated using the “Riparian Characteristics Evaluation R2-2200-RCS USFS Rangeland Analysis and Management Training Guide 1996 (USDA 1996) by a four-person team, with wildlife and rangeland management backgrounds, from the U.S. Forest Service and the Nebraska Game and Parks Commission.

Table 1-3 Comparison of Conditions Establishing the Need for the Project

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
Aristocrat Butte (PR28)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions 	<ul style="list-style-type: none"> ▪ Season-long grazing ▪ Wooded draw is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health ▪ Continue wooded draw enhancement
Aspen (PR11)	<ul style="list-style-type: none"> ▪ Forest, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – static ▪ Riparian area is adequately regenerating ▪ Poor boundary fence condition, trespass livestock occurring 	<ul style="list-style-type: none"> ▪ Reconstruct boundary fence
Barrel Butte (PR60)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Spring and associated riparian area are not adequately regenerating, however in upward trend ▪ Spring/riparian area excluded from livestock grazing ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
Barrel Butte (PR60A)	<ul style="list-style-type: none"> ▪ Wooded draw and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Riparian/wooded draw condition is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Continue riparian regeneration enhancement
Barrel Butte (PR60B)	<ul style="list-style-type: none"> ▪ Parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No permitted livestock use. Hardwoods adequately regenerating ▪ Uplands are in early intermediate to late 	<ul style="list-style-type: none"> ▪ No need for action

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
		<ul style="list-style-type: none"> intermediate seral stage Condition trend - moving toward later seral stage 	
Big Bordeaux (PR37N)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Uplands are in late intermediate to late seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action
Big Bordeaux (PR37S)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Riparian area is not adequately regenerating Uplands are in late intermediate to late seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration
Big Bordeaux (PR37E)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Water gap contains degraded riparian area Uplands are in late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration
Brickner (PR38)	<ul style="list-style-type: none"> Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian – wooded draw habitat is adequately regenerating Uplands are in late intermediate seral stage Condition trend - static 	<ul style="list-style-type: none"> No need for action
Chadron Creek (PR24A)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions Reduce hazardous fuels 	<ul style="list-style-type: none"> Uplands are in late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Maintain a moderate to low vegetative grass structure and an Early intermediate to Late intermediate seral stage Stabilize condition trend
Chadron Creek (PR24B)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions Reduce hazardous fuels 	<ul style="list-style-type: none"> Uplands are in early intermediate to late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Maintain a moderate to low vegetative grass structure and an Early intermediate to Late intermediate seral stage Stabilize condition trend
Chadron Creek (PR24C)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions Reduce hazardous fuels 	<ul style="list-style-type: none"> Uplands are in early intermediate to late intermediate seral stage Condition trend - static 	<ul style="list-style-type: none"> Maintain a moderate to low vegetative grass structure and an Early intermediate to Late intermediate seral stage Stabilize condition trend
Chadron Creek (PR24D)	<ul style="list-style-type: none"> Forest and parkland desired 	<ul style="list-style-type: none"> Uplands are in early intermediate seral stage 	<ul style="list-style-type: none"> Maintain a moderate to low vegetative grass

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
	resource conditions ▪ Reduce hazardous fuels	▪ Condition trend - static	structure and an Early intermediate to Late intermediate seral stage ▪ Stabilize condition trend
Chadron Creek (PR24E)	▪ Forest, parkland, and wooded draw desired resource conditions	▪ Wooded draw is in an upward trend ▪ Uplands are in early intermediate to late seral stage ▪ Condition trend - moving toward later seral stage	▪ Maintain continued improvement of wooded draw ▪ Maintain rangeland health and species composition
Chadron Creek (PR24F)	▪ Forest, parkland, and riparian desired resource conditions	▪ Riparian areas adequately regenerating ▪ Uplands are in early to late seral stage ▪ Condition trend – static	▪ Maintain improvement of riparian area
Chadron Creek (Horse Unit)	▪ Forest and parkland desired resource conditions	▪ Uplands are in early* seral stage ▪ Condition trend – static	▪ No need for action
Cherry Creek (PR51)	▪ Forest and parkland desired resource conditions	▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – static	▪ Improve rangeland health and species composition
Cherry Creek (PR51A)	▪ Riparian desired resource conditions	▪ Riparian area is in an upward trend however, rate of regeneration is slow ▪ No permitted livestock use ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage	▪ No need for action
Collons (PR35)	▪ Forest and parkland desired resource conditions	▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage	▪ Improve rangeland health and species composition
Collons (PR35N)	▪ Riparian desired resource conditions	▪ Livestock allowed 1-2 days of use for gathering when moving into or out of the allotment ▪ Riparian area is not adequately regenerating ▪ Uplands are in early* to early intermediate	▪ Enhance and/or promote riparian regeneration

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
		<ul style="list-style-type: none"> seral stage ▪ Condition trend – static 	
Collons (PR35M)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in early* seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ No need for action
Collons (PR35S)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in early* seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ No need for action
Dairy (PR6)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Poor boundary fence condition ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) ▪ Reconstruct boundary fence
Dairy (PR7)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No livestock grazing permitted ▪ Poor boundary fence condition ▪ Riparian is adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) ▪ Reconstruct boundary fence
Deadhorse (PR20)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Wooded draw is adequately regenerating ▪ Riparian area on north end is not adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration ▪ Improve rangeland health and composition
Deadhorse (PR20A)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area is adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Deadman (PR52E)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource 	<ul style="list-style-type: none"> ▪ No permitted livestock assigned to allotment ▪ Uplands are in late 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure)

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
	conditions	intermediate seral stage <ul style="list-style-type: none"> ▪ Condition trend - static 	
Deadman (PR52W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Uplands are in late intermediate seral stage ▪ Condition trend - static 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure)
East Ash (PR14)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are in an upward trend however, rate of regeneration is slow ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Accelerate and promote riparian regeneration ▪ Improve rangeland health and composition
East Ash (PR15)	<ul style="list-style-type: none"> ▪ Forest, parkland, desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and composition
East Ash (PR16)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure ▪ SIA management 	<ul style="list-style-type: none"> ▪ Riparian areas are in an upward trend however, rate of regeneration is slow ▪ SIA Burr Oak exclosure is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Accelerate and promote riparian regeneration ▪ Improve rangeland health and composition (high structure)
Flannigan Butte (PR26)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Spring and riparian area are not adequately regenerating ▪ Wooded draw is not adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Enhance and/or protect spring and riparian area ▪ Enhance and/or protect wooded draw areas
Flannigan Butte (PR47)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages (mostly private land) 	<ul style="list-style-type: none"> ▪ No action needed

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
Gobbler (PR39)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are not adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration ▪ Improve rangeland health and species composition ▪ Promote a moderate to high vegetative grass structure within the allotment
Gobbler (PR40)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian areas are excluded from grazing and are adequately regenerating ▪ Riparian (watergap) condition not adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration in watergap area ▪ Improve rangeland health and species composition ▪ Promote a moderate to high vegetative grass structure within the allotment
Gobbler (PR43)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands in early intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a moderate to high vegetative grass structure within the allotment
Hallsted (PR42A)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian (watergap) condition not adequately regenerating ▪ Uplands are late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration ▪ Promote rangeland health and species composition ▪ Promote a moderate vegetative grass structure within the allotment
Hallsted (PR42B)	<ul style="list-style-type: none"> ▪ Forest, parkland and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Promote rangeland health and species composition ▪ Promote a moderate vegetative grass structure within the allotment
Hallsted (PR42C)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a moderate to high vegetative grass structure within the allotment
Hallsted (PR42D)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a moderate to high vegetative grass structure within the allotment
Homestead (PR29)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
	conditions	<ul style="list-style-type: none"> ▪ Condition trend – static 	
Horseshoe (PR1N)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Horseshoe (PR1S)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating 	<ul style="list-style-type: none"> ▪ No need for action
Horseshoe (PR1AN)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Horseshoe (PR1AS)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating 	<ul style="list-style-type: none"> ▪ No need for action
King’s Canyon (PR61)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are late intermediate seral stage ▪ Condition trend - static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
King’s Canyon (PR33)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
King’s Canyon (PR33A)	<ul style="list-style-type: none"> ▪ Forest and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are in an upward trend however, rate of regeneration is slow ▪ No livestock use allowed 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration
Little Creek (PR12S)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition (moderate to high grass structure)
Little Creek (PR12W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
Lower Sawlog (PR0)	<ul style="list-style-type: none"> ▪ Parkland and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area is adequately regenerating ▪ Uplands are early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
Lower Sawlog (PR01)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area is not adequately regenerating ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration ▪ Improve rangeland health and species composition
Lower Sawlog (PR4)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
Rattlesnake Butte (PR25)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Spring is in poor condition with downward trend ▪ Uplands are late intermediate to late seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Enhance and/or protect spring area
Roberts (PR17)	<ul style="list-style-type: none"> ▪ Forest desired resource condition 	<ul style="list-style-type: none"> ▪ No livestock use allowed ▪ Uplands are late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ No need for action
Roberts (PR17E)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area adequately regenerating ▪ Uplands are late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Roberts (PR17W)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area adequately regenerating ▪ Uplands are early intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Roberts (PR17N)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw (exclosures) desired resource conditions 	<ul style="list-style-type: none"> ▪ Wooded draw exclosures are adequately regenerating ▪ Uplands are early* to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Rock Canyon	<ul style="list-style-type: none"> ▪ Forest and 	<ul style="list-style-type: none"> ▪ Uplands are early 	<ul style="list-style-type: none"> ▪ Improve rangeland health

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
(PR5)	parkland desired resource conditions	intermediate seral stage <ul style="list-style-type: none"> ▪ Condition trend – static ▪ Majority of allotment is private land 	and species composition
Sandy Trail (PR27)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
School Section (PR34)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Uplands are late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
Scott (PR44)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Low vegetative grass structure ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early* to early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a low vegetative grass structure within the allotment
Scott (PR46)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Moderate vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a moderate vegetative grass structure within the allotment
Slicker (PR30A)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
Slicker (PR30B)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
Slicker (PR30C)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ SIA management 	<ul style="list-style-type: none"> ▪ SIA Mountain Mahogany area adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
Soldier Creek	<ul style="list-style-type: none"> ▪ Forest, parkland, 	<ul style="list-style-type: none"> ▪ Uplands are in late 	<ul style="list-style-type: none"> ▪ No need for action

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
(PR53NW)	and wooded draw desired resource conditions	<ul style="list-style-type: none"> ▪ intermediate seral stage ▪ Condition trend - moving toward later seral stage 	
Soldier Creek (PR53NE)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment
Soldier Creek (PR53SW)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment
Soldier Creek (PR53SE)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment
Steffensen (PR21)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a moderate to high vegetative grass structure within the allotment
Steffensen (PR22)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Maintain a moderate to high vegetative grass structure within the allotment
Strong Canyon (PR41W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Strong Canyon (PR41M)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
		seral stage	
Strong Canyon (PR41E)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain moderate to high vegetative grass structure
Table Road (PR13)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Table Road (PR15A)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Trunk Butte (PR19S)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate* seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition
Trunk Butte (PR19N)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area is not adequately regenerating ▪ Uplands are in early intermediate* to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Promote or enhance riparian health ▪ Improve rangeland health and species composition
Trunk Butte (PR18)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Riparian area is not adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Maintain existing riparian health ▪ Maintain rangeland health and species composition ▪ Reduce hazardous fuels (low grass structure)
West Ash (PR8)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Riparian area is adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
West Ash (PR9)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure)

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action
	management		
West Ash (PR10)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure)
West Ash (PR11A)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Wooded draw is adequately regenerating ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)
Wetterstrom (PR31W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action ▪ Reduce hazardous fuels (low grass structure)
Wetterstrom (PR31M)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action
Wetterstrom (PR31E)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure)

1.4 Scope of the Analysis

1.4.1 Geographic Scope

The Pine Ridge Ranger District has prepared this Environmental Impact Statement (EIS) to document the analysis and disclose the environmental effects of alternative management actions in the Pine Ridge Geographic Area, referred to as the “project area”, (Map Figure 1-1). The Geographic Area generally extends from Bordeaux Creek west approximately 30 miles to Deadmans Creek. Also included in the area is Soldier Creek Wilderness, located approximately 8 miles west of Crawford, Nebraska. The project area includes about 50,529 acres of lands managed by the Nebraska National Forest.

1.4.2 Temporal Scope

Implementation of the selected alternative would begin with livestock “turn-on” for the 2004-grazing season. Upland and riparian utilization standards would be incorporated,

where applicable, into the revised AMPs and become requirements of the grazing permits. The revised AMPs would guide livestock management within the project area for the period of the term permit, which is 10 years. The approval of revised AMPs and issuance of grazing permits to reflect the selected alternative would not be subject to further NEPA documentation.

1.4.3 Administrative Scope

The grouping of actions in this analysis was based on their relationship in attaining the desired conditions. However, these actions could be implemented individually and are, therefore, not “connected” (40 CFR 1508.25).

A “No Action (No Grazing”) alternative was developed. The “No Change” alternative was also developed to reflect the current management direction as documented in existing AMPs for the 34 allotments.

The proposed action is limited to the revision of Allotment Management Plans, including upland utilization, riparian area standards, and special management and emphasis areas. The decision for this project will include specific elements of the AMPs; the actual AMPs will be developed based on, and following, the decision.

This EIS was developed under the implementing regulations of the National Environmental Policy Act, Council on Environmental Quality, Title 40, Code of Federal Regulation, Parts 1500-1508; and the National Forest Management Act, Title 36, Code of Federal Regulations, Part 219. The proposal is not a general management plan for the area; general management direction is found in the Nebraska National Forest LRMP (2001).

1.5 Decision Framework

This Draft Environmental Impact Statement (DEIS) does not document a decision. The purpose of this document is to disclose the direct, indirect, and cumulative effects of a proposed action and other alternative actions that are analyzed. After allowing the public an opportunity to comment on the specific activities described in the alternatives, the District Ranger reviews the proposed action, the other alternatives, and the environmental consequences in order to make the following decisions:

1. Whether to continue to permit cattle grazing on some, or all of the Pine Ridge Geographic Area Allotments.
2. If grazing is to be permitted, what grazing system and prescribed livestock use would be permitted; what rangeland improvements would be undertaken; and what type of monitoring program would be implemented.
3. Whether or not to amend the Nebraska National Forest LRMP (2001).

The Decision will then be incorporated into individual Allotment Management Plans (AMPs). These AMPs will be completed and approved prior to the 2004 grazing season and will become part of the term grazing permits to be issued reflecting the Decision.

1.6 Public Involvement

A preliminary scoping letter was sent to interested parties on March 7, 2003. This letter asked for public comments from March 7 to April 7, 2003 on the proposal. Twelve comment letters and three verbal comments were received. These comments are in the official project file, and are available for review at the Pine Ridge Ranger District office in Chadron, Nebraska. The project was also identified in the quarterly Schedule of Proposed Actions (SOPA) for the Nebraska National Forest starting in September 2002. The SOPA was mailed to over 900 individuals and groups, and is also posted on the Forest website.

The Notice of Intent (NOI) was published in the Federal Register on June 19, 2003. The NOI officially asked for public comments concerning the scope of the analysis from June 19 to July 19, 2003. In addition, as part of the public involvement process, the Forest Service will seek information, comments, and assistance from Federal, State, local agencies, tribes, and other individuals or organizations that may be interested in, or affected by, the proposal. The scoping activities will include: (1) engaging potentially affected or interested parties by written correspondence, (2) contacting those on our Forest media list, and (3) hosting public information meeting(s).

Using the comments from the public, other agencies and entities, the interdisciplinary team developed a list of issues to address.

1.7 Key and Non-key Issues

The Forest Service separated the issues into two groups: key and non-key issues. Key issues were defined as an effect (or a perceived effect, risk, or hazard) on a physical, biological, social, or economic resource caused by implementing the proposed action. Non-key issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, LRMP, or other higher level decision; 3) not relevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence.

As for key issues, an interdisciplinary team (IDT) identified preliminary issues prior to the formal public scoping. This list, which identified expected concerns regarding the effects of the proposed action, was contained in the official Notice of Intent (NOI) published in the Federal Register on June 19, 2003. Comments received from the initial scoping effort (March 7, 2003) and the NOI revealed several areas of social and environmental issues. Key issues are described below with a brief background statement. The issue and can be tracked in Chapter 3 for each alternative and the analysis of consequences.

These issues are as follows:

- 1) Changes in livestock management strategies will impact the financial well-being of the permittees and the local economies.

Comments indicated that there is a concern that major reductions or elimination of livestock grazing on NFS lands would dramatically impact local ranchers that are permitted to graze livestock on NFS lands. Others are concerned that any kind of

reduction in livestock grazing will affect the local economy due to reduced income being spent in the community. Comments said that maintaining a viable ranching operation (including grazing on NFS lands) would promote economic stability.

- 2) Livestock grazing negatively impacts natural ecosystems. This includes over utilization of native upland grasslands and desirable nonnative plant communities, resulting in negative impacts to animal communities; reducing riparian and wooded draw plant regeneration; reducing ponderosa pine forest regeneration; lack of grazing will increase areas of hazardous fuels; and livestock grazing will impact habitats of threatened, endangered, sensitive, management indicator, and local concern species.

Livestock grazing can be used as a management tool to achieve the desired natural resource conditions on a particular area. Comments indicated that: (a) inappropriate levels of livestock grazing, or livestock grazing in itself, would have an impact on many natural ecosystems, and (b) appropriate livestock stocking levels and management can provide the desired natural resource conditions.

- 3) Livestock grazing negatively impacts recreational activities and experiences because of associated structures (fences, gates, etc) impede recreationist travel.

Comments indicated that livestock grazing and associated infrastructure (fencing), can impact recreational activities, experience, and values desired or expected by public land users. One impediment to backcountry recreation is that imposed by fences to control livestock. Too many fences with too few gates are an access problem for most. Too many gates can also detract from the experience, especially hard to open wire gates.

The comments generally expressed a preference for either maintaining grazing authorizations at or near present levels or substantially reducing or eliminating grazing from the public lands. One suggestion was submitted recommending specific alternatives to the proposed action or specific features to be included in one, or more, of the alternatives. These suggestions were considered during alternative development. The issues, both internally and externally generated, will be used to build the action alternatives in Chapter 2.

1.8 Other Related Efforts

- Hazardous fuels reduction – As part of the National Fire Plan, the Pine Ridge Ranger District is planning to complete several analyses to implement hazardous fuels reduction treatments. These treatments are expected to be combinations of thinning (both large and small sized trees) slash piling, pile burning, and/or broadcast burning. Depending on funding, activities should be completed within 10-15 years.
- Prescribed burning – Since the ponderosa pine ecosystem and surrounding grassland ecosystems evolved with fire, this disturbance regime is an important part of the system. The Forest Plan directs implementation of a minimum of 1,000 acres of prescribed burning per decade (LRMP pg. 2-86) to promote vegetative diversity,

reduce fuel loading, and contribute to ecosystem restoration. These types of projects will be ongoing, implemented both independently and in conjunction with hazardous fuel reduction projects.

- Travel management and recreational use – The Forest Service manages for multiple uses including recreational activities. Some recreational use has detrimental impacts to the rangeland resources such as off road vehicle use. An environmental impact statement will be completed following Forest Plan Direction to analyze travel management that will address such issues as off road vehicle use resulting in damage to upland as well as riparian resources. These types of issues and impacts are not discussed in this document.

CHAPTER 2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This chapter describes and compares the alternatives considered for the Rangeland Allotment Management Planning project. It includes a description of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public.

2.2 Alternatives Considered

The Forest Service developed three alternatives, including the No Action and Proposed Action alternatives, in response to issues raised by the public.

2.2.1 Alternative 1

No Action – No Livestock Grazing

Under the No Action/No Grazing alternative, no livestock grazing would be implemented. As provided for in FSH 2209.13 section 16.13, all term grazing permits would be terminated two grazing season after the Record of Decision is signed and no livestock grazing will be authorized after that date.

2.2.2 Alternative 2

No Change – Livestock Grazing under Current Allotment Management Plans

Under the No Change alternative, livestock grazing would be implemented under current allotment management plans. Some current AMPs have had livestock numbers or season of use modified, but total permitted animal unit months have not changed. This alternative would require an amendment to the current LRMP.

2.2.3 Alternative 3

The Proposed Action – Livestock Grazing using Adaptive Management

Under the Proposed Action alternative, current LRMP direction would guide management. Livestock grazing would be implemented incorporating adaptive management to meet the LRMP goals, objectives, standards, and guidelines. *Adaptive management is defined as a process where land managers implement management practices that are designed to meet LRMP standards and guidelines, and would likely achieve the desired conditions in a timely manner. If monitoring shows that desired conditions, as described by LRMP Direction, are not being met, then an alternate set of management actions would be implemented to achieve the desired results.*

2.3 The Proposed Action Alternative Considered in Detail

2.3.1 Proposed Action

Under this alternative livestock grazing would continue to be permitted, under management systems designed to meet LRMP standards and guidelines. This alternative will focus on desired resource conditions. This alternative is based on the principle of applying adaptive management. In the context of this document, this means that a proposed course of action is selected as a starting point that is believed to best meet or move toward the desired condition. A list of management actions is described in Table 2-1 Grazing Management Toolbox. This list of management tools is not all-inclusive. New science and management techniques will be incorporated as needed or when they are developed. Monitoring will occur over time with evaluation of the results then being used by the ID Team and the Line Officer to determine what adjustments to management are needed to ensure adequate progress toward the desired conditions. Monitoring details are discussed in section 2.3.5 of this chapter, and under each allotment in Appendix B, Allotment Management Summary. All adaptive actions will be within the scope of effects documented in this document, or a supplemental NEPA document and decision will be prepared as appropriate

Table 2-1 Grazing Management Toolbox

Grazing Management Toolbox
Adjust stocking rate to Light Grazing Intensity (LRMP Appendix. I)
Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I)
Adjust stocking rate to Heavy Grazing Intensity (LRMP Appendix. I)
Implement riparian grazing dates – no livestock use from 6/15 – 9/20
Implement alternative riparian grazing dates based upon specific conditions (topography, range rider, upland water sources, livestock use patterns)
Incorporate a range rider to move livestock from riparian areas (herding)
Change season of use and/or livestock utilization days – do not exceed permitted AUMs (stocking rate)
Change animal numbers – do not exceed permitted AUMs (stocking rate)
Change animal class – do not exceed permitted AUMs (stocking rate)
Defer livestock turn-on date
Rest from livestock grazing for two or more seasons
Do not allow livestock grazing
Construct fence to create riparian unit – allow grazing under riparian grazing dates
Construct fence to exclude livestock from areas of concern (riparian, wooded draws, springs, wetlands, etc.)
Construct temporary electric fence to control livestock distribution patterns
Construct permanent electric fence to control livestock distribution patterns
Control livestock distribution patterns using water (turn water on or off at developed water sites)
Control livestock distribution patterns using prescribed burning
Control livestock distribution patterns by constructing and/or removing cross fences
Construct livestock water development (pipeline, tanks, windmill, well, stock dam, submersible pump, solar)

Grazing Management Toolbox
Remove existing development (fence, pipeline, tanks, windmill, well, stock dam)
Implement 2-unit deferred grazing system
Implement 3-unit deferred grazing system
Implement 4 or greater-unit deferred grazing system
Implement rest-rotation grazing system
Implement multiple unit rotation with permittees private land
Rehabilitate areas seeded to introduced grass species back to native grass, shrub and forb species
Enhance riparian hardwood regeneration by planting native hardwoods and shrubs

The proposed management action is designed to meet the desired resource condition. To meet desired conditions for each allotment/management unit, Table 2-2 illustrates the desired conditions, the existing condition, the need for action, and the proposed action using management strategies by allotment from Table 2-1, Grazing Management Toolbox. These possible management tools are not all-inclusive and best management practices will be used where appropriate.

Table 2-2 Proposed Actions by Allotment/Management Unit

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Aristocrat Butte (PR28)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions 	<ul style="list-style-type: none"> ▪ Season-long grazing ▪ Wooded draw is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health ▪ Continue wooded draw enhancement 	<ul style="list-style-type: none"> ▪ Change animal class ▪ Change animal numbers and adjust stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Implement rest-rotation grazing system ▪ Construct fence along the NFS and private land boundary ▪ Construct livestock water development to improve animal distribution <p><i>Adaptive Management: Combine grazing with PR27.</i></p>
Aspen (PR11)	<ul style="list-style-type: none"> ▪ Forest, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – static ▪ Riparian area is adequately regenerating ▪ Poor boundary fence condition, trespass livestock occurring 	<ul style="list-style-type: none"> ▪ Reconstruct boundary fence 	<ul style="list-style-type: none"> ▪ Continue no livestock grazing due to non-capable rangeland ▪ Reconstruct fence to prevent trespass livestock access from private land and road ROW <p><i>Adaptive Management: Implement wildlife management strategies.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Barrel Butte (PR60)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Spring and associated riparian area are not adequately regenerating, however in upward trend ▪ Spring/riparian area excluded from livestock grazing ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Defer livestock turn-on date ▪ Construct livestock water development ▪ Adjust stocking rate - Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Barrel Butte (PR60A)	<ul style="list-style-type: none"> ▪ Wooded draw and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Riparian/wooded draw condition is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Continue riparian regeneration enhancement 	<ul style="list-style-type: none"> ▪ Maintain current management

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Barrel Butte (PR60B)	<ul style="list-style-type: none"> ▪ Parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Hardwoods adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management which includes no livestock grazing until desired condition warrants a change in management
Big Bordeaux (PR37N)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Defer turn-on after May 27.</i></p>
Big Bordeaux (PR37S)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian area is not adequately regenerating ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration 	<ul style="list-style-type: none"> ▪ Construct fence to create riparian unit and exclude livestock grazing from Big Bordeaux Creek ▪ Maintain current management, which includes Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Defer turn-on date to after May 27.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Big Bordeaux (PR37E)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Water gap contains degraded riparian area ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration 	<ul style="list-style-type: none"> ▪ Reduced size of water-gap on the west side of the Unit ▪ Maintain current management, which includes Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Defer turn-on date to after May 27.</i></p>
Brickner (PR38)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian – wooded draw habitat is adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - static 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Construct .75 miles of fence along NFS and private property boundary line, develop water, change livestock number, season of use and reduced AUMs.</i></p>
Chadron Creek (PR24A)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Maintain a moderate to low vegetative grass structure and an Early intermediate to Late intermediate seral stage ▪ Stabilize condition trend 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes Moderate to Heavy Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Chadron Creek (PR24B)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Maintain a moderate to low vegetative grass structure and an Early intermediate to Late intermediate seral stage ▪ Stabilize condition trend 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes Moderate to Heavy Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Chadron Creek (PR24C)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - static 	<ul style="list-style-type: none"> ▪ Maintain a moderate to low vegetative grass structure and an early intermediate to late intermediate seral stage ▪ Stabilize condition trend 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) ▪ Eliminate the water-gap on east side of Unit ▪ Develop water on the east side of Unit ▪ Remove fence between Unit 24C and Unit 24D, combining both Units <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Chadron Creek (PR24D)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate seral stage ▪ Condition trend - static 	<ul style="list-style-type: none"> ▪ Maintain a moderate to low vegetative grass structure and an early intermediate to late intermediate seral stage ▪ Stabilize condition trend 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) ▪ Remove fence between Unit 24C and Unit 24D, combining both Units <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Chadron Creek (PR24E)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions 	<ul style="list-style-type: none"> ▪ Wooded draw is in an upward trend ▪ Uplands are in early intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain continued improvement of wooded draw ▪ Maintain rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Chadron Creek (PR24F)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas adequately regenerating ▪ Uplands are in early to late seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Maintain improvement of riparian area 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes periodic livestock use of no more than 50 AUMs. <p><i>Adaptive Management: Allow no grazing.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Chadron Creek (Horse Unit)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in early* seral stage Condition trend – static 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain current management, which includes Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change class of livestock</i></p>
Cherry Creek (PR51)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in early intermediate to late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Control livestock distribution patterns using water developments Defer livestock turn-on date <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Cherry Creek (PR51A)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian area is in an upward trend however, rate of regeneration is slow No permitted livestock use Uplands are in late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Continue current management which includes no livestock grazing until desired condition warrants a change in management Enhance riparian hardwood regeneration by planting native hardwoods and shrubs

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Collons (PR35)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in early intermediate to late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Deferred turn-on date Remove water-gap on east side of unit Construct livestock water development on the east side of Unit <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Develop water on the southwest corner of the Unit to share between Unit 34, 35, and 37N.</i></p>
Collons (PR35N)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Livestock allowed 1-2 days of use for gathering when moving into or out of the allotment Riparian area is not adequately regenerating Uplands are in early* to early intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration 	<ul style="list-style-type: none"> Allow 2-4 days of use annually for on and off date gathering on the east side of the Unit away from the creek Enhance riparian hardwood regeneration by planting native hardwoods and shrubs
Collons (PR35M)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian areas are adequately regenerating Uplands are in early* seral stage Condition trend – static 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Continue current management, which includes no livestock grazing until desired condition warrants a change in management Enhance riparian hardwood regeneration by planting native hardwoods and shrubs

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Collons (PR35S)	<ul style="list-style-type: none"> ▪ Riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in early* seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Continue current management, which includes no livestock grazing until desired condition warrants a change in management ▪ Enhance riparian hardwood regeneration by planting native hardwoods and shrubs
Dairy (PR6)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Poor boundary fence condition ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) ▪ Reconstruct boundary fence 	<ul style="list-style-type: none"> ▪ Maintain current management ▪ Construct fence along the NFS and private land boundary
Dairy (PR7)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Poor boundary fence condition ▪ Riparian is adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) ▪ Reconstruct boundary fence 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes no livestock use until desired condition warrants a change in management ▪ Construct fence along the NFS and private land boundary

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Deadhorse (PR20)	<ul style="list-style-type: none"> Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> Wooded draw is adequately regenerating Riparian area on north end is not adequately regenerating Uplands are in early intermediate to late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration Improve rangeland health and composition 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Construct fence to exclude livestock from riparian area Construct livestock water development to improve animal distribution <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Deadhorse (PR20A)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian area is adequately regenerating Uplands are in late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain current management, which includes no livestock use until desired condition warrants a change in management
Deadman (PR52E)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> No permitted livestock assigned to allotment Uplands are in late intermediate seral stage Condition trend - static 	<ul style="list-style-type: none"> Maintain rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> Allow other grazing permits from other allotment(s) to utilize this unit <p><i>Adaptive Management: Allow 61 AUMs use. Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Deadman (PR52W)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> No permitted livestock use Uplands are in late intermediate seral stage Condition trend - static 	<ul style="list-style-type: none"> Maintain rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> Allow other grazing permits from other allotment(s) to utilize this unit. <p><i>Adaptive Management: Allow 63 AUMs</i></p>
East Ash (PR14)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian areas are in an upward trend however, rate of regeneration is slow Uplands are in early intermediate to late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Accelerate and promote riparian regeneration Improve rangeland health and composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) Implement riparian grazing dates unless there is a range rider Control livestock distribution patterns by constructing and removing cross fences Construct livestock water development <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
East Ash (PR15)	<ul style="list-style-type: none"> Forest, parkland, desired resource conditions 	<ul style="list-style-type: none"> Uplands are in late intermediate to late seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Improve rangeland health and composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) Control livestock distribution patterns by constructing and /or removing cross fences Construct livestock water development Remove existing watergap on west side of unit Remove existing watergap on south east of unit <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
East Ash (PR16)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ High vegetative grass structure ▪ SIA management 	<ul style="list-style-type: none"> ▪ Riparian areas are in an upward trend however, rate of regeneration is slow ▪ SIA Burr Oak exclosure is adequately regenerating ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Accelerate and promote riparian regeneration ▪ Improve rangeland health and composition (high structure) 	<ul style="list-style-type: none"> ▪ Adjust stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Control livestock distribution patterns by constructing and removing cross fences ▪ Construct livestock water development <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Flannigan Butte (PR26)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Spring and riparian area are not adequately regenerating ▪ Wooded draw is not adequately regenerating ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Enhance and/or protect spring and riparian area ▪ Enhance and/or protect wooded draw areas 	<ul style="list-style-type: none"> ▪ Adjust stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Control livestock distribution patterns by constructing and /or removing cross fences ▪ Construct fence to exclude livestock from spring and associated woody draw ▪ Construct livestock water development <p><i>Adaptive Management: Additional fence constructed to divide PR47 into two units. A three-unit rotation system will be implemented.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Flannigan Butte (PR47)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in late intermediate seral stage Condition trend – moving toward earlier seral stages (mostly private land) 	<ul style="list-style-type: none"> No action needed 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Additional fence constructed to divide PR47 into two units. A three-unit system will be implemented.</i></p>
Gobbler (PR39)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian areas are not adequately regenerating Uplands are in early intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration Improve rangeland health and species composition Promote a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Change season of use and/or livestock utilization days Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Implement riparian grazing dates <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Gobbler (PR40)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Riparian areas are excluded from grazing and are adequately regenerating Riparian (watergap) condition not adequately regenerating Uplands are in early intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration in watergap area Improve rangeland health and species composition Promote a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Remove watergap <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Gobbler (PR43)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands in early intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition Promote a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Hallsted (PR42A)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Riparian (watergap) condition not adequately regenerating Uplands are late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration Promote rangeland health and species composition Promote a moderate vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Remove existing fence line between 42A and 42B creating 42N Remove watergap Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) Construct livestock water development <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Hallsted (PR42B)	<ul style="list-style-type: none"> Forest, parkland and riparian desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Uplands are late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Promote rangeland health and species composition Promote a moderate vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Remove existing fence line between 42A and 42B creating 42N Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Hallsted (PR42C)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are early intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition Promote a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Remove existing fence line between 42C and 42D creating 42S Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Develop water in middle of Unit 42S if water currently provided from private land is no longer accessible.</i></p>
Hallsted (PR42D)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition Promote a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> Remove existing fence line between 42C and 42D creating 42S Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Homestead (PR29)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are early intermediate to late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) Defer livestock turn-on date Construct livestock water development on the west side of the Unit to improve animal distribution. <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Horseshoe (PR1N)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are early intermediate to late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Horseshoe (PR1S)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian areas are adequately regenerating 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Horseshoe (PR1AN)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are early intermediate to late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <i>Adaptive Management: Change season of use and/or livestock utilization days.</i>
Horseshoe (PR1AS)	<ul style="list-style-type: none"> Riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian areas are adequately regenerating 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <i>Adaptive Management: Change season of use and/or livestock utilization days.</i>
King's Canyon (PR61)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are late intermediate seral stage Condition trend - static 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) Defer livestock turn-on date <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
King's Canyon (PR33)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are early intermediate to late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) Defer livestock turn-on date <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Develop water on the east side of Unit 33 to share between Unit 33 and Unit 37N to improve animal distribution.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
King's Canyon (PR33A)	<ul style="list-style-type: none"> ▪ Forest and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian areas are in an upward trend however, rate of regeneration is slow ▪ No livestock use allowed 	<ul style="list-style-type: none"> ▪ Enhance and/or promote riparian regeneration 	<ul style="list-style-type: none"> ▪ Maintain current management, which includes no livestock use until desired condition warrants a change in management
Little Creek (PR12S)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Implement multiple unit rotation with adjoining private land ▪ Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Construct fence between NFS and private land <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Little Creek (PR12W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Implement multiple unit rotation with adjoining private land ▪ Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Lower Sawlog (PR0)	<ul style="list-style-type: none"> ▪ Parkland and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area is adequately regenerating ▪ Uplands are early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Adjust stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Change number of days of livestock utilization ▪ Implement riparian grazing dates <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Lower Sawlog (PR01)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian area is not adequately regenerating Uplands are early intermediate to late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Enhance and/or promote riparian regeneration Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) Implement riparian grazing dates <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Lower Sawlog (PR4)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Rattlesnake Butte (PR25)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions High vegetative grass structure 	<ul style="list-style-type: none"> Spring is in poor condition with downward trend Uplands are late intermediate to late seral stage Condition trend – static 	<ul style="list-style-type: none"> Enhance and/or protect spring area 	<ul style="list-style-type: none"> Construct fence to exclude livestock from spring Water developed in Unit 26 to share between Unit 26 and Unit 25 to improve animal distribution Maintain stocking rate at Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Roberts (PR17)	<ul style="list-style-type: none"> Forest desired resource condition 	<ul style="list-style-type: none"> No livestock use allowed Uplands are late intermediate seral stage Condition trend – static 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain current management, which includes no livestock grazing due to non-capable rangeland

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Roberts (PR17E)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area adequately regenerating ▪ Uplands are late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Roberts (PR17W)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> ▪ Riparian area adequately regenerating ▪ Uplands are early intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Roberts (PR17N)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw (exclosures) desired resource conditions 	<ul style="list-style-type: none"> ▪ Wooded draw exclosures are adequately regenerating ▪ Uplands are early* to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management, with a deferred turn-on date <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Rock Canyon (PR5)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate seral stage ▪ Condition trend – static ▪ Majority of allotment is private land 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Change season of use and/or livestock utilization days ▪ Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Sandy Trail (PR27)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Defer livestock turn-on date <p><i>Adaptive Management: Remove 1-mile fence between Unit 27 and Unit 28.</i></p>
School Section (PR34)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ No permitted livestock use ▪ Uplands are late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Allow livestock grazing ▪ Incorporate the allotment into existing rotation system <p><i>Adaptive Management: Develop water in southeast corner of the Unit to share between Units 34, 35 and 37N to improve animal distribution.</i></p>
Scott (PR44)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Low vegetative grass structure ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early* to early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a low vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Adjust stocking rate at Low Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Scott (PR46)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Moderate vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Promote a moderate vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate - Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Slicker (PR30A)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Adjust stocking rate - Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Defer livestock turn-on date <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Slicker (PR30B)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Adjust stocking rate - Light to Moderate Grazing Intensity (LRMP Appendix. I) ▪ Defer livestock turn-on date ▪ Enhance existing livestock water development in the south end of the Unit <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Slicker (PR30C)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ SIA management 	<ul style="list-style-type: none"> ▪ SIA Mountain Mahogany area adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Soldier Creek (PR53NW)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Combine split head in one herd.</i></p>
Soldier Creek (PR53NE)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light Grazing Intensity (LRMP Appendix. I), however this includes reducing animal numbers for livestock breeding purposes <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Combine split head in one herd.</i></p>
Soldier Creek (PR53SW)	<ul style="list-style-type: none"> ▪ Forest, parkland, wooded draw, and riparian desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Riparian areas are adequately regenerating ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I), however this includes reducing animal numbers for livestock breeding purposes <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Combine split head in one herd.</i></p>
Soldier Creek (PR53SE)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Combine split head in one herd.</i></p>

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
Steffensen (PR21)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Steffensen (PR22)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition ▪ Maintain a moderate to high vegetative grass structure within the allotment 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Strong Canyon (PR41W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain stocking rate at Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Strong Canyon (PR41M)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health and species composition 	<ul style="list-style-type: none"> ▪ Maintain stocking rate to Light to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Construct .75 miles of fence to exclude livestock from woody draw in Unit PR41M.</i></p>
Strong Canyon (PR41E)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ High vegetative grass structure 	<ul style="list-style-type: none"> ▪ Uplands are in early* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain moderate to high vegetative grass structure 	<ul style="list-style-type: none"> ▪ Maintain stocking rate to Light Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>

Allotment (Unit)	Desired Condition	Existing Condition		Proposed Actions Needed to Accomplish Desired Condition
Table Road (PR13)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in early intermediate to late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Table Road (PR15A)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in late intermediate seral stage Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> No need for action 	<ul style="list-style-type: none"> Maintain current management <p><i>Adaptive Management: (1) Change season of use and/or livestock utilization days.</i></p>
Trunk Butte (PR19S)	<ul style="list-style-type: none"> Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> Uplands are in late intermediate* seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Improve rangeland health and species composition 	<ul style="list-style-type: none"> Adjust stocking rate to Moderate Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days.</i></p>
Trunk Butte (PR19N)	<ul style="list-style-type: none"> Forest, parkland, and riparian desired resource conditions 	<ul style="list-style-type: none"> Riparian area is not adequately regenerating Uplands are in early intermediate* to late intermediate seral stage Condition trend – moving toward earlier seral stages 	<ul style="list-style-type: none"> Promote or enhance riparian health Improve rangeland health and species composition 	<ul style="list-style-type: none"> Implement riparian grazing dates Adjust stocking rate to Moderate Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Construct temporary electric fence to exclude livestock from riparian area</i></p>

Allotment (Unit)	Desired Condition	Existing Condition		Proposed Actions Needed to Accomplish Desired Condition
Trunk Butte (PR18)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Riparian area is not adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend – static 	<ul style="list-style-type: none"> ▪ Maintain existing riparian health ▪ Maintain rangeland health and species composition ▪ Reduce hazardous fuels (low grass structure) 	<ul style="list-style-type: none"> ▪ Incorporate a range rider to move livestock from riparian areas ▪ Maintain stocking rate to Moderate to High Grazing Intensity (LRMP Appendix. I) <p><i>Adaptive Management: Change season of use and/or livestock utilization days. Utilize range rider between 9/1 to 9/20.</i></p>
West Ash (PR8)	<ul style="list-style-type: none"> ▪ Forest, parkland, and riparian desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Riparian area is adequately regenerating ▪ Uplands are in early intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management
West Ash (PR9)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management
West Ash (PR10)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Maintain rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management

Allotment (Unit)	Desired Condition	Existing Condition	Need for Action	Proposed Actions Needed to Accomplish Desired Condition
West Ash (PR11A)	<ul style="list-style-type: none"> ▪ Forest, parkland, and wooded draw desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Wooded draw is adequately regenerating ▪ Uplands are in early intermediate* seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management
Wetterstrom (PR31W)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Reduce hazardous fuels 	<ul style="list-style-type: none"> ▪ Uplands are in early intermediate to late intermediate seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Reduce hazardous fuels (low grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Wetterstrom (PR31M)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ No need for action 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>
Wetterstrom (PR31E)	<ul style="list-style-type: none"> ▪ Forest and parkland desired resource conditions ▪ Bighorn sheep management 	<ul style="list-style-type: none"> ▪ Uplands are in late intermediate to late seral stage ▪ Condition trend - moving toward later seral stage 	<ul style="list-style-type: none"> ▪ Improve rangeland health (moderate to high grass structure) 	<ul style="list-style-type: none"> ▪ Maintain current management <p><i>Adaptive Management: Change season of use and/or livestock utilization days</i></p>

2.3.2 General Management Requirements

This alternative includes specific management requirements beyond the LRMP direction. These measures are additional management actions that will be followed if applicable to the allotment or management activity. Specific LRMP direction as it relates to the proposed action is illustrated in Appendix A and the LRMP.

- 1) Seed areas that are disturbed by rangeland improvements. Use species in a seed mixture that provides forage or cover for wildlife and reduces soil erosion. Seed mixes will include native forbs, shrubs, and/or grasses.
- 2) Permittees will be required to annually report new infestations of noxious weeds to the Forest Service.
- 3) Rotation of livestock between management units may change from one year to the next and will be reflected in the annual operating instructions. This would be worked out jointly between the Forest Service and grazing permittee.
- 4) Avoid all significant fossil and cultural resource sites when conducting any ground-disturbing projects. During ground disturbing activities such as installing water pipelines, a qualified paleontologist is required to be present to monitor for any impact to paleontological resources and to remove any paleontological specimens according to professional standards.
- 5) During ground disturbing activities that penetrates the bedrock, personnel are to be aware of any paleontological resources and stop construction when vertebrate fossils are impacted and notify a paleontologist.

2.3.3 LRMP Guideline Deviation

Guidelines are actions that should be followed to achieve the goals and objectives of the LRMP. Deviations from a guideline in any of the alternatives are noted below. There are those occurrences when management direction for a particular resource or desired condition may conflict with another resource of different desired condition. Chapter 1.3 (Table 1-2, LRMP Desired Condition for Resource Ecosystems) lists the desired conditions for the PRGA. Many of these are guidelines. LRMP guideline deviation is discussed below.

	Guideline	Deviation from Guideline
Infrastructure (LRMP Pg. 2-90)	Allow no net decrease in average pasture size and no net increase in number of water developments.	An attempt to maintain or increase unit (pasture) acreage sizes or no net increase in the number of water developments will be considered. However, there may be instances when splitting a unit into two separate units or developing a new water development for purposes of meeting the desired condition will outweigh this guideline. Meeting the desired condition in this instance will be a higher priority than allowing no net decrease in average pasture size and no net increase in

		number of water developments. Removal of fences or water developments will be considered if it will help meet the desired condition for the overall geographic area.
Wildlife (LRMP Pg. 2-92)	Defer livestock grazing until after July 1 – 15 or rest unit annually from grazing in identified elk calving/deer fawning and wintering areas.	Elk calving areas have been identified (Stillings 1999) in the Bordeaux Creek watershed as being important. Elk wintering areas are mainly found on private land to the east of NFS lands. Deer fawning areas have not been specifically identified to date, but are associated with riparian areas and somewhat similar to the elk calving areas. Allotments within this area have a rotational grazing system that rests or defers 12 to 13 units until after July 1 each year, thus meeting this elk management guideline. Because of the grazing rotation, 8-9 units will be grazed before July 1 each year and will not meet the intent of this guideline. However, the rotation system does promote compatible and positive management strategies that will meet the intent of the guideline in order to achieve the elk management desired condition and reduce the impacts to the permittee.
Wildlife (LRMP Pg. 2-92)	Maintain brood cover (high structure) along forest edge openings and along riparian areas through at least July 15.	In order to achieve desired conditions, rotational grazing may be selected as a management option. Livestock grazing before July 15 may utilize one or more units. However, other units will be stocked at a light intensity while others may be deferred or rested as part of the rotation system. Adjacent upland units may be deferred from grazing until after June 15 and can provide the desired brood habitat near riparian areas and will meet this guideline. This will occur across the PRGA. This guideline may not be met in some isolated areas but other areas it will be met, and will provide for this type of wild turkey habitat.
Wildlife (LRMP Pg. 2-93)	Riparian areas shall be deferred from grazing until July 1 to prevent excessive removal of herbaceous vegetation used as brood habitat.	Livestock grazing in riparian areas after July 1 may not promote or maintain the desired riparian condition. We have established dates of no grazing between June 15 and September 20 to meet riparian desired conditions. These dates have been implemented in the past on riparian units with positive results in woody plant regeneration and an upward trend in riparian condition. Meeting the riparian desired condition

		<p>will be a high priority. In many cases, riparian units will be deferred from grazing completely. However, those riparian units that are in a rotational grazing system will be utilized before June 15 in order to achieve the riparian desired condition and reduce the impacts to the permittee. Adjacent upland units will be deferred from grazing until after June 15 or later and can provide the desired brood habitat near riparian areas.</p>
--	--	---

2.3.4 Meeting LRMP Direction Objectives, Standards and Guidelines

LRMP objectives, standards and guidelines that pertain to the proposed action (livestock grazing and associated activities) are identified and compliance to this direction is addressed in Appendix A. Refer to the LRMP, Chapters 1, 2 and 3 for detailed descriptions of the Objectives, Standards and Guidelines.

2.3.5 Monitoring Strategy

Effective monitoring and evaluation fosters improved management and more informed management decisions. It helps determine how the LRMP is being implemented, whether AMP implementation is achieving desired outcomes, and whether assumptions made in the planning process are valid. Monitoring and evaluation are learning tools that form the backbone of adaptive management. It makes a static AMP a dynamic, relevant and useful document.

Two kinds of monitoring are associated with AMPs, implementation monitoring and effectiveness monitoring. Rangeland implementation monitoring methods will be established to: measure the attainment of LRMP standards and guidelines. Effectiveness monitoring evaluates how effective our management actions are at achieving desired conditions.

It is important to recognize that the availability of funding and personnel resources will determine what limitations will be placed on monitoring activities. A monitoring strategy for the 34 AMPs on the PRGA will be to monitor as many allotments as possible for the short-term implementation monitoring. A realistic monitoring strategy for the long-term effectiveness will be to monitor approximately 10% of the allotments annually. Parklands (grass uplands) emphasizing vegetative grass structure, wooded draws, and riparian areas will be the focus of allotment monitoring. The individual allotment objectives will determine what monitoring will take place. Appendix B summarizes the allotment objectives and associated monitoring technique.

Short-Term Monitoring (Implementation Monitoring)

Monitoring techniques will vary depending on the resource being monitored. The following techniques will be used for the monitoring on the short-term for the major resources:

Parklands (grass uplands): **Rangeland Readiness**; indicators used to determine rangeland readiness are soil and vegetation conditions. Rangeland is generally ready for grazing when soil has become firm after winter and early spring precipitation, and when plants have reached the defined stage of growth at which grazing may begin under the specific management plan without long-lasting damage. Rangeland is generally ready when cool-season grasses are headed out, forbs are in full bloom, and brush is leafed out. Range readiness dates will vary between allotments with differing resource attributes and management systems.

Grassland Structure Monitoring. Objectives are established on page 2-85 of revised Land and Resource Management Plan for specified levels of grassland structure. High structure – 10–20%, Moderate – 65-85%, Low – 5-15%. Grassland structure is largely determined by livestock grazing practices, local weather patterns (growing conditions), and site capability. Grassland structure can influence the diversity of native plants and animals occurring in an area. Grassland structure is also a factor determining the habitat suitability for plains sharp-tailed grouse, the management indicator species for grasslands in the project area.

The need to monitor grassland structure is identified on page 4-23 of the LRMP. Grassland structure will be measured using the visual obstruction method (Robel et al. 1970 and USDA Forest Service 1996) following a sampling protocol described by Benkobi (1999) and Benkobi et al. (2000). Sampling will occur in the spring prior to significant plant growth and will be conducted over a period of at least three years prior to conducting the final data analysis. Sampling at this time of the year characterizes the amount of residual cover carried over from the previous growing season. The amount and diversity of residual cover has repeatedly been demonstrated to be a critical habitat component for sharp-tailed grouse and other wildlife species. For purposes of classifying grassland structure levels in the spring, the following definitions will be used:

- Low Structure = average visual obstruction less than 2 inches,
- Moderate Structure = average visual obstruction between 2 to 3.0 or 4.0 inches, depending on vegetation patchiness (LRMP Appendix H, page H-1),
- High Structure = average visual obstruction greater than 3.0 or 4.0 inches, depending on vegetation patchiness (LRMP Appendix H, page H-1).

As described in LRMP Appendix H, moderate to high structure grasslands provide quality habitat for plains sharp-tailed grouse.

Riparian Areas (including seeps and springs) and Wooded Draws: Visually assess that stream bank conditions are not deteriorating. Visually assess that shrubs and other woody species are not over-utilized during dormancy. This would be accomplished by annual on-the-ground inspections (including photo points) that document the current condition.

Long-term Monitoring (Effectiveness Monitoring)

The long-term health of parklands (grass uplands) resources will be monitored using the following direction:

Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

We will utilize the NRCS methodology of rangeland assessment. Under this

methodology the entire PRGA falls under the Major Land Resource Area (MLRA) 64-Mixed Sandy and Silty Tableland. Within MLRA 64 there are 25 ecological range sites (i.e. Clayey, Loamy, etc.) based primarily upon soil type. We will be evaluating those ecological range sites that within the PRGA and evaluate trend, similarity index comparison with historic climax plant community for that site, and overall rangeland health.

Trend determines the direction of change occurring on a site; the similarity index compares the present plant community to the historic plant community for that site *or* to a desired plant community that is one of the site's potential vegetation states; and rangeland health evaluation looks at different processes such as soil erosion, litter, plant vigor, and invasive plants present.

The long-term health of riparian areas (including seeps and springs) and wooded draw resources will be monitored using the following direction:

Riparian and Wooded Draw Monitoring. Under direction in the revised LRMP (page 1-2), most perennial streams are to be managed in a manner that promotes "proper functioning condition". The need to monitor PFC is identified on page 4-11 of the revised LRMP, and a monitoring process described by Barrett et al. (1993) and USDA Forest Service (1996) will be followed for assessing PFC. This monitoring process classifies riparian function as follows:

- Proper functioning condition (PFC),
- Functional,
- Functional—at risk,
- Non-functional,
- Unknown.

These ratings characterize riparian condition based on the interaction of geology, soils, water and vegetation.

In addition to PFC, management direction is also provided in the revised LRMP to provide for tree and shrub regeneration in most riparian and wooded draw habitats. The need to monitor woody regeneration in these areas is identified on page 4-11 of the revised LRMP. Monitoring for woody regeneration will involve a two-phase methodology. The first phase will involve application of a walk-through "riparian characteristics evaluation" (USDA Forest Service 1996). The second phase will involve application of a more intensive "woody species regeneration" monitoring method (USDA Forest Service 1996) in those areas where Phase 1 monitoring identifies a potential lack of adequate regeneration.

If the results of monitoring indicate standards and/or guidelines, or desired resource conditions are not being achieved as predicted, then other adaptive management strategies will be implemented (i.e. reduction in AUMs, change season of use, rest, etc.) to move towards and/or meet the desired condition.

2.4 Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope of desired conditions, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm. Therefore, a number of alternatives were considered, but dismissed from detailed consideration for reasons summarized below.

1. Phase out livestock grazing in the PRGA in ten years.

Livestock grazing on National Forests is administered under a number of statutes, including the Granger-Thye Act of 1950, the Multiple-Use Sustained-Yield Act of 1960 (MUSYA), the Forest and Rangeland Renewable Resources Planning Act of 1974, and the Federal Land Policy and Management Act of 1976, among others. The MUSYA specifically provides, "It is the policy of the Congress that the National Forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes." These laws augment the authority in the Organic Act of 1897, which established the Forest Service and directed the agency to regulate the use and occupancy of the forests to preserve them from destruction.

2. No new water developments. Stocking levels would be set at a rate consistent with existing water sources and wildlife needs.

The LRMP gives direction, as a guideline to prioritize and remove water developments that are not contributing to achieving desired conditions. It also states as a guideline to allow no net increase in the number of water developments. This public-suggested alternative duplicates a portion of the proposed action Alternative 3. Under the proposed action, water developments will only be considered if it will help meet the desired resource conditions. Unneeded existing water sources will be removed to comply with LRMP direction. Livestock stocking levels will be determined by resource capabilities and desired conditions for the specific area.

3. No new water developments and removes existing water developments.

See #2 above.

4. Develop a 500-meter or larger riparian buffer.

This public-suggested alternative duplicates a portion of the proposed action Alternative 3. Under the proposed action, riparian buffers or separate riparian units are being proposed where needed to meet desired resource conditions.

5. Develop a 500-meter wooded draw buffer.

This public-suggested alternative duplicates a portion of the proposed action Alternative 3. Under the proposed action, wooded draw buffers or separate wooded draw units are being proposed where needed to meet desired resource conditions.

6. Restore wild bison instead of permitted livestock grazing.

The LRMP directs the Forest Service to consider bison grazing on the NFS lands. Bison are not listed as a wildlife species at risk and were not listed as a threatened or endangered species by the U.S. Fish and Wildlife Service (USFWS) for the planning area; FS is under no statutory or regulatory requirement to consider bison as wildlife. State law and/or regulation does not define bison as wildlife and generally address bison as domestic livestock; all bison on or near the national grasslands and forests in the planning area are confined (fenced) and are Government, tribal or private property (Nebraska Statutes).

2.5 Comparison of Alternatives Considered _____

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2-3 Comparison of Alternatives.

	Alternative 1 - No Grazing	Alternative 2 – Current Situation	Alternative 3 – Proposed Action
LRMP Direction & Desired Condition			
Effects to ponderosa pine ecosystem	Eliminate localized impacts on ponderosa pine stands. Grazing can be a contributing factor in pine encroachment into open areas, if any areas are grazed heavily enough to alter the competitive balance between grasses and trees. Removal of grazing would favor grass. Research indicates that fire is more of a controlling factor in pine distribution.	No effect on ponderosa pine stands outside of minor localized impacts caused by trampling or compaction. Removal of grass may contribute to pine encroachment into open grasslands, but research indicates that fire exclusion may be more of a controlling factor.	No effect on ponderosa pine stands outside of localized impacts in heavily used areas. If livestock numbers or utilization days were increased substantially, compaction and tree damage would increase. The addition of fences or water developments would alter livestock use patterns in specific allotments. This could change areas of impacts, but the relatively light stocking should not greatly impact pine stands.

Effects to soils and parklands (rangeland resources)	Removal of grazing would favor soil and rangeland health and vigor until stand begin to stagnate from litter build-up due to lack of fire or grazing.	Existing conditions and trends of soil and rangelands would remain.	Soil and rangeland conditions would likely begin to trend upward more quickly due to changes in management.
Effects to wooded draws	Would eliminate any livestock browsing on palatable hardwoods and shrubs.	Livestock browsing on deciduous species is mostly incidental except in identified allotments where over-browsing is occurring.	The addition of fences and water developments and/or stocking adjustments should reduce impacts to deciduous vegetation where problems are occurring.
Effects to riparian (including wetland/water areas)	Riparian areas would likely regenerate at a faster rate as compared to Alternative 2 and 3. Wetlands and perennial water sources would be protected. Sedimentation would be minimized.	Many riparian areas would continue to regenerate because of current management strategies. Some riparian, wetland, and perennial streams would likely be impacted from livestock presence. Sedimentation could be an impact to the water resources.	Riparian areas would likely increase in plant regeneration due to the proposed action management strategies. This alternative would benefit riparian areas and perennial water sources more than Alternative 2. Sedimentation into perennial streams would be minimized.

<p>Plant species composition</p> <p>PRGA Objective: 1-20% in early seral; 5-15% early intermediate seral; 40-70% late intermediate seral; and 15-25% late seral.</p>	<p>Removal of grazing would likely move most areas to a later seral stage. Early seral may be reduced 0% if vegetation is not utilized. LRMP species composition direction may not be met.</p>	<p>Existing species composition are approximately 1% in early seral; 25% early intermediate seral; 56% late intermediate seral; and 14% late seral. Four percent is unknown. This matches closely with LRMP direction with the exception that the early intermediate seral stage should move either to early or to late intermediate to be more consistent with LRMP desired condition.</p>	<p>Proposed management would result in a shift upward in species composition in general. Early seral is predicted to move towards an early intermediate seral stage. Early intermediate is predicted to move toward late intermediate and in some areas (where desired) move toward an early seral stage. Late intermediate seral stage is predicted to remain or move toward late. The proposed action is estimated to result in 10% in early seral; 8% early intermediate seral; 64% late intermediate seral; and 18% late seral. Changes in species composition would move toward and meet LRMP direction.</p>
--	--	---	---

<p>Vegetative grass structure</p> <p>PRGA Objective: 10-20% in high; 65-85% in moderate; and 5-15% in low.</p>	<p>No livestock grazing would increase vegetative grass structure in those allotments that are currently at or below moderate levels.</p>	<p>Existing estimated vegetative grass structures are approximately 27% in high; 61% in moderate; and 12% in low.</p>	<p>Proposed management would result in a shift from high structure to moderate. Moderate structure areas will move toward a moderate to high structure and in some cases toward a low structure (where desired). Low structure areas will remain the same or move toward a moderate structure level. The proposed action is estimated to result in 19% in high; 76% in moderate; and 5% in low. Proposed management would result in a shift in estimated vegetative grass structures to be more consistent with LRMP direction.</p>
<p>Percent suitable rangeland rested. LRMP direction is 1-10%.</p>	<p>Removal of grazing activities would result in 100% of suitable rangelands being rested.</p>	<p>No change in management would result in approximately 2% suitable rangeland rested.</p>	<p>Proposed management would result in approximately 2-4% or more suitable rangeland rested.</p>

<p>Average pasture size</p>	<p>No grazing would not require pastures. Removal of grazing activities would eventually increase pasture size if funding and resources are available to remove allotment interior fences.</p>	<p>Average pasture size of 650 acres would remain the same.</p>	<p>Maintaining average pasture size will be emphasized unless other priority areas or resource objectives are given a higher priority. The average pasture size is will remain about the same as the current situation with the addition of 1 pasture overall.</p>
<p>Cumulative number of water developments</p>	<p>Removal of grazing activities would eventually decrease the number of water developments if funding and resources are available to remove the structures.</p>	<p>Current water development density (1.72 per section) would remain the same.</p>	<p>Maintaining current number of water developments will be emphasized unless added water developments will meet the priorities of resource objectives with a higher priority. An additional ten water developments would be developed across the PRGA. Six existing water developments would be removed.</p>

Natural Resources & Ecosystems			
Effects to archeological resources	Removal of grazing activities would result in no ground disturbance, with exception to removal of structures if funding and resources allowed. Fewer heritage resources site would be discovered.	Existing management could impact heritage resources where high concentrations of livestock occur (livestock watering facilities, etc.). Discovery of new heritage resource sites could continue.	Proposed management could impact heritage resources where high concentrations of livestock occur (livestock watering facilities, etc.). Discovery of new heritage resource sites could continue.
Effects to paleontological resources	Removal of grazing activities would result in no ground disturbance, with exception to removal of structures if funding and resources allowed. Fewer paleontological resources site would be discovered.	Existing management could impact paleontological resources where erosion occurs reaching bedrock. Discovery of new paleontological resource sites could continue.	Proposed management could impact paleontological resources where erosion occurs reaching bedrock. Discovery of new paleontological resource sites could continue.
Effects to wildfire hazard	Would increase the amounts of fine fuels in grass-dominated areas with an expected increase in fire rate of spread.	Annual livestock grazing on most grass-dominated areas reduces the amount of fine fuel buildup, contributing to a reduced rate of fire spread across the landscape.	Continued annual livestock grazing on most grass-dominated areas would reduce and/or prevent accumulation of the amount of fine fuel buildup, contributing to a reduced rate of fire spread across the landscape. Areas managed for high structure may result in some localized increase in fire behavior.

<p>Effects to Federally listed species</p>	<p>No impacts to listed species USFWS indicates Bald Eagle and Whooping Crane may occur in project area – lack of suitable habitat, few observations, and other information resulted in “No impact” determination</p>	<p>No impacts to listed species USFWS indicates Bald Eagle and Whooping Crane may occur in project area – lack of suitable habitat, few observations, and other information resulted in “No impact” determination</p>	<p>No impacts to listed species USFWS indicates Bald Eagle and Whooping Crane may occur in project area – lack of suitable habitat, few observations, and other information resulted in “No impact” determination</p>
<p>Effects to FS sensitive species</p>	<p>“Beneficial impact” determination for seven species “May adversely impact” determination for two species</p>	<p>“Beneficial impact” determination for one species “May adversely impact” determination for eight species Two of the “may adversely impact” determinations (Grasshopper Sparrow, Upland Sandpiper) could result in some localized negative impacts to individuals, but impacts to these species and their habitats overall should be beneficial</p>	<p>“Beneficial impact” determination for four species “May adversely impact” determination for five species Four of the “may adversely impact” determinations (Grasshopper sparrow, Northern leopard frog, Tawny crescent, Upland sandpiper) could result in some localized negative impacts to individuals, but impacts to these species and their habitats overall should be beneficial</p>

<p>Effects to MIS</p>	<p>Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would increase substantially over Alternatives 2 and 3.</p> <p>Long-term population trends of sharp-tailed grouse in the project area are unknown. Probability of a stable to increasing population trend is greater than Alternatives 2 and 3, given expected habitat changes.</p> <p>Pygmy nuthatch – not impacted</p>	<p>Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would likely remain unchanged and would likely be less than Alternative 1 and 3.</p> <p>Long-term population trends of sharp-tailed grouse in the project area are unknown. However, under this alternative, the habitat conditions would not change and existing population trends would likely remain unchanged.</p> <p>Pygmy nuthatch – not impacted</p>	<p>Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would likely increase slightly in comparison to Alternative 2, but less than Alternative 1.</p> <p>Long-term population trends of sharp-tailed grouse in the project area are unknown. Probability of a stable to increasing population trend is greater than Alternative 2 but less than Alternative 1.</p> <p>Pygmy nuthatch – not impacted</p>
-----------------------	---	--	--

<p>Effects to wildlife, fish, and rare plant resources</p>	<p>Priority Species</p> <p>Beneficial impacts to nine priority species, negative impacts for one species, neutral impacts for four species</p> <p>Although they are somewhat similar, this alternative is expected to provide more “wholly” beneficial impacts than alternative 3.</p>	<p>Priority Species</p> <p>Beneficial impacts to one priority species, negative impacts for seven species, neutral impacts for six species</p>	<p>Priority Species</p> <p>Beneficial impacts to nine priority species, negative impacts for one species, neutral impacts for four species</p>
--	--	--	--

Issues			
Effects to economic factors	<p>Elimination of all grazing would likely result in about half of the permittees primary income source being at risk, many ranching operations could go out of business. This alternative will have a minor negative impact on the local economy.</p> <p>Elimination of all grazing would likely result in about 20 out of 40 of the permittees primary income source being at risk, many ranching operations could go out of business. 13,675 AUMs will be eliminated. The ten-year average lost revenue would be approximately \$16,541. This alternative will have a minor negative impact on the local economy as a whole.</p>	<p>The continuation of the current situation will not create any risk to operations using Forest Service forage. Although outside forces could change the margin of profit regardless of the AUMs. There will be no change from current situation. No AUMs would be eliminated and revenue would equate to approximately \$16,541.</p>	<p>It is difficult to predict the impact to ranching operations dependant on Forest Service forage. Some permittees will adapt to the new management conditions while others may not. On three allotments, proposed range improvements (fencing and water developments) will require a substaintial financial investment for four permittees. However, these improvements are scheduled for implementation over a 10-15 year period, which will help distribute the expenses. As with Alternative 2, outside forces play a large role in an operation's ability to remain profitable. Total AUMs will be reduced by 337 (1.7%). This would equate to approximately \$267 less than Alternative 2. This alternative will have minimal financial impact to the local economy.</p>

<p>Effects to social factors</p>	<p>Elimination of all grazing will cause a negative impact to local communities if operations close and people move away. This alternative does not assist local communities that are trying to maintain a lifestyle that includes ranching.</p>	<p>There will be no change from the current situation.</p>	<p>This alternative would have a greater benefit and value to a larger number of interest groups than alternative 1 and 2. It will require some compromises between users and resources. Those interested in protecting and improving resources would see their values reflected more in this alternative.</p>
----------------------------------	--	--	--

<p>Effects to recreational values and activities</p>	<p>Aesthetically - highly desirable. Experiences – Wide open space, nonrestrictive feelings. Water sources may or may not be a factor, depending on if the facilities are retained or not. Hunting will also have the open/unrestricted experience, making for a more quality hunt. Some habitat may improve under this alternative, but if there is an increase in permit numbers that doesn't mean that there will be an increase in permits sold, that's a decision of the State.</p>	<p>Aesthetically – least desirable. Experiences – More of a confined or restrictive feeling caused by fences. May cause some people to look for other places to ride because of the number of gates that need to be opened or may cause some people to leave the gates open because they don't feel the gates need to be closed. Water sources will not be a factor because they are currently present. Hunting will continue as it currently is. Habitat will remain the same or could decline in value. For some the quality of the hunt will still be good, for others the quality will not be improved. The quality may decrease because of the feeling that cattle and big game are competing for the same forage causing availability of big game to decrease.</p>	<p>Aesthetically – moderately desirable. Experiences – Depending on which option is chosen out of the “Toolbox” impacts may or may not be felt. Over the long term, improvement will be made in fencing and gates. Fence location may change and there may be more fence/trail intersections, but with easier opening/closing gates the impact shouldn't be that great. Water sources may or may not be a factor. If water sources are used to move cattle and the public's unaware of where the windmills are on or off it may have a negative impact. Hunting too will be affected depending upon the option that is selected. In areas where “Heavy Grazing Intensity” is selected it may have a negative impact on hunting big game and upland birds. Impacts will vary by option and by recreationist.</p>
--	--	--	---

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter summarizes the relevant physical, biological, social, and economic environments of the PRGA. This chapter will also summarize the direct, indirect and cumulative effects of implementing each alternative on that these resources and issues. It also presents the scientific and analytical basis for the comparison of alternatives presented in Chapter 2. Resource specialists have analyzed livestock grazing in general, and how this kind of activity will impact a particular resource. They have examined the grazing management strategies identified in Chapter 2, Section 2.3, Table 2-1 Grazing Management Toolbox. Analysis includes impacts from all strategies but especially those practices that are considered most impacting for the particular resource.

3.2 Water Resources

3.2.1 Water - Affected Environment

Clean Water Act (CWA)

All waters of the State of Nebraska are assigned a beneficial or designated use. The quality of the water that supports the beneficial or designated use is measured by selecting parameters. Numerical standards have been set for point source pollutants. Grazing is considered a potential source for nonpoint pollution. Those parameters affected by grazing that have standards described for them are: sediment, fecal coliform, nutrients (such as phosphorus and nitrogen), Ph, total dissolved solids, and temperature.

The PRGA falls within the White River-Hat Creek (White-Hat) River Basin that includes 63 designated stream segments and 26 lakes/reservoirs. Beneficial uses that are applied to these waters include: state resource water class A and B, Aquatic life Coldwater A, (salmonid spawning) Coldwater B, (salmonid or other coldwater species present), Warmwater A (recreationally important species present), Warmwater B, primary contact recreation, public drinking water, and aesthetics. Title 117 – Nebraska Surface Water Quality Standards should be consulted to determine the applicable beneficial uses for a specific waterbody. Along with the beneficial uses, key fish species identified in the basin include: brook, brown and rainbow trout.

Water quality conditions and beneficial use attainment for these waters are assessed based on information obtained during either the ambient water quality monitoring program or the rotating basin program. Assessment of water quality data and information results in waters being identified as fully supporting all beneficial uses, not supporting (impaired) one or more beneficial use or a water quality concern. The categorization of a waterbody is based upon the available water quality data, the number of water quality criteria violations and exceedance rate used to define non-attainment.

The water quality data used in preparation of the 2002 Section 303(d) list of impaired waters was obtained from the White-Hat basin during the 1998 as a part of the rotating basin monitoring program with a monitoring location being located on the segment WH1-20000 - White River at Crawford, with the parameter of concern being fecal coliform bacteria to assess the primary contact recreation beneficial use. The data indicated 3 of 25 samples exceeded 400/100 ml for an exceedance rate of 12% with allowable rate being <10%. Although the percentage of samples greater than 400/100 ml exceeded 10%, the confidence that the true exceedance rate of the waterbody is greater than 10% was low. For this reason the segment WH1-20000 was identified as a water quality concern and slated for additional monitoring prior to taking corrective action.

Because a five-year rotation is utilized, bacteria data again is being collected from segment WH1-20000 during 2003. Although, it should be noted: the bacteria indicator for assessing primary contact recreation has been changed from fecal coliform to *E. coli*. The available data includes samples obtained from 5/6/03 to 8/18/03 with the results being a geometric mean of 130/100 ml with 5 of 16 exceeding 235/100 ml. Based upon the partial data set, the water body meets the definition of “impaired” however; a final attainment decision will not be made until the monitoring has been completed, with the scheduled completion being September 30, 2003.

Should the collection of remaining data indicate the water quality criteria are exceeded, the waterbody will be included on the 2004 Section 303(d) list of impaired waters, and scheduled for a total maximum daily load (TMDL). In short, a TMDL determines the pollutant load a waterbody can accept without exceeding the applicable water quality criteria and allocates the defined load to the point and nonpoint sources.

In the event a TMDL is developed for segment WH1-20000 an implementation plan will be included with the targeted reductions from point sources such as; municipal, industrial and commercial wastewater treatment facilities and regulated animal feeding operations, being implemented through the National Pollutant Discharge Elimination System program and nonpoint source reductions being implemented through the CWA Section 319 – Nonpoint Source Program. As well, it is likely additional monitoring would be conducted to assist in identifying areas, watersheds or tributaries of significant bacteria loading and targeted implementation pursued.

Nonpoint sources of coliform bacteria – *E. coli*. include: unregulated and/or uncontrolled animal feeding operations, land application of biosolids, livestock grazing and wildlife. In specific regards to livestock grazing desired implementation activities include but are not limited to: restricting or limiting livestock access to tributary streams during the recreation season (May 1-Sept 30), maintaining riparian buffers to reduce or eliminate run-off and manage pastures at a rate to maintain vegetation and avoid the build up of waste.

The land currently managed by the Forest Service does not include segment WH1-20000 however, tributaries draining to the segment are included in the management area therefore actions on the PRGA can impact the downstream water quality. The parameter in question, *E. coli*., has a decay/die off rate of 0.96/day. Based on this, pollutant sources in close proximity to recreationally designated segments have a greater potential to impact the water quality than those farther away.

The proposed plan includes three alternatives: 1) No livestock grazing, 2) Livestock grazing with no change from the current allotment management plan and, 3) Livestock grazing using adaptive management. In regards to these alternatives the elimination of a potential pollutant source would ultimately have the greatest impact on the overall bacteria loading while uncontrolled grazing has the potential to contribute to the bacteria impairment. Rather than tend to either of these extremes, alternative 3 does provide a balance where utilization of the land is allowed but sideboards are established that protect the aquatic resource both in and along the management area as well as downstream in the White River – segment WH1-20000.

3.2.2 Alternative 1 – No Action – No livestock Grazing

Direct and Indirect Effects

Under this alternative there will be no livestock grazing in the project area. This alternative would result in the least amount of impact to bacteria loading.

3.2.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct and Indirect Effects

The effects of Alternative 2 are similar to Alternative 3. See the following section, 3.2.4 Alternative 3 for a description of these effects.

3.2.4 Alternative 3 – Livestock Grazing using Adaptive Management

Grazing occurs with expected results meeting Forest Plan direction. Monitoring will determine if management requires any grazing changes to meet Forest Plan.

Direct and Indirect Effects

Water quality and the streams within the PRGA were discussed with the State of Nebraska Department of Environmental Quality representative. No streams within the project area are designated by the State of Nebraska as water quality impaired, however, the tributaries do drain into the stream segment White River WH1-20000. This water body meets the definition of “impaired” however; a final attainment decision will not be made until the monitoring has been completed, with the scheduled completion being 9/30/03.

Implementation of either action alternative will likely reduce sedimentation levels (bacteria loading) due to the dispersed grazing activity, multi-unit rotations, riparian buffer zones, etc. Alternative 3 would have the least impacts to bacteria loading concerns downstream to the White River. Implementation of LRMP standards and guidelines ensures compliance with the Clean Water Act on the PRGA. The proposed action is in compliance with the CWA because it implements these LRMP standards and guidelines.

3.3 Riparian Resources

3.3.1 Affected Environment

The dominant hardwood tree species are green ash, boxelder, hackberry, and plains cottonwood. Ponderosa pine is common and tends to encroach in the upper reaches of riparian areas.

Green ash, boxelder, and hackberry make up the majority of the overstory component in the PRGA riparian habitats. They exist in multiple age classes, ranging from seedlings to mature and overmature. Cottonwood typically creates older even-aged stands that are mature to overmature and nearing a decadent stage. The regeneration potential of cottonwood is closely associated with major flooding events. Due to flood control measures within the watersheds, flooding is less frequent and the potential for cottonwood regeneration has been greatly reduced. American elm was also a major component in riparian areas on the PRGA but was reduced in population due to the spread of Dutch elm disease during the 1950's and 1960's, which killed the majority of elms. Other tree species that occur as isolated trees or small stands include hawthorn, narrowleaf cottonwood, quaking aspen, and bur oak.

The dominant shrubs in the PRGA include western snowberry, chokecherry, wild plum, wild rose, wild grape, gooseberry, and raspberry. Snowberry tends to become established in dense stands. Both chokecherry and wild plum usually form dense but isolated stands or thickets in riparian areas; however, they are more common on steep north-facing slopes of canyons or in open well-watered sites in the ponderosa pine savannahs. Wild grape is quite common in riparian areas and often totally envelope mature trees. Wild rose, gooseberry, and raspberry do not occur in dense stands but are scattered throughout the riparian areas.

Common forbs that occur in the understory include Oregon grape, false gromwell, Columbine, several mints, strawberry, Mullein, stinging nettles, western ragweed, golden rod, blue cardinal flower, and horsetail.

The dominant grasses and grass-like species include sedges, Kentucky bluegrass, redtop bent, Canada wildrye, and smooth brome.

Livestock prefer to graze herbaceous vegetation during the growing season since plants are lush and high in nutrition. Plants are divided into three groups according to how they respond to grazing pressure; decreasers, those preferred by livestock; increasers, those less palatable yet providing adequate forage value, and undesirable which are those plants which are not palatable to livestock. With improper stocking rates and/or season of use decreasers tend to diminish over time while increasers make up a greater portion of the plant composition. With continued improper grazing undesirables begin to make up a greater percentage of the plant species present. In extreme cases plant communities change from native to exotics. Such changes in plant composition may move the community back to an earlier succession stage or cause a shift from natives to exotics moving the vegetation community to a different seral stage or state.

An example of this is Kentucky bluegrass, and smooth brome; both are introduced species that are very tolerant of livestock grazing. These sod-forming grasses in many of the riparian areas have displaced native vegetation. This shift had occurred due to improper grazing practices of the 30's through the 60's. Once establish both species are hard to remove from the ecosystem.

Numerous riparian studies have been conducted over the PRGA since 1979. Methodologies include Riparian Ecosystem Scorecard-Black Hills and Pine Ridge Riverine and Woody Draw, Ecological Rating Cottonwood, Green Ash, Hackberry, modified Boxelder Scorecard (Uresk), Daubenmire plots, Proper Functioning Condition, and photograph points.

This work has been completed on Soldier Creek (North, South and Middle Fork), Big Bordeaux, East Ash, West Ash, Little, Cunningham, Indian, Trunk Butte, Dead Horse, Dead Man, White Clay, Sawlog, Cherry, and Chadron Creeks.

In the spring and early summer of 2003 a four-person team, with wildlife and rangeland management backgrounds, from the U.S. Forest Service and the Nebraska Game and Parks Commission, conducted a riparian evaluation using the "Riparian Characteristics Evaluation R2-2200-RCS USFS Rangeland Analysis and Management Training Guide 1996) (USDA 1996) on the following riparian areas; Bordeaux, Chadron, Cunningham, Deadhorse, East Ash, Indian Creek, Soldier Creek, Lower Sawlog, Trunk Butte, and West Ash.

From previous years work and this latest effort of riparian evaluation, a determination of whether or not a particular riparian area or sections of riparian are adequately regenerating and if it is meeting or moving toward the desired conditions of the LRMP direction.

3.3.2 Alternative 1 – No Action – No livestock Grazing

Direct Effects and Indirect Effects

Riparian areas that are in an early seral stage and that have low survival rate of seedling regeneration will slowly begin to start regenerating and possibly become self-sustaining in the long term.

Riparian areas that are in an early intermediate to late intermediate seral stage that have had some survival of seedling regeneration and contain mid-size trees will continue to progress toward self-sustaining in the long term.

Riparian areas that are at a late seral stage that have low survival rate of seedling regeneration and contain a large number of mature trees and low survival rate of seedling regeneration will slowly begin to start regenerating and possibly become self-sustaining in the long term.

The degree and rate of regeneration will not only respond to the absence of livestock grazing but will also be dependent upon current understory vegetation type and management activity (recreation, timber, prescribed fire, wildlife habitat) and natural weather event such as flooding, fire, and drought that would occur over the long-term. For example a riparian area that is currently in Late seral stage that contains large mature cottonwood with very little to no other age class of tree and contains an understory dominated by Kentucky bluegrass, will likely remain in this ecological state for many years unless a major disturbance such as flooding would occur. This would for example provide a seedbed opportunity for cottonwood seed within the areas of scouring and gravel deposits along meanders of the creek that were created.

Other riparian species such as green ash require different types of disturbance to allow seed-soil contact for germination of seedlings. Kentucky bluegrass is a sod-forming grass that, once established, is difficult to remove and may never be eliminated through just one management practice of removing livestock grazing.

Alternative 1. No Action. The direct effects of eliminating livestock grazing will be reductions in utilization of both herbaceous and woody riparian vegetation. The long-term effects include increases in plant canopy and soil binding herbaceous plants and increased stream bank stability and shading by riparian shrub species (1995 BHNH Livestock Grazing EA).

Table 3-1 displays a total of 36 management units contain portions of riparian areas. Under this alternative 20 riparian areas will continue in an upward trend, 12 riparian areas will move from downward to an upward trend and 4 riparian areas will move from static to an upward condition.

Table 3-1. Riparian Conditions Under Alternative 1

Management Unit	Regeneration	Trend Change	Proposed Management
Aspen (PR11)	Adequate	Continue Up	Continue no livestock
Barrel Butte (PR60)	Not adequate	Down to Up	Remove livestock
Barrel Butte (PR60A)	Adequate	Continue Up	Remove livestock
Barrel Butte (PR60B)	Adequate	Continue Up	Remove livestock
Brickner (PR38)	Adequate	Continue Up	Remove livestock
Big Bordeaux (PR37S)	Not adequate	Static to Up	Remove livestock
Big Bordeaux (PR37E)	Not adequate	Down to Up	Remove livestock
Chadron Creek (PR24F)	Adequate	Continue Up	Remove livestock
Cherry Creek (PR51A)	Adequate	Continue Up	Continue no livestock
Collons (PR35N)	Not adequate	Static to Up	Continue no livestock
Collons (PR35M)	Adequate	Up	Continue no livestock
Collons (PR35S)	Adequate	Up	Continue no livestock
Dairy (PR7)	Adequate	Up	Continue no livestock

Management Unit	Regeneration	Trend Change	Proposed
Deadhorse (PR20)	Not adequate	Static to Up	Remove livestock
Deadhorse (PR20A)	Adequate	Continue Up	Continue no livestock
East Ash (PR14)	Slow rate	Continue Up at faster rate	Remove livestock
East Ash (PR16)	Slow rate	Continue Up at faster rate	Remove livestock
Flannigan Butte (PR26)	Not adequate	Down to Up	Remove livestock
Gobbler (PR39)	Not adequate	Static to Up	Remove livestock
Gobbler (PR40)	Not adequate	Down to Up	Remove livestock
Hallsted (PR42B)	Not adequate	Down to Up	Remove livestock
Horseshoe (PR1S)	Adequate	Continue Up	Remove livestock
Horseshoe (PR1AS)	Adequate	Continue Up	Remove livestock
King's Canyon (PR33A)	Slow rate	Continue Up	Continue no livestock
Lower Sawlog (PR0)	Adequate	Continue Up	Remove livestock
Lower Sawlog (PR01)	Not adequate	Down to Up	Remove livestock
Rattlesnake Butte (PR25)	Not adequate/spring	Down to Up	Remove livestock
Roberts (PR17E)	Adequate	Continue Up	Remove livestock
Roberts (PR17W)	Adequate	Continue Up	Remove livestock
Soldier Creek (PR53NW)	Adequate	Continue Up	Remove livestock
Soldier Creek (PR53NE)	Adequate	Continue Up	Remove livestock
Soldier Creek (PR53SE)	Adequate	Continue Up	Remove livestock
Soldier Creek (PR53SW)	Adequate	Continue Up	Remove livestock
Trunk Butte (PR19N)	Not adequate	Down to Up at a faster rate	Remove livestock
Trunk Butte (PR18)	Not adequate	Down to Up at a faster rate	Remove livestock

Management Unit	Regeneration	Trend Change	Proposed
West Ash (PR8)	Adequate	Continue Up	Remove livestock

3.3.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct Effects and Indirect Effects

Under this alternative 23 riparian areas will continue in an upward trend, 9 riparian areas will continue to move downward, and 4 riparian areas will remain in static condition.

Table 3-2 illustrates a total of 36 management units contain portions of riparian areas.

Table 3-2 Riparian Conditions Under Alternative 2

Management Unit	Regeneration	Trend	Management
Aspen (PR11)	Adequate	Up	No livestock use
Barrel Butte (PR60)	Not adequate	Down	Rotation
Barrel Butte (PR60A)	Adequate	Up	Grazed in spring and fall
Barrel Butte (PR60B)	Adequate	Up	Exclosure-no grazing
Brickner (PR38)	Adequate	Up	Livestock use 6/1-10/22
Big Bordeaux (PR37S)	Not adequate	Static	Grazed in spring
Big Bordeaux (PR37E)	Not adequate	Down	Water-gap
Chadron Creek (PR24F)	Adequate	Up	Periodic livestock use
Cherry Creek (PR51A)	Adequate	Up	No livestock use
Collons (PR35N)	Not adequate	Static	Allow 2-4 days use - plantings
Collons (PR35M)	Adequate	Up	No livestock use - plantings
Collons (PR35S)	Adequate	Up	No livestock use - plantings
Dairy (PR7)	Adequate	Up	No livestock use
Deadhorse (PR20)	Not adequate	Static	Mid - Late summer use

Deadhorse (PR20A)	Adequate	Up	No livestock use
East Ash (PR14)	Slow rate	Up	Grazed in spring and fall – three pasture rotation
East Ash (PR16)	Slow rate	Up	Grazed in spring and fall – three pasture rotation
Flannigan Butte (PR26)	Not adequate	Down	Grazed after 9/20 annually
Gobbler (PR39)	Not adequate	Static	Grazed in spring
Gobbler (PR40)	Not adequate	Down	Water-gap
Hallsted (PR42B)	Not adequate	Down	Water-gap fence from livestock
Horseshoe (PR1S)	Adequate	Up	Grazing fall, winter or spring
Horseshoe (PR1AS)	Adequate	Up	Grazing fall, winter or spring
King’s Canyon (PR33A)	Slow rate	Up	No livestock use
Lower Sawlog (PR0)	Adequate	Up	Grazed in fall or spring
Lower Sawlog (PR01)	Not adequate	Down	Grazed in fall and spring
Rattlesnake Butte (PR25)	Not adequate/spring	Down	Grazed under rotation plan
Roberts (PR17E)	Adequate	Up	Grazed under riparian grazing dates
Roberts (PR17W)	Adequate	Up	Grazed under riparian grazing dates
Soldier Creek (PR53NW)	Adequate	Up	Rotation system
Soldier Creek (PR53NE)	Adequate	Up	Grazed under riparian grazing dates and use of rider
Soldier Creek (PR53SE)	Adequate	Up	Rotation system
Soldier Creek (PR53SW)	Adequate	Up	Grazed under riparian grazing dates and use of rider

Trunk Butte (PR19N)	Not adequate	Down	Grazed in spring, fall or early summer depending upon rotation plan
Trunk Butte (PR18)	Not adequate	Down	Grazed in spring, fall or early summer depending upon rotation plan
West Ash (PR8)	Adequate	Up	Maintain current riparian dates

3.3.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct Effects and Indirect Effects

Under this alternative 23 riparian areas will continue in an upward trend, 8 riparian areas will move from downward to an upward trend and 4 riparian areas will move from static to an upward trend, and one riparian area will move from down to a static condition.

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to riparian resources. All management tools listed in this table were reviewed for this analysis, but only those considered to impact riparian resources were further evaluated. Specific management strategies that would have the most impact to riparian areas have been analyzed. They include heavy stocking intensities and density, and grazing during woody plant regeneration periods. Other management strategies would have minimal impact to the riparian resource. A significant grazing management strategy listed in the “toolbox” is implementing no grazing between June 15 and September 20. Implementation of this practice will allow woody plants to regenerate during their growing period. Grazing at heavy stocking intensities and density outside of these dates could have a negative impact on the riparian vegetative resource. A light stocking intensity or livestock density would have minimal impacts to the vegetative riparian resource. Grazing activities between June 15 and September 20 would likely have negative impacts to vegetation and not allow for desired regeneration. Utilizing a range rider to move livestock from the riparian areas on a frequent basis could reduce this impact. Other methods such as manipulating livestock use patterns by adjusting water availability can also reduce negative impacts to the riparian resource but are not as effective as eliminating grazing during this period of time. The rate of improvement will also depend upon existing vegetation within the riparian areas, occurrence of flooding events, and utilization by wildlife such as whitetail and mule deer, and elk.

Table 3-3 illustrates a total of 36 management units containing portions of riparian areas.

Table 3-3 Riparian Conditions Under Alternative 3

Management Unit	Regeneration	Trend Change	Proposed Management
------------------------	---------------------	---------------------	----------------------------

Management Unit	Regeneration	Trend Change	Proposed Management
Aspen (PR11)	Adequate	Continue Up	Continue no livestock use
Barrel Butte (PR60)	Not adequate	Change from Down to Up	Exclude livestock
Barrel Butte (PR60A)	Adequate	Continue Up	Implement riparian grazing dates
Barrel Butte (PR60B)	Adequate	Continue Up	Exclosure-no grazing
Brickner (PR38)	Adequate	Continue Up	Continue livestock use 6/1-10/22
Big Bordeaux (PR37S)	Not adequate	Change from Static to Up	Fence from livestock use
Big Bordeaux (PR37E)	Not adequate	Change from Down to Up	Remove water-gap
Chadron Creek (PR24F)	Adequate	Continue Up	Continue periodic livestock use
Cherry Creek (PR51A)	Adequate	Continue Up	Continue no livestock use
Collons (PR35N)	Not adequate	Change from Static to Up	Continue 2-4 days livestock use - plantings
Collons (PR35M)	Adequate	Continue Up	Continue no livestock use
Collons (PR35S)	Adequate	Continue Up	Continue no livestock use
Dairy (PR7)	Adequate	Continue Up	Continue no livestock use
Deadhorse (PR20)	Not adequate	Change from Static to Up	Fence from livestock use
Deadhorse (PR20A)	Adequate	Continue Up	Continue no livestock use
East Ash (PR14)	Slow rate	Continue Up	Implement riparian dates
East Ash (PR16)	Slow rate	Continue Up	Fencing to create riparian pastures,

Management Unit	Regeneration	Trend Change	Proposed Management
			exclude use, implement riparian dates, continue range rider
Flannigan Butte (PR26)	Not adequate	Change from Down to Up	Fence from livestock
Gobbler (PR39)	Not adequate	Change from Static to Up	Implement riparian dates
Gobbler (PR40)	Not adequate	Change from Down to Up	Remove water-gap fence from livestock
Hallsted (PR42B)	Not adequate	Change from Down to Up	Remove water-gap fence from livestock
Horseshoe (PR1S)	Adequate	Continue Up	Continue grazing fall, winter or spring
Horseshoe (PR1AS)	Adequate	Continue Up	Continue grazing fall, winter or spring
King's Canyon (PR33A)	Slow rate	Continue Up	Continue o livestock use
Lower Sawlog (PR0)	Adequate	Continue Up	Implement riparian grazing dates
Lower Sawlog (PR01)	Not adequate	Change from Down to Up	Reduce AUMs and implement riparian dates
Rattlesnake Butte (PR25)	Not adequate/spring	Change from Down to Up	Fence from livestock
Roberts (PR17E)	Adequate	Continue Up	Continue riparian grazing dates
Roberts (PR17W)	Adequate	Continue Up	Continue riparian grazing dates
Soldier Creek (PR53NW)	Adequate	Continue Up	Continue riparian grazing dates and rider
Soldier Creek (PR53NE)	Adequate	Continue Up	Continue riparian grazing dates and rider
Soldier Creek (PR53SE)	Adequate	Continue Up	Continue riparian grazing dates and rider
Soldier Creek (PR53SW)	Adequate	Continue Up	Continue riparian grazing dates and rider

Management Unit	Regeneration	Trend Change	Proposed
Trunk Butte (PR19N)	Not adequate	Change from Down to Up	Implement riparian grazing dates and reduce AUMs
Trunk Butte (PR18)	Not adequate	Change from Down to Static	Change season of use, implement a rider
West Ash (PR8)	Adequate	Continue Up	Maintain current riparian dates

3.4 Archeological Resources

National Historic Preservation Act

A National Programmatic Agreement (PA) has been executed between the National Council of State Historical Preservation Offices (SHPOs), Advisory Council on Historic Preservation, and the USDA Forest Service (6/25/95). According to this PA, the specific planning options selected for meeting the requirements of the NHPA include development of a Memorandum of Understanding (MOU) with the SHPO that defines the process of inventory, evaluation, and management of cultural resources. The most recent revision of the regional MOU was dated 7/26/96. Consultation relating to the proposed action has been completed with the Nebraska SHPO and the MOU has been implemented in the following manner: Under each alternative the inventory, evaluation and management will proceed in accordance with the MOU between the Nebraska SHPO and the Nebraska National Forest. A copy of the MOU is located in the project file.

In accordance with the Memorandum of Understanding Among the Rocky Mountain Region of the USDA Forest Service and the State Historic Preservation Offices of Colorado, Wyoming, South Dakota, and Nebraska Regarding Rangeland Management Activities (Range MOU), a records review of the project area was conducted. The objective of the records review is to identify historic properties within the proposed project area and to determine effect under Section 106 of the National Historic Preservation Act (NHPA).

A proposed action would be considered significant if it resulted in an "adverse effect" (as defined in 36 CFR Part 800.5) to a property that is listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places (NRHP). Potential adverse effects can usually be mitigated through site-specific measures. When these measures are implemented, potential adverse effects are usually negated, and the State Historic Preservation Officer makes a determination of "no historic properties affected" [as defined in 36 CFR Part 800.4(d)(1)].

3.4.1 Affected Environment

Records Review

Forest Service Archaeologist, Keri Hicks, completed a records review of all previous surveys and sites recorded within the project area on August 20, 2003. Nebraska National Forest Heritage Program Files maintained at the Supervisor’s Office in Chadron, Nebraska were examined. A total of 68-heritage resource inventories have been conducted within the project area. During these investigations, 17,378 acres, 32 percent of the total project area, were intensively surveyed. Table 3-4 shows what percent of each allotment has been surveyed. As a result, 47 heritage resources were identified and recorded (Table 3-5). Based on this existing data, a ratio of one heritage resource per 370 acres is predicted. Therefore, approximately 98 additional heritage resources may be present in the remaining un-surveyed 36,246 acres of the project area.

Heritage resources recorded within the project area range from prehistoric scatters of flaked stone dating to the Paleoindian era, to historic homesteads, up through post World War II military activity. No sites listed on the NRHP are present within the project area. Three sites have been evaluated as eligible to the NRHP and one as potentially eligible. A fence has been constructed around one eligible site in order to protect it from livestock damage. The remaining two eligible sites do not yet exhibit damage from grazing activities. The potentially eligible site is located on non-National Forest System land. Thirty sites have been determined not eligible to the NRHP and the eligibility status of 13 sites is either unknown or unevaluated. According to the Range MOU, the unknown or unevaluated sites must be evaluated if they are located in areas where the Rangeland staff indicates grazing impacts will most likely be severe.

The records review is only the first phase of compliance with the Range MOU and Section 106 of the NHPA. Paragraph 5 of the Range MOU states that, “Range improvements, including but not limited to water developments, fence construction, (and) livestock handling facility(ies), shall be considered undertakings in accordance with Section 106 of the NHPA, and shall require an intensive survey and consultation in accordance with 36 CFR part 800. When new rangeland improvements or other ground disturbing rangeland-related projects and activities are proposed, an intensive survey will be conducted in order to identify and protect heritage resources. In addition, the Range MOU requires the Nebraska National Forest to complete an intensive survey of all rangeland allotments managed by the Nebraska National Forest within Nebraska by 2011. In order to accomplish this goal, a target of 3000 new acres must be surveyed annually.

Table 3-4 Summary of Heritage Resource Inventories - Percent of Allotment Surveyed

Allotment	National Forest Acres Surveyed	Percent of National Forest Acres Surveyed
Aristocrat Butte (PR28)	3.37	0.5%
Aspen (PR11)	0	0.0%
Barrel Butte (PR60A, PR60B, PR60)	4.18	0.9%
Big Bordeaux (PR37N, PR37S, PR37E)	1762.66	89.4%
Brickner (PR38)	110.63	98.6%
Chadron Creek (PR24A-F)	191.27	8.2%
Cherry Creek (PR51, PR51A)	565.96	98.7%
Collons (PR35, PR35N, PR35M, PR35S)	1105.75	97.2%
Dairy (PR6, PR7)	0	0.0%
Deadhorse (PR20, PR20A)	169.12	22.0%

Allotment	National Forest Acres Surveyed	Percent of National Forest Acres Surveyed
Deadman Creek (PR52E, PR52W)	551.89	98.6%
East Ash (PR14, PR15, PR16)	370.21	8.6%
Flannigan Butte (PR26, PR47)	3.85	0.5%
Gobbler (PR39, PR40, PR43)	2881.75	99.5%
Hallsted (PR42A-D)	738.62	98.9%
Homestead (PR29)	24.30	2.6%
Horseshoe (PR1N, PR1S, PR1AN, PR1AS)	209.61	97.4%
King's Canyon (PR33, PR61)	1151.08	77.2%
Little Creek (PR12S, PR12W)	0	0.0%
Lower Sawlog (PR0, PR01, PR4)	0	0.0%
Rattlesnake Butte (PR25)	39.53	6.2%
Roberts (PR17, PR17E, PR17W, PR17N)	3.21	0.2%
Rock Canyon (PR5)	0	0.0%
Sandy Trail (PR27)	0.29	0.2%
School Section (PR34)	34.64	6.2%
Scott (PR44, PR46)	25.43	6.7%
Slicker (PR30A, PR30B, PR30C)	317.02	8.8%
Soldier Creek (PR53NW, PR53NE, PR53SW, PR53SE)	100.84	1.1%
Steffensen (PR21, PR22)	298.92	27.1%
Strong Canyon (PR41W, PR41M, PR41E)	10.02	0.8%
Table Road (PR13, PR15A)	80.55	18.5%
Trunk Butte (PR19N, PR19S, PR18)	1476.60	31.5%
West Ash (PR8, PR9, PR10, PR11A)	0	0.0%
Wetterstrom (PR31W, PR31M, PR31E)	16.14	1.7%

Table 3-5 Known Heritage Resources Within the Project Area

Site Number	Site Name	Site Type	NRHP Status
25DW5		Historic Habitation	Not Eligible
25DW6		Historic Habitation	Not Eligible
25DW22	Still Site	Historic Distillery	Eligible
25DW27		Prehistoric Artifact Scatter, Historic Dump	Not Eligible
25DW28		Prehistoric Artifact Scatter	Unevaluated
25DW36		Prehistoric Rockshelter	Potentially Eligible
25DW39		Prehistoric Artifact Scatter	Not Eligible
25DW40		Prehistoric Artifact Scatter, Historic Dump	Unevaluated
25DW41		Prehistoric Artifact Scatter	Not Eligible
25DW42		Historic Dump	Not Eligible
25DW43		Historic Habitation	Unevaluated
25DW44		Historic Habitation	Unevaluated
25DW45		Historic Dump	Not Eligible
25DW46	Jacob's Farmstead	Historic Habitation	Unevaluated
25DW118		Historic Habitation	Not Eligible
25DW120		Historic Habitation	Unevaluated
25DW157		Prehistoric Artifact Scatter	Not Eligible
25DW158		Historic Habitation	Not Eligible
25DW159	Ricker Homestead	Historic Habitation	Not Eligible
25DW160	Willis Homestead	Historic Habitation	Not Eligible

Site Number	Site Name	Site Type	NRHP Status
25DW161		Historic Debris (Windmill)	Not Eligible
25DW162	Cumming's Homestead	Historic Habitation	Eligible
25DW163		Historic Debris (Collapsed Windmill)	Not Eligible
25DW164	Grimm Homestead	Historic Habitation	Not Eligible
25DW165		Historic Dams/Flood Control Features	Not Eligible
25DW174		Historic Habitation	Not Eligible
25DW187	Walcott Homestead	Historic Habitation	Not Eligible
25DW200		Prehistoric Artifact Scatter	Unevaluated
25DW229	Mayfield Homestead	Historic Habitation	Not Eligible
25DW232		Historic Habitation	Not Eligible
25DW233		Historic Dump	Not Eligible
25DW234		Historic Habitation	Not Eligible
25DW235	Whiskey Cave	Historic Distillery	Eligible
25DW243		Historic Dump	Not Eligible
25DW244		Historic Dump	Not Eligible
25DW245		Historic Habitation	Not Eligible
25DW246		Historic Dump	Not Eligible
25DW250		Historic Habitation	Not Eligible
25DW251		Prehistoric Artifact Scatter	Not Eligible
25DW252		Prehistoric Artifact Scatter	Not Eligible
25DW253		Historic Dump	Not Eligible
25SX461			Unknown
25SX462	Little America	Historic Habitation - CCC Camp	Unknown
25SX463	Officer's Club	Historic Habitation	Unknown
25SX464	NCO Cabin	Historic Habitation	Unknown
25SX465	Care Taker's Cabin	Historic Habitation	Unknown
25SX466		Prehistoric Artifact Scatter	Unevaluated

3.4.2 Alternative 1 – No Action – No livestock Grazing

Direct Effects and Indirect Effects

Under this alternative there will be no livestock grazing in the project area. This alternative would result in the least amount of ground disturbance, and should not result in any direct effects to significant heritage resources.

If livestock were removed, there would be no incentive to construct new rangeland improvements (requiring new survey) or to meet the 3000-acre annual target of the Range MOU. The indirect effect would be that few new sites would be discovered and our knowledge of heritage resources in the project area would remain stagnant.

3.4.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct Effects and Indirect Effects

The effects of Alternative 2 are similar to Alternative 3. See the following section, 3.4.4 Alternative 3 for a description of these effects.

3.4.4 Alternative 3 – Livestock Grazing using Adaptive Management

Grazing occurs with expected results meeting Forest Plan direction. Monitoring will determine if management requires any grazing changes to meet Forest Plan.

Direct Effects and Indirect Effects

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to archeological resources. Most measures will have minimal to no impact to the resource with the exception of ground-disturbing related activities. All management tools listed in this table were reviewed for this analysis, but only those considered to impact archeological resources were further evaluated. This would include measures such as construction of range improvements, maintenance of these improvements (including travel to these sites), and livestock numbers (density). Livestock grazing has the potential to adversely impact significant heritage resources through trampling, obliteration or displacement. Sites located within the vicinity of livestock congregation areas, such as near water tanks, salt licks, gates or along fence lines or other livestock trails, suffer the most damage. The severity of grazing impacts to heritage resources increases proportionately with the number and duration of livestock congregation.

Livestock grazing requires the construction and maintenance of rangeland improvements including water tanks, pipelines, fences, and access roads. The installation and maintenance of rangeland improvements typically requires new ground disturbance. Projects requiring new ground disturbance, by definition, have the potential to adversely effect significant heritage resources. Additional indirect effects of livestock grazing include increased visibility of heritage resources caused by erosion and exposure, which can in turn lead to increased vandalism of sites by the public.

3.5 Paleontological Resources

3.5.1 Affected Environment

In Chapter 1 of the 2001 Revision of the LRMP, the Grassland-Wide and Forest-Wide Direction for paleontological resources states “Prior to ground-disturbing activities, conduct paleontologic surveys in any area where there is a high potential to encounter these resources”. High potential is fossiliferous geologic units that regularly and predictably produce vertebrate fossils and/or scientifically significant nonvertebrate (plant and invertebrate) fossils, and that are at risk of natural degradation and/or human-caused adverse impacts *i.e.* Fossil Yield Potential (FYP) Class 5. The geologic formations encountered on the Chadron Creek Fuels Reduction Project are FYP Class 5 as these units contain “vertebrate fossils and/or scientifically significant nonvertebrate fossils and are *known and documented* to occur consistently, predictably, and/or abundantly”.

Geology and Paleontology

Capping the entire Pine Ridge Escarpment in Nebraska is the Tertiary Arikaree Group. Formations composing the Arikaree Group are the Upper Harrison (Miocene), Harrison (Oligocene) Monroe Creek (Oligocene).

Upper Harrison Formation (Miocene): This geological unit contains up to 54 feet of yellowish to grayish brown, fine to medium grained, thin to medium bedded (2-15 feet), massive or weakly crossbedded volcanoclastic sandstones preserving abundant fine rhizoliths, root molds, and underground insect burrows (LaGarry and LaGarry, Open-File). The total thickness of the Upper Harrison Formation is approximately 160 feet of volcanoclastic sand with thin freshwater limestones and silica-cemented horizons. Hunt (1985) reports vertebrate fossils from this geological unit. Significant accumulations of fossils occur almost entirely in the basal channel fills and not in the overlying massive sands. Most of the extremely fossiliferous localities at Agate Fossils Beds National Monument are in the Upper Harrison Formation. These localities produce masses of disarticulated bones, skulls, and partial skeletons; nearby are the preserved dens and burrows of ancient beavers and bear-dogs.

Harrison Formation (Oligocene): The Harrison Formation often forms vertically weathering cliffs seen along Highway 385 west of Chadron. These cliffs are composed of gray to tan silty volcanoclastic sandstone (up to 80% volcanic ash) and are as much as 300 feet thick. Horizons of log-like concretions and nodules are a common characteristic. This geological unit consists of often poorly indurated volcanoclastic sandstones having fine siliceous and calcareous rhizoliths, root molds, and underground insect burrows are common within the upper part of the formation. These beds are well exposed along the flank and top of the Pine Ridge Escarpment. Vertebrate fossils occur as isolated specimens or local concentrations (Hunt, 1985). Much of the vertebrate fauna of the Harrison Formation is the same as the underlying Monroe Creek Formation. Additional faunal information includes large and small carnivores, turtles, tortoises, oreodonts, horses, chalicotheres, rhinos, giant pigs, and camels. Invertebrates such as snails and some aquatic plants are also known from the Harrison Formation.

The entire project area, except where down cutting from erosion has exposed the bedrock, is covered by a variety of soils and/or residuum. Soils and residuum develop from the bedrock as mechanical and chemical erosion takes place. In 1996, Western Interior Paleontological Society (WIPS) members conducted a pedestrian paleontological survey in the general area of the project. Very few fossils were found; however a very significant oreodont (*Promerycochoerus*) was discovered in a canyon wall next to Chadron Creek. WIPS excavated the oreodont from an area in the Coffee Mill Butte 7.5" Quadrangle and repositied it at the Denver Museum of Nature and Science. The fossil oreodont was encased in a soil determined to be the Canyon-Bridget-Oglala by the WIPS team.

3.5.2 Alternative 1 – No Action – No livestock Grazing

Direct Effects and Indirect Effects

Under this alternative there will be no livestock grazing in the project area. This alternative would result in the least amount of ground disturbance, and should not result in any direct effects to significant paleontological resources.

If livestock were removed, there would be no incentive to construct new rangeland improvements. The indirect effect would be that few new sites would be discovered and our knowledge of paleontological resources in the project area would remain stagnant.

3.5.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct Effects and Indirect Effects

The effects of Alternative 2 are similar to Alternative 3. See the following section, 3.5.4 Alternative 3 for a description of these effects.

3.5.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct Effects and Indirect Effects

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to paleontological resources. Most measures will have minimal to no impact to the resource with the exception of ground-disturbing related activities. All management tools listed in this table were reviewed for this analysis, but only those considered to impact paleontological resources were further evaluated. This would include measures such as construction of range improvements, maintenance of these improvements (including travel to these sites), and livestock numbers (density). The fossil resources within the Pine Ridge Escarpment typically crop out within the vertical walls and generally won't be affected by livestock grazing. Some fossil resources crop out in gullies and in these situations, trampling by livestock is possible. Periodic field checking should be done in areas producing vertebrate fossils and mitigate these fossils as they are discovered.

- 1) During ground disturbing activities such as installing water pipelines, a qualified paleontologist is required to be present to monitor for any impact to paleontological resources and to remove any paleontological specimens according to professional standards prior to their destruction.
- 2) During ground disturbing activities that penetrates the bedrock, personnel are to be aware of any paleontological resources and stop construction when vertebrate fossils are impacted and notify a paleontologist.

Not every sedimentary layer within the Pine Ridge Escarpment is fossiliferous, as mentioned above. Trails created by livestock and subsequently traveled over time may erode to a fossiliferous bedrock unit. As the trails deepen, runoff of precipitation may be concentrated in these trails, adding to the rate of erosion. Periodic field checking should be done in areas producing vertebrate fossils and mitigate these fossils as they are discovered.

3.6 Forested Resources and Fire/Hazardous Fuels _____

3.6.1 Affected Environment

Forest Vegetation

A mix of grass parkland (grass uplands) intermixed with stringers of ponderosa pine dominates the Pine Ridge District. Topographically, forested areas are generally concentrated along drainages and radiate out from these sites. The topography of the Pine Ridge District often makes it difficult to separately map upland and woody draw areas. Draws or drainages dissect the majority of stands resulting in an intermixing of species with hardwoods being found primarily in the drainages in riparian areas or in wooded draws. Therefore, at a landscape scale, all forested vegetation except riparian areas will be combined. Riparian vegetation will be covered under a separate section.

Species Composition

Outside riparian areas, ponderosa pine is the dominant tree throughout all seral stages. Plant associations found on the district are described in *Plant Associations of Region Two* (Johnston 1987). Associations are influenced primarily by aspect and soils. In upland sites, the only tree species occasionally found in association with ponderosa pine is Rocky Mountain juniper (*Juniperus scopulorum*).

Drainages (woody draws) often have a deciduous tree component along with a more developed shrub layer. Forest Plan direction is to manage wooded draws to perpetuate multiple layers and age classes of vegetation (LRMP) pg. 2-83). Green ash (*Fraxinus pennsylvanica*) is the most common associate of ponderosa pine, but box elder (*Acer negundo*), western hackberry (*Celtis occidentalis*) and American elm (*Ulmus americana*) are also found. A few small, isolated aspen (*Populus tremuloides*) clones are also scattered on the District. These remnant clones on the Pine Ridge District were not given any special designation in the Forest Plan, but the goal is protect these clones and consider opportunities for enhancement.

The most common shrub species include snowberry (*Symphoricarpos albus*), skunkbush (*Rhus trilobata*), poison ivy (*Toxicodendron rydbergii*), chokecherry (*Prunus virginiana*) and common juniper (*Juniperus communis*). Mountain mahogany (*Cercocarpus montanus*) is locally common in some areas. Outside of forested areas, snowberry and wild plum (*Prunus Americana*), and silver buffaloberry (*Sheperdia argentea*) are found in small patches.

Vegetative Structural Stages

The long-term desired condition described in the Forest Plan for the Pine Ridge Geographic Area (LRMP) is to maintain the following distribution of vegetative structural stages (VSS):

Table 3-6 Distribution of vegetative structural stages (VSS)

Vegetative Structural Stage	Percent	Canopy closure
VSS 1: Grass/ Forb*	40 to 60% of Geographic Area	N/A
VSS 2: Shrub / Seedling/ sapling	15 to 25% of forested area	N/A
VSS 3: Young to Mid- aged	15 to 25% of forested area	Variable
VSS 4: Mature	40% of forested area	Emphasize canopy closure less than 40% (mature open)
VSS 5: Old growth / late successional	20% of forested area	Emphasize development of this stage

* VSS 1 includes the current grass-dominated parklands.

Using data collected as part of a recent stand exam as being representative of the district, the majority of the landscape would be classified as VSS 4. Most stands are single-storied. The young to mid-aged stage occurs, but is not dominant across stands. Ponderosa pine old growth is generally lacking. Regeneration of both conifers and hardwoods is present in most stands, though the amount and health of regeneration is primarily affected by the amount of overstory. Canopy closures tend to be higher than 40 percent, but there is a range of conditions present across the District.

Outside of localized heavy use areas where compaction or physical damage may affect tree health, mature trees are usually not greatly impacted by normal grazing operations. However, livestock grazing can directly or indirectly effect regeneration of conifers and hardwoods, affecting long-term stand structure and species composition.

A. Stand Regeneration

There are two components to conifer regeneration of interest on the Pine Ridge: 1) the encroachment of ponderosa pine into the grass parkland (grass uplands) and; 2) the establishment of pine under existing tree cover. The second concern also includes the increasing dominance of pine in woody draws and other changes in species composition. This discussion will focus on the effects that livestock grazing may have on these components of stand structure and composition.

1. Establishment of conifers in parkland (grass uplands)

It has long been recognized that grass competition can exclude or reduce the establishment rate and growth of tree seedlings (McDonald and Fiddler 1999; Belsky and Blumenthal 1997; Howard 2001). The intensive livestock grazing that occurred over much of the West during the Euro-American settlement period both reduced competition with grass and changed the historical fire frequency. Research has indicated that this combination of events likely allowed conifer expansion into former grass-dominated sites and allowed conifer density to increase in many parts of the West (Belsky and Blumenthal 1997; Touchan and others 1995).

Research at Wind Cave National Park, north of the Pine Ridge, has indicated that the recent encroachment of pine into grassland communities has been more affected by fire exclusion than changes in the competitive relationship between grasses and woody vegetation (Brown and Sieg 1999). Since the Pine Ridge is similar in many respects to the savanna areas in Wind Cave, this research likely applies to this area also. In some years, disturbance caused by livestock grazing may contribute to conifer seedling establishment in parkland (grass uplands), but fire exclusion may be more critical.

2. Conifer regeneration and species composition

Recent stand exam data has documented the existence of some amount of pine regeneration in most stands. The density of regeneration is primarily influenced by the degree of overstory canopy closure. Ponderosa pine has wide ecological amplitude and can establish in partial shade, but seedlings grow best in full sunlight (Howard 2001). Past commercial thinning on the District has shown that

pine regeneration increases rapidly when canopy closure is reduced, especially on northern or easterly aspects. Shrub species have also increased in density and height when competition for light and moisture had been reduced. Increases in understory species following canopy cover reduction have also been documented in research (Uresk and Severson 1998).

The recent stand exam data was collected primarily in the Bordeaux Creek drainage. Data shows that hardwood regeneration is occurring at some level on suitable sites. There was no damage to seedlings or saplings (conifer or hardwoods) directly attributable to livestock (i.e. browsing or trampling). There does appear to be fewer saplings and young to mid-aged hardwoods than desired, which likely reflects the past land use and history of the Pine Ridge.

3. Use of Forested Areas by Cattle

In general, livestock primarily graze in the grass-dominated parklands, but they do utilize open forested areas, with gentle slopes, that have a grassy understory. These areas are also used for shade during hot periods. The cooler, moister woody draws are especially valuable to cattle as summer thermal cover if available. The amount of use depends on the arrangement of forage to water and the steepness of the draw. Many of the draws are steep sided and difficult to access, so are not used by livestock. Accessible draws that are used regularly have established trails leading between water and forage or cover.

With the exception of mountain mahogany and aspen, most woody species are rated as low palatability to cattle (see summary information in Appendix A of Silviculturist Report).

However, livestock will browse small stem regeneration of green ash, cottonwood, hackberry, boxelder, and willow especially where it is easily available and located in association with highly palatable grass and sedges that exist along the riparian area. Mountain mahogany typically occurs on the more shallow, well-drained soils on steeper slopes within the ponderosa pine canopy and is inaccessible to livestock or at least not sought after by livestock. The exception to this is the mountain mahogany SIA that contains a large population of mountain mahogany. It is thought that this population is more expansive here because a wildfire reduced the ponderosa pine overstory. Livestock utilization of mountain mahogany in this area where it is accessible is light; the majority is inaccessible due to rugged topography. On most allotments, upland woody plants like snowberry, skunkbush sumac, and currant, are not heavily utilized for forage unless there is no other food readily available. Woody draws in some allotments are being utilized to an extent that hardwoods are being affected.

Quaking aspen occurs infrequently across the PRGA and typically within deep, narrow, drainages inaccessible to livestock. Livestock will make use of aspen where it is easily accessible but typically will not seek out aspen and prefer grasses and sedges. A few clones exist on more upland type sites and are fenced to exclude livestock. Aspen stems within or outside the exclosures average 2-3 inch diameter at breast height.

B. Surface Fuels

Surface fuels include all combustible materials found on the surface such as litter (needles/leaves), duff, grass, small dead wood, down logs, stumps, low shrubs, seedlings and saplings. It is generally accepted that the amount of litter, duff, and small dead wood (twigs, small branches) have been increasing in forested stands due to longer intervals between fires in the dry forest types.

Grazing primarily affects grass height and density, especially in the open parkland (grass uplands), though cattle also utilize forage growing under more open tree canopies. Most other surface fuels are affected more by the degree of canopy closure and will not be addressed in this discussion.

C. Snags

The desired condition is to maintain an average of 4 hard snags, greater than 10 inches diameter, per forested acre, well distributed across the landscape (LRMP). The recent stand exam data indicates that snag numbers range from zero to over 10 per acre. The average number is about 1.5 per acre. This information is probably typical of conditions across the District. Since livestock grazing operations would not affect snag numbers, this topic will not be carried forward.

D. Down woody debris

The desired condition is to retain approximately 50 linear feet of down woody material, greater than 10 inches diameter (LRMP). Not much information has been collected on down woody material. The majority of the down woody debris is found in past pre-commercial thinning units (totaling approximately 353 acres). However, most of this material is 8 inches diameter or less, since those are the size classes cut during pre-commercial thinning. Larger material is probably less than desired across the District. Since livestock-grazing operations does not affect the number of down logs, this topic will not be carried forward.

3.6.2 Alternative 1 – No Action – No livestock Grazing

Direct & Indirect Effects

A. Stand Regeneration

1. Establishment of conifers in parkland (grass uplands)

Implementation of this alternative could contribute to reducing the amount of conifer establishment in the parkland (grass uplands). However, grazing is likely only a contributing factor; fire exclusion is apparently an overriding factor in the rate of seedling encroachment the pine-grassland ecotones (Brown and Sieg 1999).

2. Conifer regeneration and species composition

Implementation of this alternative would not have a measurable effect on the rate of conifer seedling establishment in forested stands, since livestock grazing is generally not an impact under the current conditions. However, implementation

of this alternative would reduce impacts to hardwood regeneration in woody draws.

3. Use of Forested Areas by Cattle

Implementation of this alternative would eliminate any incidental browsing on woody species and/or intentional browsing of hardwood tree species by livestock.

Livestock grazing could directly impact the small aspen clones on the District, especially if activities are implemented to encourage regeneration. However, most of the larger clones are currently fenced and local livestock have not shown a strong preference for aspen. If regeneration is browsed, it could have direct effects on the long-term survival of a clone. Implementation of this alternative would eliminate any risk of livestock impacting aspen.

B. Surface Fuels

Since most of the Pine Ridge is grazed at least once per year, removal of livestock grazing would allow grass height and density to increase across the landscape. The accumulation of taller and denser grass patches (increased fuel load) could have the potential to increase fire behavior as fuels accumulate. Increased height and fuel loads, especially fine fuels, increase rate of fire spread and flame lengths.

3.6.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct & Indirect Effects

A. Stand Regeneration

1. Establishment of conifers in parkland (grass uplands)

Though there have been no efforts to collect data, in some years, current levels of grazing may contribute to increased seedling survival by reducing grass competition. However, there are so many variables (i.e. heaviness of seed crop, gopher activity, drought, fire suppression) that livestock grazing is likely a minor component in any changes in conifer distribution.

2. Conifer regeneration and species composition

Outside of small, localized areas, current levels of grazing generally have little impact on the amount of conifer regeneration. Seedling numbers and health (vigor) are primarily affected by the degree of overstory canopy closure. Recent stand exam data did not show any indications of seedling damage attributable to livestock in the Bordeaux Creek drainage.

Hardwood regeneration can be more susceptible to damage since they grow in slightly cooler, moister sites, which may be sought out by livestock more than upland sites in the summer. Some hardwoods are susceptible to damage. For example, studies on young green ash have shown them to be susceptible to trampling and rubbing (Rosario 1988). Over time, green ash will decline in heavily used draws. Under the current levels of grazing, there are some areas

(allotments) identified where draws are being used to an extent where hardwoods are being impacted.

3. Use of Forested Areas by Cattle

As described under “*Affected Environment*”, at the current level of use, most woody species are rated as low palatability and browsed incidentally under normal conditions. There are no indications that the current level of use is affecting species composition or health of shrubs in most allotments.

Under the current levels of livestock grazing, there have been no occasional observable impacts to the aspen clones attributable to recent livestock grazing. Most of the larger clones have been fenced since the mid-1980s, which has provided protection (O’Rourke 2003). However, fence maintenance has not been completed regularly, so the protection is not complete.

B. Surface Fuels

Livestock grazing has been used in areas to change fire behavior. Depending on the amount of fine forage removed, grazing can dramatically reduce the rate of fire spread. Grazing was used to effectively protect plantations on private land in Oregon (Monfore 1992) and it is common practice prior to prescribed burning to remove livestock from the area the season before the burn. This allows fine fuels to accumulate and carry the fire. Grazing for even a short period prior to burning may result in a patchy burn or the fire may not carry (National Wildfire Coordinating Group 1994, p. IX-2).

The current heavy to moderate utilization does reduce surface fuels and change fire behavior by a combination of forage removal and trampling. Implementation of this alternative would continue to reduce the yearly buildup of dry grasses across the majority of the Pine Ridge. Due to rotations and different seasons of use, it is difficult to assess the role of grazing in reducing fire hazard at a particular time and place, but it would contribute to overall hazard reduction.

3.6.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct & Indirect Effects

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to tree regeneration and surface fuels. All management tools listed in the table were reviewed for this analysis, but only those considered to impact tree regeneration/health or effect surface fire behavior has been evaluated further. Other management activities listed in the Grazing Management Toolbox would likely have minimal impacts to these resources. Specific management activities that would most impact tree regeneration or health are related to heavy stocking rates and the number of day’s livestock spend in an area. As these factors increase, the amount of compaction would increase along with the potential for physical damage to both young and mature trees. Heavy stocking would also increase the potential for browsing on hardwood species in pastures with woody draws.

Specific management activities that would most impact surface fuels are changes in grazing intensity and utilization. Higher intensities or heavier utilization would decrease

fire hazard while lighter utilization or rest would increase fuel accumulation thereby increasing potential fire hazard.

A. Stand Regeneration

1. Establishment of conifers in parkland (grass uplands)

Since an emphasis in this alternative is to improve livestock distribution, where needed, and to manage some allotments for high structure, if livestock grazing is contributing to changing the competitive relationship between grasses and conifers, it should be less of a factor under this alternative.

2. Conifer regeneration and species composition

Since the goal of this alternative is to reduce impacts to woody draws, implementation of this alternative is likely to improve the health and reduce any impacts.

3. Use of Forested Areas by Cattle

As described under “*Affected Environment*”, at the current level of use, most woody species are rated as low palatability and browsed incidentally under normal conditions. Implementation of this alternative should not lead to any adverse effects on species composition or health of shrubs.

Since the larger aspen clones are fenced, implementation of this alternative should not have any adverse effects on aspen clones.

B. Surface Fuels

The effects of this alternative would be similar to Alternative 2. Heavy to moderate utilization would reduce surface fuels and fire behavior by a combination of forage removal and trampling. Implementation of this alternative would continue to reduce the yearly buildup of dry grasses across the majority of the Pine Ridge. This alternative would manage some grass areas for a higher structural stage, which could potentially increase fire behavior should a fire occur on these sites. However, since there are so many variables involved, the effect on fire behavior would be difficult to determine.

3.7 Soil & Rangeland Resources

3.7.1 Affected Environment

Soils

The Canyon-Bridget-Oglala soil association dominates the PRGA. This soil association has deep and shallow, moderately steep to very steep, well-drained loamy and silty soils that formed in colluvium and in material weathered from sandstone; on uplands and foot slopes.

This association consists of loamy and silty soils in the PRGA. Steep to very steep slopes and deep canyons make up about 60 percent of the association, and scenic buttes and outcrops of sandstone are common. The remaining 40 percent is moderately steep-to-steep foot slopes and intervening ridges. The numerous, deeply entrenched tributaries of the White River cross this association and form the drainage system (USDA 1977a).

Nearly all of this association is in native grass and woodland. Only about 5 percent of this association is cultivated on the intermingled private lands, and the crops are dryfarmed. Steep to very steep slopes and shallow soils limit the use of most areas of this association to rangeland, woodland, recreational areas, and wildlife habitat. Wells yield ample quantities of good water for domestic and livestock use. Water erosion, soil blowing and shallow soils are the main concerns of management in cultivated areas (USDA 1977a).

Water erosion or gullying is typical hazards of the soil series groups of the Canyon-Bridget-Oglala soil association. Soil blowing is a hazard if soil surface is unprotected. Runoff is slow to medium (USDA 1977a).

Rangelands

Rangelands (uplands or parklands) are referred to as those areas between forested and riparian environments. They are generally composed of grassland habitat types that also include a variety of grassland/forest intermix (savannah range sites). Community composition in these vegetation types has been altered from pre-settlement conditions by several factors such as suppression of fire and past agricultural practices. The open parkland (grass uplands) within the ponderosa pine forested areas on the Pine Ridge was, for the most part, plowed during the resettlement and homestead era of 1930's to 1940's. These areas were taken out of crop production and allowed to return to native grasses. Few areas were seeded to crested wheatgrass and smooth brome in later years.

The majority of grazing available on an allotment occurs on upland sites. However, some uplands may be considered unsuitable for grazing based on low production, steepness of slope, inaccessible areas due to topography, or limited access to water. In addition, while uplands provide the majority of forage within an allotment, they tend to be grazed less intensively than riparian areas when livestock have access to both areas.

Silty and savannah range sites dominate the Canyon-Bridget-Oglala soil association.

Silty range sites are deep, well drained, and nearly level to steep soils on uplands, foot slopes, and stream terraces. The kind of vegetation that grows on this site is influenced mainly by the moderately slow or moderate permeability of the soils and by their moderate to high available water capacity (USDA 1977b).

About 50 percent of the climax plant cover is a mixture of such decreaser grasses as big bluestem, little bluestem, side-oats grama, western wheatgrass, and prairie junegrass. About 50 percent consists of other perennial grasses, forbs, and shrubs. Blue grama, buffalograss, threadleaf sedge, needleandthread, Arkansas rose, and numerous forbs such as dotted gayfeather, false boneset, heath aster, skelontonplant, and scarlet globemallow are the principle increasers (USDA 1977b).

Savannah range sites are shallow to deep, well drained, steep to very steep soils on uplands. The kind of vegetation that grows on this site is influenced mainly by the wide variations in soil depth, available water capacity, and relief. Vegetation consists mainly of mixed grass and ponderosa pine trees (USDA 1977b).

About 65 percent of the climax plant cover is a mixture of such decreaser grasses as little bluestem, big bluestem, side-oats grama, plains muhly, green needlegrass, prairie junegrass, slender wheatgrass, bearded wheatgrass, and western wheatgrass. About 35

percent consists of other perennial grasses and forbs, shrubs, and trees. Blue grama, prairie sandreed, hairy grama, fringed sagewort, cudweed sagewort, small soapweed, western snowberry, skunkbush sumac, and isolated ponderosa pine are typical increasers (USDA 1977b).

The most recent rangeland condition analysis for the PRGA was conducted allotment by allotment over the last 10-15 years. This analysis was the NRCS methodology, which determined rangeland condition (excellent, good, fair and poor) and recommended initial stocking AUMs. Ecological sites or plant communities can be characterized by species composition as described in the LRMP for the PRGA as seral stages (early, early intermediate, late intermediate and late). These seral stages have been crossed-walked from the early version of the NRCS rangeland analysis. In general, poor rangeland condition is represented by early seral stage, fair rangeland condition is represented by early intermediate seral stage, good rangeland condition is represented by late intermediate seral stage, and excellent rangeland condition is represented by late seral stage. The existing species composition (seral stages) for the PRGA is as follows:

Table 3-7 Percent of Existing Plant Species Composition in the PRGA

PRGA Existing Plant Species Composition	Percent
Early	1%
Early Intermediate	25%
Late Intermediate	56%
Late	14%

Approximately 4% is not classified due to land that was newly acquired through land exchanges, areas of non-capability for rangeland analysis, or areas that were not evaluated because they were not available for livestock grazing (i.e. exclosures).

Measurements of grassland structure are currently unavailable for the PRGA. Monitoring of grassland structure will be initiated in 2004 and collected annually over the next 3-year period. Final results from this monitoring will be available and incorporated through adaptive manage in 2006. In the interim, we have used professional judgment to estimate grassland structure for allotments across the PRGA as described in Appendix B. Table 3-8 reflects the overall interim estimated percentages of vegetative grass structure for the PRGA.

Table 3-8 Estimated Percent of Vegetative Grass Structure in the PRGA

PRGA Vegetative Grass Structure	Percent
Low	12%
Moderate	61%
High	27%

3.7.2 Alternative 1 – No Action – No livestock Grazing

Direct and Indirect Effects

Under this alternative there will be no livestock grazing in the project area. With no livestock grazing, the amount of vegetative ground cover would increase over what now occurs under current conditions. Wildlife grazing/browsing would continue. Utilization levels would be considerably lower than occur with livestock grazing. The lack of livestock grazing will increase the biomass production until it reaches a point of stagnation from this increased biomass or litter build-up. Until some sort of disturbance (fire, or ungulate grazing) occurs, these areas can lose productivity, palatability, and overall plant health. Rates of change in plant composition, abundance and distribution relates to current condition and climatic influences. Most areas will remain at or move toward the potential natural plant community levels (late intermediate or late seral stages) at a more rapid rate than the other alternatives. Those areas that have had a plant community conversion, such as Kentucky bluegrass, may remain in that earlier seral stage for a long time until a major disturbance changes it.

With no livestock grazing there would be less soil displacement, compaction and puddling in areas where cattle concentrate such as water developments and salt grounds. Wildlife use around water developments would result in some continued detrimental soil disturbance. There would be less bare soil in these areas and, therefore, fewer areas for new noxious weed invasion than either of the action alternatives. Noxious weeds would remain a concern in other areas since they are able to invade healthy plant communities and existing noxious weed populations, if not controlled prior to seed set can produce seed which can remain viable for many years.

3.7.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct and Indirect Effects

Under this alternative, allotment management plans will remain unchanged and will not meet the LRMP goals and objectives that are designed to meet desired conditions for soil and upland vegetation. Current grazing management and stocking rates will allow soil and vegetation to reach the desired condition in some allotments within 10-20 years. The more productive range sites may recover more rapidly, especially those associated with plant communities in the early to early-intermediate seral stages dominated by native species. Those areas where utilization exceeds forage availability will move toward an earlier seral stage or remain in a static condition. Current management practices will improve the grazing efficiency and reduce adverse effects on soil and upland vegetation within many allotments, but not in all allotments within the PRGA. Current management suggests that plant species composition will not meet LRMP direction for this objective.

One of the LRMP objectives is to manage the geographic area to meet the vegetation structure objectives of 10-20% in high, 65-85% in moderate, and 5-15% in low. Current estimates of vegetative structure for the PRGA suggest that we are not meeting this objective. Many areas may not provide adequate vegetative grass structure to meet this objective.

Risk of noxious weed invasion would remain at its current level. Under this alternative, rangeland conditions would improve and less soil disturbance occur, but some areas would continue to degrade thus promoting noxious weed invasion.

3.7.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct and Indirect Effects

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to soil and rangeland resources. All management tools listed in this table were reviewed for this analysis, but only those considered to impact soil and rangeland resources were further evaluated. Specific management strategies that would have the most impact to soil and rangeland areas have been analyzed. They include light and heavy grazing intensities and density, ground-disturbing management measures, season of use, activities that would change livestock distribution patterns (fencing, water developments, etc.), and grazing rotation systems. Other management strategies would have minimal impact to the rangeland resource.

Grazing intensities and density of livestock will have both positive and negative impacts to the soil and vegetation. A light grazing intensity and/or livestock density will likely result in increased levels of vegetation and soil protection. Conversely, a heavy grazing intensity and/or livestock density could result in less vegetation and increase the likelihood of soil erosion problems. Higher concentrations of livestock in some areas due to water developments or fencing strategies may result in development or continuation of trail erosion and ground disturbance. Such areas will need to be monitored to protect other resources such as archeological and paleontological resources. Livestock grazing activities during plant growing seasons would not be favorable to promoting a healthy, sustainable rangeland. However, a deferred rotational grazing system or a later turn-on date (after the growing period of the plants) can have a beneficial impact to the soil and rangeland resources by improving the likelihood of more vigorous and healthy plant conditions and a higher vegetative structure.

Kentucky bluegrass exists throughout the PRGA with the biggest impact to displacing native species within the riparian areas. On upland sites Kentucky bluegrass seems to eventually be replaced by native vegetation on properly stocked rangelands. In the area where crested wheatgrass occurs, native vegetation is becoming more dominant. Smooth brome exists in some units and seems to be more persistent with fewer native species becoming established. Under this alternative it is likely the crested wheatgrass will continue to decline in population, the Kentucky bluegrass will decline on uplands and within some riparian areas but will require a greater disturbance in some areas to displace it and allow native species to reestablish. The smooth brome that occurs on the uplands will also likely require some disturbance to allow native species to become reestablished.

Under this alternative, revised allotment management plans will contain objectives that are designed to meet defined conditions for soil and rangeland resources. The condition and trend of the soil and vegetation will improve on areas managed for early intermediate, late intermediate, and late seral stages and remain static or decline on areas managed for early seral stage. The LRMP objective for plant species composition is to manage the geographic area to result the following seral stages; 1-20% early, 5-15% early

intermediate, 40-70% late intermediate, and 15-25% late. Grazing management and proper stocking rates will allow soil and rangeland resources to remain at or move toward reaching the desired condition within the allotments in 10-20 years. The proposed management action will reduce adverse effects on soil and upland vegetation on the majority of the PRGA. Under this alternative, implementation of the proposed management actions suggests that plant species composition will meet LRMP direction for this objective.

Alternative 3 - PRGA Plant Species Composition	Percent
Early	10%
Early Intermediate	8%
Late Intermediate	64%
Late	18%

One of the LRMP objectives is to manage the geographic area to meet the vegetation structure objectives of 5-15% in low, 65-85% in moderate, and 10-20% in high. Current estimates of vegetative structure for the PRGA suggest that we are not meeting this objective. Monitoring over the next 3 years will help determine our actual current condition of grassland structure. The proposed management actions are designed to make measurable progress meeting vegetative structure objectives.

PRGA Vegetative Grass Structure	Percent
Low	5%
Moderate	76%
High	19%

It should be noted that species composition and vegetative structure is not necessarily a direct and proportional relationship. In general theory, earlier seral stage plant communities would likely represent a lower vegetative structure. A later seral stage plant community would likely represent a higher vegetative structure. However, there may be cases where earlier seral stages exhibit a higher vegetative structure due to factors such as the kind of plants, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions. Later seral stages may exhibit a lower structural stage due to these same factors. Allotments with a an early intermediate seral stage and a condition trend moving to an earlier seral stage could result in moderate vegetative structure by deferring livestock utilization until after the plant growing season while implementing a moderate grazing intensity.

Risk of noxious weed invasion overall would be less under this alternative.

The proposed action prescribes livestock management to result in long-term sustainability of rangelands on those rangelands managed for early intermediate, late intermediate and late seral stages. This will allow native species to better compete and out compete existing and any new establishment of noxious weeds. On rangelands managed for early seral stage it is possible that more bare soil and weakened native speices would exist which would allow for weed invsion.

3.8 Threatened, Endangered, Candidate, Forest Service Sensitive Species, and Other Wildlife Species _____

3.8.1 Affected Environment

The project area for this analysis covers an extensive and diverse array of wildlife species and habitats. Historical composition, distribution, and abundance of species and habitat has likely significantly changed across the entire project area since the arrival of settlers to the area. Several factors have contributed to these changes including: timber harvest, conversion of prairie to cropland, grazing of domestic animals, hunting/trapping pressure, and wildfire prevention. Unfortunately, data collected on these changes has been general, and usually collected on a much larger scale than the project area. Data used for the development of the affected environment for wildlife and plants is derived from the best available and accessible information including but not restricted to natural heritage data, USFS animal and plant surveys, Nebraska Game and Parks Commission data, Nebraska Breeding Bird Atlas, Breeding Bird Survey Data, other local surveys, and literature reviews.

Invertebrates

Invertebrates are a highly diverse and extremely numerous group of wildlife. Nematodes, earthworms, protozoans, mollusks, centipedes, millipedes, mites, spiders, insects, and isopods comprise some of the major types of invertebrates. Invertebrates are one of the least known and studied of wildlife groups. This lack of study and data is even more evident at the small scale of the project area. Lack of research and data is not, however, an indication of their importance. Invertebrates fill very important niches, and are crucial to many aspects of nutrient cycling and energy flow. A 1995 survey of the Pine Ridge area for two sensitive species confirmed the presence of the tawny crescent butterfly within the project area (Fritz 1997). Presence of two other Region 2 sensitive species of invertebrates on the project area has not been confirmed.

Reptiles and Amphibians

Reptiles and amphibians are better studied in general than invertebrates, however detailed data on populations within the project area is either limited or lacking. This group consists of snakes, frogs, toads, turtles, salamanders, and lizards. Some of these groups are significant transporters of nutrients from terrestrial habitats to aquatic habitats, as a portion of their life cycle depends upon both types of habitats. Amphibians can be important early ecological indicators of environmental health due to the sensitive nature of their highly permeable skin. Lynch (1985) constructed a list of amphibians and reptiles for the Pine Ridge area of Nebraska. These species (see Table 3-9) are known or suspected to occur on or near the project area.

Table 3-9 Reptiles and Amphibians on the Pine Ridge region

COMMON NAME	SCIENTIFIC NAME	Forest Service Sensitive Region 2
Tiger salamander	<i>Ambystoma tigrinum</i>	Yes
Great plains toad	<i>Bufo cognatus</i>	No
Rocky mountain toad	<i>Bufo woodhouseii</i>	No

COMMON NAME	SCIENTIFIC NAME	Forest Service Sensitive Region 2
Western striped chorus frog	<i>Pseudacris triseriata</i>	No
Bull frog	<i>Rana catesbeiana</i>	No
Northern leopard frog	<i>Rana pipiens</i>	Yes
Plains spadefoot toad	<i>Spea bombifrons</i>	No
Short-horned lizard	<i>Phrynosoma douglassii</i>	No
Northern prairie lizard	<i>Sceloporus undulatus</i>	No
Blue-green racer	<i>Coluber constrictor</i>	No
Prairie rattlesnake	<i>Crotalus viridis</i>	No
Western hognose snake	<i>Heterodon nasicus</i>	No
Bull snake	<i>Pituophis catenifer</i>	No
Wandering garter snake	<i>Thamnophis elegans</i>	No
Plains garter snake	<i>Thamnophis radix</i>	No
Red-sided garter snake	<i>Thamnophis sirtalis</i>	No
Milk snake	<i>Lampropeltis triangulum</i>	Yes

Birds

Birds are the most often observed group of vertebrates on the project area. A large number of birds only migrate through the area, but several birds remain to breed (some of which are year-round residents) in the project area. Several breeding birds are included as Forest Service sensitive or management indicator species. Mourning dove, sharp-tailed grouse, and wild turkey provide the most recreational hunting opportunities on the Pine Ridge region. The species listed in Table 3-10 below are derived from the Nebraska Breeding Bird Atlas (Mollhoff 2001) and the Breeding Bird Survey route on the Pine Ridge area.

Table 3-10 Breeding birds in the Pine Ridge Region

Common Name	Common Name	Common Name	Common Name
Great blue heron	Western kingbird	Blue grosbeak	Merlin
Black-capped chickadee	Eastern kingbird	Spotted towhee	Prairie falcon
White-breasted nuthatch	Horned lark	Chipping sparrow	Ring-necked pheasant
Sharp-shinned hawk	Black-billed magpie	Lark sparrow	Upland sandpiper
Red-tailed hawk	American crow	Lark bunting	Black-billed cuckoo
American kestrel	Barn swallow	Red-winged blackbird	Yellow-billed cuckoo
Sharp-tailed grouse	Rough-winged swallow	Western meadowlark	Eastern screech owl
Wild turkey	House sparrow	Brewer’s blackbird	Great horned owl
Killdeer	Rock wren	Brown-headed cowbird	Common nighthawk
Rock dove	House wren	Orchard oriole	Common poorwill
Mourning dove	Mountain bluebird	American goldfinch	Chimney swift
Red-headed woodpecker	American robin	Violet-green swallow	Red-bellied woodpecker
Downy woodpecker	Brown thrasher	Turkey vulture	Belted kingfisher
Hairy woodpecker	Red-eyed vireo	Wood duck	Lewis’s woodpecker
Northern flicker	Yellow warbler	Mallard	Loggerhead shrike
Western wood-peewee	Yellow-breasted chat	Blue-winged teal	Bell’s vireo
Eastern phoebe	Western tanager	Northern shoveler	Plumbeous vireo
Say’s phoebe	Black-headed grosbeak	Ruddy duck	Warbling vireo
Great crested flycatcher	Clark’s nutcracker	Cooper’s hawk	Northern pintail
Ferruginous hawk	Spotted sandpiper	Golden eagle	Spotted sandpiper
Gray partridge	Red-breasted nuthatch	Blue jay	Pinyon jay
Pygmy nuthatch	Wood thrush	Cliff swallow	Northern harrier
Eastern bluebird	Black-and-white warbler	Gray catbird	European starling
Yellow-rumped warbler	Vesper sparrow	American redstart	Ovenbird

Common yellowthroat	Indigo bunting	Grasshopper sparrow	Dark-eyed junco (ww sp)
Lazuli bunting	Bullock's oriole	Dickcissel	Bobolink
Common grackle	Pine siskin	House finch	Red crossbill
White-throated swift	Townsend's solitaire	Least flycatcher	Gadwall
Cordilleran flycatcher	Cedar waxwing	Brown creeper	Long-billed curlew

Species in bold are listed as Sensitive Species in Region 2 – note: not all sensitive species on Region 2 list are represented for PRGA

Fish

The fisheries in the planning area currently consist of native and introduced non-native species. Most non-natives have been purposely introduced for recreation. One species of fish, the black shiner (listed as Endangered by the state of Nebraska), was reported in Chadron creek before the turn of the 20th century, but has not been reported since in the area (Nebraska Natural Heritage Program 2000). Most of the streams and creeks that transect the project area are small and seasonal, which restricts distribution and population sizes of fish. Few ponds within the project area are deep enough to allow over winter survival. Suitable habitat provided by the ponds is also slowly being degraded due to silt and other factors. Limited recreational fishing is available in creeks and ponds across the project area, especially within the Soldier Creek Wilderness.

Table 3-11 Fish species in or near the project area

Common Name	Scientific Name	FS Sensitive Region 2
Longnose dace ¹	<i>Rhinichthys cataractae</i>	No
Creek chub ¹	<i>Semotilus atromaculatus</i>	No
Fathead minnows ¹	<i>Pimephales promelas</i>	No
Brook trout ^{1,2}	<i>Salvelinus fontinalis</i>	No
White sucker ¹	<i>Catostomus commersoni</i>	No
Brown trout ^{1,2}	<i>Salmo trutta</i>	No
Central stoneroller ¹	<i>Campostoma anomalum</i>	No
Flathead chub	<i>Platygobio gracilis</i>	Yes
Plains topminnow	<i>Fundulus sciadicus</i>	Yes
Lake chub	<i>Couesius plumbeus</i>	Yes
Sturgeon chub	<i>Macrhybopsis gelida</i>	Yes
Finescale dace	<i>Phoxinus neogaeus</i>	Yes
Pearl dace	<i>Margariscus margarita</i>	Yes
Northern redbelly dace	<i>Phoxinus eos</i>	Yes
Plains minnow	<i>Hybognathus placitus</i>	Yes
Mountain sucker	<i>Catostomus platyrhynchus</i>	Yes

¹ = Species found during 1994-5 fish survey by the Dept. of Environmental Quality on the Pine Ridge

² =Recreational fish

Mammals

Large herbivorous mammals found on or near the project area include: elk, Rocky Mountain bighorn sheep, mule deer, white-tailed deer, and pronghorn. A moose recorded in the vicinity of Ft. Robinson (Ferret 1987) for several years is considered extremely incidental. Bison are captive in some areas near the project boundaries; however, they are not recognized as wild by the state of Nebraska and were not addressed in this report. Although pronghorn occur in close proximity to the project area, no suitable habitat occurs on the planning area. Several carnivores inhabit the project area, but studies suggest that populations of carnivores, in general, are low (Ferret 1987). These species

include: swift fox, red fox, striped skunks, long-tailed weasels, badgers, mink, coyote, bobcat, mountain lion, and the feral cat. Several other small species of mammals occur on the planning area as well. These mammals cover a wide range of habitat and fulfill several niches, from fossorial to arboreal to aerial. Each species affects the environment in different ways. Beaver and porcupine may substantially impact wetland/riparian and ponderosa pine forest habitat, respectively. Many of the small mammals found in the project area are herbivores, but this group also includes insectivores and omnivores.

Table 3-12 Mammal species known or suspected to occur on or near the project area*

Common Name	Scientific Name	Common Name	Scientific Name
Masked shrew	<i>Sorex cinerus</i>	Northern pocket gopher	<i>Thomomys talpoides</i>
Dwarf shrew	<i>Sorex nanus</i>	Plains pocket gopher	<i>Geomys bursarius</i>
Merriam shrew	<i>Sorex merriami</i>	Wyoming pocket mouse	<i>Perognathus fasciatus</i>
Least shrew	<i>Cryptotis parva</i>	Plains pocket mouse	<i>Perognathus flavescens</i>
Eastern mole	<i>Scalopus aquaticus</i>	Silky pocket mouse	<i>Perognathus flavus</i>
Keen myotis	<i>Myotis keeni</i>	Hispid pocket mouse	<i>Perognathus hispidus</i>
Little brown myotis	<i>Myotis lucifugus</i>	Ord kangaroo rat	<i>Dipodomys ordii</i>
Fringed myotis	<i>Myotis thysanodes</i>	Beaver	<i>Castor Canadensis</i>
Long-eared myotis	<i>Myotis evotis</i>	Plains harvest mouse	<i>Reithrodontomys montanus</i>
Long-legged myotis	<i>Myotis volans</i>	Western harvest mouse	<i>Reithrodontomys megalotis</i>
Small-footed myotis	<i>Myotis subulatus</i>	White-footed mouse	<i>Peromyscus leucopus</i>
Silver-haired bat	<i>Lasiorycteris noctivagans</i>	Deer mouse	<i>Peromyscus maniculatus</i>
Red bat	<i>Lasiurus borealis</i>	Northern grasshopper mouse	<i>Onychomys leucogaster</i>
Big brown bat	<i>Eptesicus fuscus</i>	Eastern woodrat	<i>Neotoma floridana</i>
Hoary bat	<i>Lasiurus cinereus</i>	Bushy-tailed woodrat	<i>Neotoma cinerea</i>
Western big-eared bat	<i>Plecotus townsendii</i>	Brown rat	<i>Rattus norvegicus</i>
Raccoon	<i>Procyon lotor</i>	House mouse	<i>Mus musculus</i>
Long-tailed weasel	<i>Mustela frenata</i>	Meadow vole	<i>Microtus pennsylvanicus</i>
Mink	<i>Mustela vison</i>	Prairie vole	<i>Microtus ochrogaster</i>
Badger	<i>Taxidea taxus</i>	Muskrat	<i>Ondatra zibethicus</i>
Spotted skunk	<i>Spilogale putorius</i>	Meadow jumping mouse	<i>Zapus hudsonicus</i>
Striped skunk	<i>Mephitis mephitis</i>	Porcupine	<i>Erethizon dorsatum</i>
Coyote	<i>Canis latrans</i>	White-tailed jackrabbit	<i>Lepus townsendii</i>
Swift fox	<i>Vulpes velox</i>	Black-tailed jackrabbit	<i>Lepus californicus</i>
Red fox	<i>Vulpes fulva</i>	Eastern cottontail	<i>Sylvilagus floridans</i>
Bobcat	<i>Lynx rufus</i>	Desert cottontail	<i>Sylvilagus auduboni</i>
Mountain lion	<i>Felis concolor</i>	Mule deer	<i>Odocoileus hemionus</i>
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	White-tailed deer	<i>Odocoileus virginianus</i>
Thirteen-lined ground squirrel	<i>Spermophilus tridecemlineatus</i>	Pronghorn	<i>Antilocapra Americana</i>
Spotted ground squirrel	<i>Citellus spilosoma</i>	Elk	<i>Cervus elaphus</i>
Least chipmunk	<i>Eutamias minimus</i>	Rocky Mtn. Bighorn sheep	<i>Ovis canadensis</i>
Eastern fox squirrel	<i>Sciurus niger</i>		

Species in bold are listed as Sensitive Species in Region 2 – note: only sensitive species occurring or suspected of occurring are represented for PRGA

*Ferret of NE, Inc 1987

Plants

Vegetation across the Pine Ridge Geographic area consists of a grass/forest mix dominated by ponderosa pine, cool-season and warm-season grasses, and a variety of forbs. This vegetative mix provides a diverse habitat for a variety of wildlife species and forage for livestock. Principle deciduous tree species are cottonwood, hackberry,

boxelder, elm, and green ash. Other woody species that can be found locally abundant are snowberry, chokecherry, skunkbush sumac, and wild plum. Grass species include western wheatgrass, slender wheatgrass, little bluestem, big bluestem, prairie sandreed, buffalograss, green needlegrass, needleandthread, blue grama, hairy grama, plains muhly, prairie junegrass, Kentucky bluegrass, cheatgrass, and sideoats grama. Sedges include threadleaf and needleleaf sedges. There are a number of other less common species in the geographic area including isolated patches of quaking aspen and species in Special Interest Areas (SIA's), such as bur oak and mountain mahogany (USDA 2001).

The geographic area is comprised of a variety of vegetation types. The dominant vegetation types include coniferous forest dominated by ponderosa pine, open coniferous forest/grassland (savannah), and open grassland (parkland) areas. Riparian associated vegetation is present in narrow ribbons along streams that transect the Pine Ridge Geographic Area. These various habitat types encompass a diverse and extensive array of plant species.

Nine distinct species of sensitive plants are identified on the Region 2 Sensitive Species list as occurring or likely to occur on the Pine Ridge Geographic area. Species on the list include *Astragalus barrii*, *Carex diandra*, *Cypripedium parviflorum*, *Dryopteris carthusiana*, *Eriogonum visheri*, *Eriophorum gracile*, *Liparis loeselii*, *Schoenoplectus hallii*, and *Utricularia minor*. Six of the sensitive species are found in aquatic or wetland habitat types. The other three species are found in an assortment of habitat types from sandy shores and prairies (*Schoenoplectus hallii*), dry open prairies and slopes (*Eriogonum visheri*), and dry, rocky prairie knolls, hillsides, or barren areas (*Astragalus barrii*).

Plant species descriptions, locations, and habitat were referenced from the following sources: NatureServe Website, USDA Plants Database, Flora of the Great Plains, Atlas of the Flora of the Northern Great Plains, Aquatic and Wetland Vascular Plants of the Northern Great Plains, Nebraska Natural Heritage Data, and Appendix H of the FEIS for the LRMP 2001 revision. Other local plant surveys on the Pine Ridge were also reviewed for species occurrence.

Species Selected for Analysis

A subset of the species present within or near the planning area were tracked and analyzed in-depth in order to determine effects of the proposed alternatives of the EIS (As per Section 7 of the Endangered Species Act, 36 CFR 219.19 and 219.20, Forest Service Manual 2670, 2600(2621.3), and Supplement 2600-94-2). Species selected for analysis include: 1) federally listed (by the US Fish and Wildlife Service) in Dawes and Sioux counties, 2) those listed by the Forest Service as sensitive or as 3) management indicator species, and 4) those of local interest considered potentially at risk within or near the project area. Table 3-18 lists species from these four categories that were selected for further detailed.

Federally Threatened, Endangered, and Candidate - On September 9, 2003, the USFWS responded to a letter from the Pine Ridge Ranger District concerning allotment management planning for all Forest Service allotments on the Pine Ridge Geographic area. USFWS stated in their letter that two of the listed species occurring in Dawes of Sioux counties, the bald eagle and the whooping crane, may also occur in the project area

during migration or occasionally during the winter in the case of the bald eagle. However, both species have been eliminated from further analysis due to the incidental and unpredictable nature of known observations, and lack of adequate habitat within the project area. No effects to federally threatened, endangered, or candidate species are anticipated as a result of implementing this project. Table 3-13 shows listed species within the project area as well as rationale for exclusion.

Table 3-13 Federally listed species considered for analysis

Common Name	Species	Status	Species Excluded	Reason for Exclusion
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Yes	Incidental and unpredictable occurrence – lack of habitat
Black-footed ferret	<i>Mustela nigripes</i>	Endangered	Yes	Does not occur on NNF, Pine Ridge Unit.
Whooping crane	<i>Grus americana</i>	Endangered	Yes	Not observed on NNF, Pine Ridge Unit-unsuitable habitat
Black-tailed prairie dog	<i>Ludovicianus cynomys</i>	Candidate	Yes	Does not occur on NNF, Pine Ridge Unit.

US Forest Service Sensitive - Sensitive species are those plants and animals identified by Regional Foresters for which population viability is a concern. The Nebraska National Forest received the Region 2 Forest Service sensitive species list, which was originally signed by the Regional Forester in 1994 then revised and signed again in November of 2003. This planning process overlapped both lists. Species listed in Table 3-14 represent species from both lists that are known or suspected to occur in the planning area, and whether or not they were analyzed in-depth. Reasons for exclusion are most often due to lack of suitable habitat and lack of known or suspected sightings within the project area. Detailed information specific to each species analyzed is provided in the supporting Biological Report for this document, including rationale for exclusion of species.

Table 3-14 Region 2 Forest Service sensitive species considered for analysis

Common Name	Species	MIS	Species Excluded
MAMMALS			
Black-tailed prairie dog ¹	<i>Cynomys ludovicianus</i>	Yes	Yes
Swift fox	<i>Vulpes velox</i>	No	Yes
Townsend’s Big-eared bat	<i>Plecotus townsendii</i>	No	Yes
Fringed myotis	<i>Myotis thysanodes</i>	No	No
BIRDS			
American bittern	<i>Botaurus lentiginosus</i>	No	Yes
Black tern	<i>Chlidonias niger</i>	No	Yes
Ferruginous hawk	<i>Buteo regalis</i>	No	No
Loggerhead shrike	<i>Lanius ludovicianus</i>	No	Yes
Long-billed curlew	<i>Numenius americanus</i>	No	Yes
Longspur, Chestnut-collared	<i>Calcarius ornatus</i>	No	Yes
Longspur, McCown’s	<i>Calcarius mccownii</i>	No	Yes
Mountain plover ²	<i>Charadrius montanus</i>	No	Yes
Northern goshawk	<i>Accipiter gentilis</i>	No	Yes
Northern harrier	<i>Circus cyaneus</i>	No	Yes
Olive-sided flycatcher	<i>Contopus cooperi</i>	No	No
Owl, boreal	<i>Aegolius funereus</i>	No	Yes

Common Name	Species	MIS	Species Excluded
Owl, burrowing	<i>Athene cunicularia</i>	No	Yes
Owl, flammulated	<i>Otus flammeolus</i>	No	Yes
Owl, short-eared	<i>Asio flammeus</i>	No	Yes
Peregrine falcon	<i>Falco peregrinus</i>	No	Yes
Sage-grouse, greater	<i>Centrocercus urophasianus</i>	No	Yes
Sparrow, Brewer's	<i>Spizella breweri</i>	No	Yes
Sparrow, Cassin's	<i>Aimophila cassinii</i>	No	Yes
Sparrow, grasshopper	<i>Ammodramus savannarum</i>	No	No
Sparrow, sage	<i>Amphispiza belli</i>	No	Yes
Woodpecker, black-backed	<i>Picoides arcticus</i>	No	Yes
Woodpecker, Lewis's	<i>Melanerpes lewis</i>	No	No
Woodpecker, three-toed	<i>Picoides tridactylus</i>	No	Yes
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	No	No
Common loon	<i>Gavia immer</i>	No	Yes
Golden-crowned kinglet	<i>Regulus satrapa</i>	No	Yes
Greater sandhill crane	<i>Grus Canadensis tabida</i>	No	Yes
Osprey	<i>Pandion haliaetus</i>	No	Yes
Merlin	<i>Falco columbarius</i>	No	Yes
Pygmy nuthatch ¹	<i>Sitta pygmaea</i>	Yes	Yes
Sparrow, Baird's	<i>Ammodramus bairdii</i>	No	Yes
Sparrow, fox	<i>Passerella iliaca</i>	No	Yes
Upland sandpiper	<i>Bartramia longicauda</i>	No	No
REPTILES			
Black Hills redbelly snake	<i>Storeria occipitomaculata pahasapae</i>	No	Yes
Massasauga	<i>Sistrurus catenatus</i>	No	Yes
Milk snake	<i>Lampropeltis triangulum</i>	No	Yes
AMPHIBIANS			
Tiger salamander	<i>Ambystoma tigrinum</i>	No	Yes
Plains leopard frog	<i>Rana blairi</i>	No	Yes
Northern leopard frog	<i>Rana pipiens</i>	No	No
INSECTS			
Regal fritillary	<i>Speyeria idalia</i>	No	Yes
Tawny crescent	<i>Phyciodes batesi</i>	No	No
Ottoo skipper	<i>Hesperia ottoe</i>	No	Yes
Great basin silverspot	<i>Speyeria nokomis nokomis</i>	No	Yes
Hudsonian emerald	<i>Somatochlora hudsonica</i>	No	Yes
FISH			
Flathead chub	<i>Platygobio gracilis</i>	No	Yes
Plains topminnow	<i>Fundulus sciadicus</i>	No	Yes
Lake chub	<i>Couesius plumbeus</i>	No	Yes
Sturgeon chub	<i>Macrhybopsis gelida</i>	No	Yes
Finescale dace	<i>Phoxinus neogaeus</i>	No	Yes
Pearl dace	<i>Margariscus margarita</i>	No	Yes
Northern redbelly dace	<i>Phoxinus eos</i>	No	Yes
Plains minnow	<i>Hybognathus placitus</i>	No	Yes
Mountain sucker	<i>Catostomus platyrhynchus</i>	No	Yes
PLANTS			
Spinulose woodfern	<i>Dryopteris carthusiana</i>	No	Yes
Lesser panicled sedge	<i>Carex diandra</i>	No	Yes
Lesser yellow lady's slipper	<i>Cypripedium parviflorum</i>	No	Yes
Slender cottongrass	<i>Eriophorum gracile</i>	No	Yes
Yellow widelip orchid	<i>Liparis loeselii</i>	No	Yes
Hall's bulrush	<i>Schoenoplectus hallii</i>	No	Yes
Barr's milkvetch	<i>Astragalus barrii</i>	No	Yes

Common Name	Species	MIS	Species Excluded
Wisher's buckwheat	<i>Eriogonum visheri</i>	No	Yes
Lesser bladderwort	<i>Utricularia minor</i>	No	Yes

1 = Species is classified under multiple categories (Candidate for federal listing, MIS, and FS Sensitive)

2 = This species status as Proposed Threatened was withdrawn in September 2003 by USFWS

Management Indicator Species - In an effort to ensure that management direction supports recovery and stability of species, the US Forest Service has developed Management Indicator Species (MIS). MIS are species or groups of species with similar habitat relationships or habitats that are of high concern. These species are to be monitored in order to assess the effects of management activities on their populations, and potentially on populations of other species having similar habitat needs. Sharp-tailed grouse was the only MIS selected and carried forward for further analysis. Table 3-15 shows MIS for the Pine Ridge Geographic Area of the Pine Ridge Ranger District (USDA 2001: LRMP 2-87 and 2-91), its associated indicator community, and whether or not it was included for further analysis. Details concerning the rationale for excluding pygmy nuthatch are presented in the Biological Report for this document.

Table 3-15 Management Indicator Species on the planning area

Common Name	Scientific Name	Management Indicator Community	Reason for exclusion or in-depth analysis
Sharp-tailed grouse	<i>Tympanuchus hasianellus</i>	Open grasslands & high structure grasslands	<i>Included</i> - Significant impacts from grazing to suitable habitat
Pygmy nuthatch	<i>Sitta pygmaea</i>	Open mature & late successional ponderosa pine forests	<i>Excluded</i> - No significant effects from allotment management plan

Other priority species of local interest - The Nebraska Game & Parks Commission (NGPC), National Wild Turkey Federation, Biodiversity Conservation Alliance, and members of the public have suggested that additional species be considered for effects analysis in the biological report. Partners in Flight, an “umbrella” bird conservation organization, have identified species found in the project area that are in need of conservation. Table 3-16 includes these priority species. All species listed in the table were analyzed with the exception of the Wilson’s phalarope, which is not found within the project area.

Table 3-16 Additional priority species of local interest considered for analysis

Common Name	Species	Species Excluded
Elk	<i>Cervus elaphus</i>	No
Mule deer	<i>Odocoileus hemionus</i>	No
Bighorn sheep	<i>Ovis canadensis</i>	No
Wild Turkey	<i>Meleagris gallopavo</i>	No
Trout	<i>Salmonidae spp.</i>	No
Mountain lion	<i>Felis concolor</i>	No
Meadow jumping mouse	<i>Zapus hudsonius</i>	No
Blue-gray gnatcatcher	<i>Poliptila caerulea</i>	No
Lark bunting	<i>Calamospiza melanocorys</i>	No
Dark-eyed junco	<i>Junco heymanis</i>	No
Bell's vireo	<i>Vireo bellii</i>	No
Wilson's phalarope	<i>Phalaropus tricolor</i>	Yes
Swainson's hawk	<i>Buteo swainsoni</i>	No

Common Name	Species	Species Excluded
Dickcissel	<i>Spiza americana</i>	No
Bobolink	<i>Dolichonyx oryzivorus</i>	No

Based on potential impacts to species and habitats, a total of ten Forest Service (Region 2) sensitive species, one management indicator species (MIS), and fourteen species of local concern (see Table 3-17 below) have been carried through for further analysis in the Biological report. Known occurrences are based on data from Nebraska Natural Heritage Data, wildlife observation reports, project field review observations, and scientific literature. Suspected occurrences and/or suitable habitat presence was derived from similar information as well as GIS layers contained in Forest Service databases. Detailed information specific to each species analyzed is provided in the supporting Biological Report for this document.

Table 3-17 Species analyzed for Pine Ridge allotment management plan.

PET Species	Management Indicator Species	Sensitive species and proposed sensitive species	Other Priority Species of Local Interest
-----	Sharp-tailed grouse	Fringed myotis	Elk
		Grasshopper sparrow	Mule Deer
		Lewis’s woodpecker	Bighorn sheep
		Olive-sided flycatcher	Trout
		Northern leopard frog	Wild turkey
		Ferruginous hawk	Mountain lion
		Tawny crescent	Meadow jumping mouse
		Upland sandpiper	Blue-gray gnatcatcher
		Yellow-billed cuckoo	Lark bunting
			Dark-eyed junco
			Bell’s vireo
			Swainson’s hawk
			Dickcissel
			Bobolink

3.8.2 Effects of All Alternatives

Direct Effects and Indirect Effects

Direct and indirect effects are closely linked and are presented in this section together. Grazing can have significantly different effects to each species found within the planning area. Some species may show no effects, while others may be show beneficial or adverse effects. Adaptive management options listed under Alternative 3 of this document have been reviewed for sensitive species and habitat types. Table 2-1 in Chapter 2 Section 2.3 lists these management options (Grazing Management Toolbox). All management tools listed in Table 2-1 were reviewed for this analysis. Only those tools determined to have significant impact (positive or negative) to sensitive species and habitat discussed in this analysis were further evaluated. Evaluation of adaptive management tools relative to habitats on the PRGA is presented below.

Upland Grassland

Tools:

Rest and Grazing Intensity – Light, Moderate, Heavy (LRMP Appendix I)

Grazing intensity in upland grasslands will generally be reflected in vegetative structure and seral stage. Some species, such as the ferruginous hawk, that respond favorably to lower vegetative structure and earlier seral stages should benefit under moderate to heavy grazing, while species that require higher structure and a later seral stage should respond favorably to light to moderate grazing intensity.

Season of Use – do not exceed permitted AUMs (stocking rate)

Season of use will be reflected in impacts to composition of grass species.

Early Season - Species that utilize the uplands for courtship and/or ground nesting are more likely to be impacted (trampling, disturbance) by early season grazing.

Construct/Remove water development

Removing or creating an accessible water supply where none others are in close proximity may expand or reduce potential habitat for some species.

Riparian/Wooded Draw

Tools:

Grazing Intensity – Light, Moderate, Heavy (LRMP Appendix I)

Impacts from grazing intensity on riparian areas and wooded draws will be reflected most notably in vegetation and stream bank conditions. Moderate and heavy grazing intensity can quickly lead to lowered grass structure and density, reduced forb and shrub layers, and reduced tree canopy. These initial impacts will likely have a domino effect on other aspects of the riparian area, such as increased soil erosion, lowered water table, and higher water temperatures. Wildlife species that rely on riparian/wooded draws for some portion of their life cycle could be negatively impacted under this adaptive tool.

Implement riparian grazing dates – no livestock use from 6/15 – 9/20

Eliminating livestock grazing pressure on riparian areas during the summer growing season is expected to enhance vegetation within these areas by allowing a rapid recovery of the grass, forb, shrub, and tree seedling layers. Increases in vegetative growth slows water runoff, stabilizes banks, traps sediment and organic matter, shades water flowing in the stream channel, and eventually may lead to higher water tables. Higher water tables influence composition of species within the riparian zone. Riparian areas under this management tool are expected to move rapidly toward properly functioning condition (PFC). Some individual species of wildlife may be negatively impacted under this tool due to trampling or disturbance activities associated with livestock. Trampling and disturbance impacts would more likely impact species (such as dark-eyed juncos) that nest on or low to the ground or are fawning during this time period. However, improvements to riparian habitat under this management tool will provide long-term beneficial impacts to species utilizing riparian areas for at least some portion of their life cycle.

Implement alternative riparian grazing dates based upon specific conditions (topography, range rider, upland water sources, livestock use patterns)

This tool would allow riparian areas to be grazed for some period between June 15 and September 20 (growing season) – Riparian areas and wooded draws can degrade under grazing pressure during the growing season, especially if they are not allowed periods of re-growth before becoming dormant during the winter months. The longer these areas are grazed during the summer months, the greater the potential for lasting negative impacts. Degraded riparian areas and wooded draws impact many species, especially riparian obligates, such as the yellow-billed cuckoo.

Construct/Remove water development

Removing or creating an accessible water supply where none others are in close proximity may expand or reduce potential habitat for some species.

Forested

Tools:

Rest and Grazing Intensity – Light, Moderate, Heavy (LRMP Appendix I)

Grazing intensity in forested areas will be reflected in vegetative structure and seral stage. Forested areas generally offer less forage for cattle, and are less impacted by grazing intensity than riparian/wooded draws and upland grasslands. Species that respond favorably to lower vegetative structure and earlier seral stages should benefit under moderate to heavy grazing, while species that require higher structure and a later seral stage should respond favorably to light or moderate grazing intensity. This is especially true of species that frequent forest edges.

These adaptive management tools are considered as possible options under Alternative 3, and may be implemented when the initial proposed management action is not meeting or measurably progressing toward the desired conditions of the Forest Plan. Grouping together the impacts discussed under each adaptive tool can provide a general assumption about the overall impacts to species and habitats that are likely to result from implementation of various combinations of tools. All activities listed as an adaptive tool in Table 2-1 are presumed to meet forest plan standards and guidelines (e.g. fence construction will meet animal movement guidelines).

Federally Threatened, Endangered, and Proposed Species

No determinations were given on effects to federally listed species due to lack of suitable habitat within the project area, and incidental and unpredictable observations of these species on the project area.

Sensitive Species

Determinations for sensitive species that were analyzed in-depth are provided in Table 3-18 below. Adverse impacts are the result of any activity that may negatively impact individuals. If any aspect of an activity is expected to result in negative impacts to individuals, then the determination is “adverse”, even though the action may provide overall (i.e. long-term) benefits to the species. All “adverse” determinations given for this project are not likely to result in a loss of viability on the planning unit, nor cause a trend to federal listing nor cause a loss of viability rangewide.

Alternative 1 is expected to result in beneficial impacts for seven species. Four species are expected to have beneficial impacts under Alternative 3, while Alternative 2 is expected to result in beneficial impacts for only one species. Alternative 1 will likely have the fewest adverse impacts.

Four species with “may adversely impact” determinations under Alternative 3 are likely to have beneficial impacts in the long-term. Two species with “may adversely impact” determinations under Alternative 2 are likely to have beneficial impacts in the long-term.

Table 3-18 Determinations for USFS Sensitive Species

Common Name	Alternative 1	Alternative 2	Alternative 3
Ferruginous hawk	MAII	BI	BI
Fringed myotis	BI	MAII	BI
Grasshopper sparrow	MAII	MAII ¹	MAII ¹
Lewis’s woodpecker	BI	MAII	BI
Northern leopard frog	BI	MAII	MAII ¹
Olive-sided flycatcher	BI	MAII	BI
Tawny crescent	BI	MAII	MAII ¹
Upland sandpiper	BI	MAII ¹	MAII ¹
Yellow-billed cuckoo	BI	MAII	MAII

MAII = “May adversely impact individuals”, but not likely to result in a loss of viability on the planning unit, nor cause a trend to federal listing or a loss of species viability range-wide.

BI = “Beneficial impact”

1 = Expected to provide long-term benefits

Management Indicator Species

Habitat Suitability

The current estimate of grassland habitat in the project area is approximately 18,400 acres. This total acreage is considered potential sharp-tailed grouse habitat, with the exception of the small (less than 20 acres) and isolated grassland patches within the pine woodlands.

Potential habitat is further divided into categories of suitability: primary, secondary (marginal), and unsuitable. Primary habitat is predominately open and flat to gently rolling grasslands at least 20 acres in size with no or minimal tree cover. Open Ponderosa pine savannah or open grassland parks at least 20 acres in size in mostly rough topography were classified as secondary or marginal habitat.

Exact information on existing habitat suitability within the project area is unknown. Planning is underway to implement a grassland structure monitoring program (multi-year) in the spring of 2004. Results are expected in 2006. Until that information is available, the current amount of quality habitat (moderate to high structure grasslands – Appendix H of the revised LRMP) on the project area is being estimated for each allotment using range analysis information, livestock stocking rates and livestock season of use. It should be noted that the results of on-the-ground measurements of grassland structure may differ than the estimates provided in Table 3-19.

Table 3-19 Estimate of Existing Grassland Structure for the Pine Ridge Geographic Area

Habitat Type	High Structure	Moderate structure	Low Structure
Grassland Acres	4,956 Acres	11,266 Acres	2,171 Acres

Quality sharp-tailed grouse habitat consists of a combination of structure heights from moderate to high and provides for nesting, brooding, and wintering habitat. A detailed account of quality habitat for sharp-tailed grouse is presented in Appendix H of the revised LRMP 2002 (H-2).

Population Trend

There is no information available on the long-term and short-term population trends of sharp-tailed grouse in the project area. An intensive monitoring program to be implemented in 2004 is currently being planned and will eventually provide the baseline information needed for evaluating future population trends for sharp-tailed grouse in the Pine Ridge area. Staff from the Nebraska Game and Parks Commission is assisting with the development of the monitoring program and may assist with its implementation beginning next year. Table 3-20 compares expected effects of implementing the alternatives presented in this planning effort.

Table 3-20 Projected effects of alternatives for sharp-tailed grouse on the project area.

Common Name	Projected Habitat Suitability		
	Alternative 1	Alternative 2	Alternative 3
Sharp-tailed grouse	Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would increase substantially over Alternatives 2 and 3. Long-term population trends of sharp-tailed grouse in the project area are unknown. Probability of a stable to increasing population trend is greater than Alternatives 2 and 3, given expected habitat changes.	Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would likely remain unchanged and would likely be less than Alternative 1 and 3. Long-term population trends of sharp-tailed grouse in the project area are unknown. However, under this alternative, the habitat conditions would not change and existing population trends would likely remain unchanged.	Amount of quality habitat (moderate to high structure) for plains sharp-tailed grouse and other associated wildlife would likely increase slightly in comparison to Alternative 2, but less than Alternative 1. Long-term population trends of sharp-tailed grouse in the project area are unknown. Probability of a stable to increasing population trend is greater than Alternative 2 but less than Alternative 1.

Other Priority Species of Local Interest

The effects from three alternatives analyzed are presented in Table 3-21 below. Alternatives 1 and 3 are somewhat similar in having equal amounts of positive, negative, and neutral effects; however, the beneficial effects provided under alternative 1 will result in an overall more “wholly” beneficial impact to species. Alternative 1 and 3 would only negatively impact one priority species, lark bunting and mountain lion respectively. Impacts to wild turkey, dark-eyed junco, and Swainson’s hawk are expected to be neutral under all alternatives. Alternative 2 will likely negatively affect the greatest number of priority species.

Table 3-21 Impacts of alternatives on priority species

Species	Alternative 1			Alternative 2			Alternative 3		
Elk	+			-			+		
Mule deer	+			n			+		
Bighorn sheep	+			-			+		
Wild turkey	n			n			n		
Trout				-			+		
Mountain lion	+						-		
Meadow jumping mouse	+			-					
Lark bunting	-			+			+		
	n			n			n		
Bell’s vireo	+			-			+		
Swainson’s hawk	n			n			n		
Dickcissel	+			n			+		
Bobolink	+			n			+		
Blue-gray gnatcatcher	n			-			n		
TOTAL	9+	1-	4n	1+	7-	6n	9+	1-	4n

Plus (+) represents beneficial effects, minus (-) represents negative effects, and n represents neutral effects.

3.9 Recreation

3.9.1 Affected Environment

Recreation Land Base

National Forest System Lands (National Forests and National Grasslands), in the state of Nebraska, totals 352,252 acres. This equals seven-tenths of one percent of Nebraska’s land base. The lands included within the project area account for 51,084 acres, or one-tenth of one percent of the state land base. They do, however, supply a significant, and growing portion of the dispersed outdoor recreation opportunities in the state.

Recreation Opportunities

The public lands within the Pine Ridge draw people from across Nebraska and adjoining states to participate in numerous outdoor activities. The main activities include hunting (big game – elk, deer and wild turkey), horseback riding, hiking, mountain biking, sightseeing, motorized off-highway vehicle travel, wildlife observation or photography, picnicking, cold-water fishing, camping (in developed sites and dispersed) and target shooting to mention a few.

Many of the opportunities on public land are either only available on public land or they are so limited on private lands that recreationists find that the public land is about their only option. The following are a few examples of this:

- Trails are available on other public lands in the area but there are some differences. One, the number of miles available is not that of the National Forest and two, not all activities are allowed on other public lands trails (example- Chadron State Park doesn't allow private horseback use or mountain bikes on most trails).
- Many of the local private landowners restrict hunting on their lands, making the public lands more important (and at times more crowded) to hunters. A recent national survey, performed on Field and Stream magazine's website, highlighted the importance of public lands (this includes all public lands) by identifying that 60% of those surveyed do hunt on public land, and of those, 29% hunt exclusively on public lands.
- All forks of Soldier Creek, in and adjacent to Soldier Creek Wilderness, and other streams in the project area are among just a hand-full of cold-water fishing opportunities in Nebraska.

Recreation Use

The Southeast Experimental Station of the United States Department of Agriculture - Forest Service conducted the most recent survey, "*Customer... understanding today's recreating public*", on recreational use on the Pine Ridge Ranger District in 1994. Within the project area of this EIS, three main recreating areas were surveyed. The Spotted Tail area was evaluated as a dispersed (outside a developed site) recreation area. In this area the greatest use was motorized off-highway vehicle use at 34%. Mountain biking at 20%, sightseeing at 14% and day hiking 8%, followed this.

The survey found that in and around two of the developed sites, Roberts Tract and Soldier Creek Campgrounds/Trailheads, horseback riding was the primary use at 72% and 49% respectively. At Roberts Tract day hiking was second at 9%, camping was third at 7% and sightseeing was fifth at 4%. Soldier Creek on the other hand had cold-water fishing second at 22%, camping third at 11% and walking for pleasure fourth at 4%.

The Pine Ridge Ranger District administers the Soldier Creek Wilderness and Pine Ridge National Recreation Area. Both of these areas are designated for primitive/semi-primitive, non-motorized recreational opportunities. The main use in these areas is horseback riding and hiking. The Pine Ridge National Recreation Area is also open to mountain biking. After years of observation, it appears that horseback riding, hiking and mountain biking are growing in the area.

National Forest System land, with one exception in eastern Nebraska, is the only land base currently available for motorized off-road recreation. We have noticed through observation over the last few years that motorized off-highway vehicle use has increased greatly.

Hunting, mainly big-game hunting is also a very popular activity. This activity is administered by both State and Federal policies. The State administers the number of hunting permits available in the hunting units. The National Forest 1) allows the hunting by the public and 2) creates and maintains the wildlife habitat on the lands it administers.

3.9.2 Alternative 1 – No Action – No livestock Grazing

Direct and Indirect Effects

To look at this alternative certain assumptions have to be made: 1) with no grazing there would be no need for fences or gates on the existing fences. 2) There would be no need for water facilities to water cattle. 3) The stock holding facilities at Soldier Creek trailhead would not be needed by permittees. 4) If this alternative is selected it doesn't mean that the funding for recreation and trails would increase (this is the same for all alternatives). Under current recreation and trails funding, the Pine Ridge District is struggling to keep open and maintain the facilities it currently has. If removal or maintenance of additional facilities were added to the recreation/trails backlog either current recreation facilities would have to be closed or current trails not be maintained in order to have the money to remove or maintain the added facilities. Volunteers have been used in the past to help with facility maintenance but they are few and the added facility removal backlog would be great. To use volunteers for this type of work would take many years.

Under this alternative, recreation could take on a much different look. Recreation uses wouldn't necessarily change but the experience might. If the fences were completely removed a much more open, unrestricted experience would be available to the public. Horseback riders, mountain bikers and off-highway vehicle riders would not have to dismount to open gates and close gates and hikers would be able to walk anywhere without restrictions. With current budgets the recreation program could not pay to have the fences removed. If the fences were left in place and just the gates removed horseback riders, mountain bikers, and off-highway vehicle riders would still not have to dismount in order to open or close gates but they would have to ride and hikers would have to walk to areas along the fence which had the gates to gain access into the other pastures. Not as much of an unrestricted experience, yet not as much work as getting on and off horses, bikes and vehicles to open and close gates. The recreation program currently doesn't have the funding to do this all in one year so it would have to be stretched out over a number of years in order to accomplish. If money were never available to do this work recreation experiences would be the same as in the other alternatives.

All of the watering facilities, except that at the Outrider and a portion of the Roberts Tract Trailheads and any perennial streams, are maintained by the grazing permittees. One of the options under this alternative would be to remove the facilities. If this were done, limited watering sources would be available to horseback riders. Riders might have to take their horses further distances in order to water them or not ride in those areas. Another option would be to leave these facilities for recreational horseback riders, but the recreation program is not currently funded to a level that would maintain them. Expectations of recreationists are that if there are windmills and tanks out there then there should be water in them to use. Without adequate water for their horses, the experience of the recreating horseback rider would be lowered. The only effect on other recreationists is probably the aesthetics of the watering facilities and their surrounding areas. Many people see these as part of the local landscape since they see them on most farms and ranches that surround the area. On the other hand, some people see barren ground (caused by concentrated use by the cattle) surrounding some tanks and multiple ruts caused by trailing cattle, in contrast to the grass-covered ground away from the tanks

and ground with no ruts, as displeasing. The No Grazing alternative would allow the grass to grow right up around the tanks if they were left in place, or if removed, would allow grass to completely recover the site.

Soldier Creek stock holding facilities are large in size, 14 paddocks make up the corral system. Use of this facility is shared between the horseback riding recreationist and the cattle grazing permittee. The permittees use the facility when they are putting their cattle into or taking them out of the Soldier Creek pastures. Recreationists use them to hold their riding stock when they are camped at the trailhead. Both the range and recreation program share in the cost of maintaining this facility. If the No Grazing alternative were selected either the facility would have to be reduced in size to where recreation could afford to maintain it (which at this time is not feasible due to budgets) or the facility would have to be removed, this too costs money which recreation doesn't have; or leave the facility to collapse on its own causing a safety concern for the public as well as Forest Service employees working in the area. Removal of this facility wouldn't have much affect on other recreationists other than some might like the more open appearance after the corrals were removed.

Hunting is broken down into two categories: 1) Big-Game and 2) Upland game. The term "big-game" is used for the following species: elk, deer, and turkey. Cattle grazing can compete for the same forage and habitat of big game. This in-turn could cause a reduced recreational experience in that there may be fewer big-game animals in the area. Under this alternative all forage would be available for big game. The hunting of sharp-tailed grouse is included in upland game hunting. The Pine Ridge Ranger District is not a heavily used area for this type of hunting but there is some. Cattle grazing can affect the habitat of the sharp-tailed grouse through the removal and trampling of vegetation that the grouse uses for nesting and brooding. The No Grazing alternative would give the greatest amount of vegetation for the habitat needed by the grouse.

3.9.3 Alternative 2 - No Change – Livestock Grazing under Current Allotment Management Plans

Direct and Indirect Effects

Under this alternative one main assumption needs to be made, that is that funding for recreation will not increase.

Under this alternative recreation will stay about as it is.

Fences will remain up and gates closed to control the cattle. This does affect recreation in that horseback riders, mountain bikers, hikers and off-highway vehicle riders need to plan their routes to use the access points (gates) located in the fences. The gates in some cases are also hard to open and/or close. Many horseback riders, mountain bikers and off-highway vehicle riders either have a hard time getting on and off their rides or just prefer not to get on and off. This alternative makes getting on and off equipment or animals a must if people want to go anywhere on the district. This can be alleviated by installing "jump-ups" (mini-cattleguards) for the mountain bikers, and off-highway vehicle rides, but the recreation budget doesn't have the funding at this time to do this. Many gates are designed to use chains to hold them closed, where they are not present chain closures can be put on the gates to make them easier to open and close, which helps

all the users that are using wire gates. This is a remedy that doesn't cost that much and could be accomplished over the next few years. As popular or designated roads and/or trails are identified as needing gates or cattle guards a more easily opened gate (hinged metal, if appropriate) gate or cattle guard will be installed.

Water facilities would remain the same under this alternative and therefore not have any affect on watering of horses used for recreational purposes. Since the water facilities are still in place and look as they currently do some people will see the aesthetics as degraded. The areas around the tanks will still be barren of vegetation on some tanks and many of the cattle trails still appear as rutted trails.

The Soldier Creek stock holding facility would remain in place and both the recreation and range programs would continue to share the maintenance responsibilities. No affect on recreation.

Hunting under this alternative would continue as it currently is. The State will continue to issue Big-Game permits and the public will continue to hunt on National Forest System lands. Competition for forage and habitat between big-game and cattle will be greater than in the No Grazing alternative. Sharp-tailed grouse will be affected by this alternative. With the reduction of vegetation there is a negative impact on the grouse habitat. Again, like that of the big game, with reduction in habitat there is likely to be a reduction in the numbers of grouse, causing a reduced recreational experience for the grouse hunter.

3.9.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct and Indirect Effects

Under this alternative two main assumption needs to be made, 1) that is that funding for recreation will not increase and 2) all Nebraska National Forest Land and Resource Management Plan direction will be used when making changes.

This alternative allows adjustments in the grazing based on the options provided in the "Grazing Management Toolbox" found in Chapter 2, Section 2.3, Table 2-1. All management tools listed in the table were reviewed for this analysis, but only those considered to impact recreation has been evaluated further. Other management activities listed in Table 2-1 would likely have minimal impacts to recreational experiences. Specific management activities that would most impact recreational activities and/or experiences are:

Adjust stocking rate to Heavy Grazing Intensity – This option may reduce the habitat for big game and upland birds, causing a possible reduction in numbers of animals to hunt. Reduced numbers of animals to hunt may cause a reduction in recreational experience. Hunters want to come away with something to show for their efforts.

Hikers, horseback riders and mountain bikers may find the area more aesthetically unpleasant in that there will probably be more areas in which bare ground and cattle trails are visible and there is a larger accumulation of cow pies to negotiate around.

Change animal class – Grazing bison could have an impact. The recreationist would have to recognize and incorporate into their activities safety measures to be used around bison. This might cause a sense of temporary insecurity when around the bison. On the other hand, for some, it may create a feeling of euphoria and actually be the highlight of their trip.

Any of the fencing options – In the Pine Ridge National Recreation Area there is to be no net gain of fences. On the rest of the area additional fencing is permitted but they must be build using the Forest Plan direction. If additional fence is built causing more fence/trail intersections this can cause an inconvenience for trail users, even though the gates will be made for easy opening. Fences may also lower the visual integrity of an area, which may impact on the recreationists, lowering the recreational experience. Electric fencing can reduce some of the esthetic issues but may increase the issue with the additional signing that is needed.

Any of the water options – In the Pine Ridge National Recreation Area there is to be no net gain of water developments. This option affects mainly the horseback rider. When a recreationist sees a windmill/tank identified on the recreation map they expect water to be at that location. Turning the water on and off, in order to move the cattle, or removing a windmill or tank doesn't give a consistent pattern that the horseback rider could follow. This may reduce the recreational experience if water for horses is hard to find.

Control livestock patterns using prescribed burning – Using this option impacts the recreationist in a few ways. The first and most important is the safety issue. Because recreationists can't be in the unit when it is burned it may cause some people to miss days they were planning on being out recreating. After the unit is burned it will be blackened with ash and soot (until at least one or two good rains occur), making the area dirty to use. Both of these cases may reduce recreational experience by reducing the number of days the recreationist can or wants to use the area.

3.10 Social & Economic Factors

3.10.1 Affected Environment

Introduction

The social and economic implications of forest resource management are of interest to local residents surrounding the forest, users of the forest, and to people throughout the area. Residents in Dawes County will be most likely to experience the direct social and economic impacts of the Pine Ridge Allotment Plan. Some of this management plan does incorporate Sioux County, but only two of forty permittees live in Sioux County. Visitors to the Forest may also be affected while recreating in the project area. Future forest management issues will be of interest to people both locally and nationally. Commercial users of the project area may potentially be affected positively or negatively depending on alternative selection and management requirements.

Issues

Scoping for this project highlighted social and economic concerns related to possible effects (positive or negative) to livestock grazing permittees and the local economy from changes in livestock management.

Indicators

Employment and income information at the county level

Local trends and community statistics

Traditional and current use of the project area

Affected Environment

The allotments for this plan are located in Dawes and Sioux Counties in Nebraska, with the majority located in Dawes County. Only two out of forty permittees are located in Sioux County. The portion of the allotment plan located in Sioux County is close to Crawford, Nebraska, which is located in Dawes County. Since communities most likely to be impacted, include Chadron and Crawford, which are located within Dawes County, we will use demographic information and statistics for Dawes County only. Some residents of these communities depend upon a variety of forest resource-related activities and access to resources for their economic livelihood. These activities include ranching, hunting, fishing and tourism related activities.

Demographic Information

Nebraska is ranked 38th out of 50 states in population. Between 1990 and 2000, Nebraska’s population increased by 8.4% compared to the national population growth of 13.2%. The largest population centers are located on the eastern side of the state. Dawes and Sioux counties are located in the far northwest corner of the state, which is sparsely populated. The population increase for Dawes County between 1990 and 2000 was only .4%. Between 1980 and 1990 Dawes County saw a decrease in population of -6.5%. The decline in population was due to the loss of jobs when the railroad moved out of Chadron.

Table 3-22 Population and Housing Statistics for Nebraska and Dawes County

	Nebraska	Dawes County	Chadron	Crawford	Whitney
Population	1,711,263	9,060	5,634	1,107	87
White	1,533,261	8,457	5,239	1,037	85
Black	68,541	73	37	1	0
American Indian	14,896	261	186	38	0
Asian	21,931	28	18	0	0
Other race	48,681	98	69	10	0
Two or more races	23,953	143	85	21	0
Hispanic or Latino	94,425	220	153	22	2

Median Age	35.3	30.6	24.9	42.2	39.3
Percent of people 65 and over	13.6	9.3	12.9	22.9	18.4
Total Housing Units	722,668	4,004	2,441	537	40
Housing Units for seasonal, recreational or occasional use	11,912	81			
Percentage of seasonal units	1.6%	2.0%			
<i>Source: 2000 Census</i>					

Table 3-22 highlights specific demographic data for Nebraska, Dawes County, and the individual communities within the study area. Dawes County accounts for about .5% of the total population of Nebraska. The city of Chadron has the largest population center within the County. In general, each community and Dawes County reflects a lack of racial diversity. The state of Nebraska is more racially diverse than Dawes County.

Dawes County has a median age of 30.6, which is lower than the state and national average median age of 35.3. This could be due to the fact that Chadron State College, a four-year college, is located in Chadron. Chadron is the largest population center in Dawes County. Other communities in Dawes County include Crawford and Whitney.

Employment and Income

The majority of employment in Dawes County is in government, retail trade and education. In fact, the city of Chadron has a higher per capita average of government jobs than the state capitol of Lincoln. Dawes County has 1043 landowners in the county with 521 landowners operating farms or ranches. Farm employment is a small portion of total employment for the county.

Table 3-23 Annual Average Employment

Annual Average Employment By Sector, 1990		
	Dawes	Nebraska
	1990	1990
Retail Trade	822	138,179
Education	746	68,165
State Govt	558	39,462
Agriculture	497	64,381
Farming Occupations	436	57,862
Local Govt	355	57,599
Health	341	66,275
Federal Govt	222	22,017
Personal Services	179	22,449
Finance	138	52,137
Manufacturing	65	50,624

Note: This does not represent all jobs in Dawes County. It is only a sampling.

Source: USDA Forest Service Human Dimension Module 2000

Table 3-24 Employed Civilian Population by Industry

Employed Civilian Population by Industry		
	Dawes	Nebraska
	2000	2000
Agriculture, forestry, fishing, hunting & mining	623 (13.1%)	48,942 (5.6%)
Construction	222 (4.7%)	56,794 (6.5%)
Manufacturing	110 (2.3%)	107,439 (12.2%)
Wholesale trade	99 (2.1%)	31,265 (3.6%)
Retail Trade	753 (15.8%)	106,303 (12.1%)
Transportation, warehousing, utilities	248 (5.2%)	53,922 (6.1%)
Information	88 (1.8%)	21,732 (2.5%)
Finance, insurance, real estate, rental & leasing	139 (2.9%)	67,370 (7.7%)
Professional, scientific, management, administrative	209 (4.4%)	63,663 (7.3%)
Educational, health, & social services	1,376 (28.9%)	181,833 (20.7%)
Entertainment, recreation, accommodation, food service	483 (10.1%)	63,635 (7.3%)
Other Services	183 ((3.8%)	40,406 (4.6%)
Public administration	229 (4.8%)	33,933 (3.9%)
Dawes County: Private wage workers 58.8%, Government workers 26.8%, Self-employed 12.9%, Unpaid family workers 1.5%		
Nebraska: Private wage workers 77.1%, Government workers 13.7%, Self-employed 8.7%, Unpaid family workers 0.5%		

Source: 2000 U.S. Census Bureau

Table 3-25 Annual earnings by category for Dawes County and Nebraska by Dollars

	Nebraska	Dawes County
Farm income	1,481,569,000	-6,318,000
Non-farm personal income	43,579,425,000	168,671,000
Components of non-farm personal income		
Net earnings	30,155,242,000	90,956,000
Dividends, interest, and rent income	9,227,750,000	37,633,000
Transfer payments	5,678,002,000	33,764,000
Components of transfer payments		
Income maintenance	407,111,000	2,677,000
Unemployment insurance benefits	48,815,000	353,000

Retirement	5,222,079,000	30,734,000
------------	---------------	------------

Source: USDA Forest Service Human Dimension Module 2000

Personal income can be described in several ways. It is comprised of non-farm and farm income, the largest component being non-farm income, which included all wages and salaries that are not directly associated with farming activity. Farm income includes the proprietor's net farm income, wages and payments-in-kind for farm labor, and salaries of corporate farms. Personal income can also be described in terms of earnings, property income, and transfer payments. Net earnings include all income earned throughout employment, property income is made from rent, dividends, and interest from investments. Transfer payments include several types of income not related to employment such as retirement, disability payments, income maintenance such as social security, food stamps, and WIC assistance, unemployment benefits, and veteran benefits.

Table 3-26 highlights the percentage of total personal income within major income categories for the nation, Nebraska, and Dawes County. The level of farm income compared to non-farm income is not consistent across the three areas. The state of Nebraska has a higher percentage of farm income than the US and Dawes County. The raw data show Dawes County with a negative amount (loss) when it comes to farm income. The percentage of income from net earnings, dividends, interest and rent are close to the same across all three areas. Income from transfer of payments is considerably higher in Dawes County than in Nebraska and the US. Retirement and other benefits account for the highest percent of total income in all three areas, Nebraska and Dawes County being slightly higher than the US.

Table 3-26 Components of total personal income for the US, Nebraska and Dawes County, 1999 (by percentage)

	United States	Nebraska	Dawes County
Farm income	.6	3.2	-3.9
Non-farm personal income	99.4	96.7	103.9
Breakdown of non-farm personal income			
Net earnings	68.0	66.9	56.0
Dividends, interest, and rent	19.0	20.4	23.2
Transfer payments	13.1	12.6	20.8
Breakdown of transfer payments			
Income maintenance	10.2	7.2	7.9
Unemployment insurance benefits	2.0	.9	1.0
Retirement and other	87.7	91.9	91.0

Source: USDA Forest Service Human Dimension Module 2000

The per capita income for Dawes County is considerably lower than the national and state average. The average per capita income in Dawes County is \$18,384 compared to Nebraska, which is \$27,047 and US, which is \$28,546. Dawes County has a higher percentage of individuals living in poverty (18.9%) than the US (12.4%). The state of Nebraska has 9.7 percent of its population living in poverty.

Payments to State and Counties

Historically, a percentage of revenue received from grazing fees has been distributed to the State of Nebraska, Dawes and Sioux counties. The “25% Fund”, as it is called, varies in amount annually, and is paid to the state and counties. This dollar variance is due to the fluctuation in grazing fees and total Head Months (HM) authorized. How the county chooses to be paid, by yearly average or full payment, also changes the dollar amount. Depending on which alternative is used, the amount of dollars given to the state and counties will vary. Data from the most recent year grazing fees (FY03), and the 10-year average grazing fees are reflected in Table 3-27. The table shows that under Alternative 1, 100% of the revenue would be lost. Under Alternative 2, there will be no change in the amount of revenue to Forest Service, state and counties. Under Alternative 3, the revenue to the Forest Service, state and counties could be reduced by approximately 1.7%.

Table 3-27 Estimated Revenues from Grazing Fees

	Alternative 1 10,148 HM Reduction	Alternative 2 10,148 HM	Alternative 3 9,984 HM	Estimated Difference Between Alternative 2 & 3
FY03 Grazing Fee \$1.35/HM	-\$13,700.	\$13,700.	\$13,478	-\$221.
10 Year Average Grazing Fee of \$1.63/HM	-\$16,541.	\$16,541	\$16,274.	-\$267

Summary

Dawes County is more ethnically and racially homogeneous, has a lower than average income and a higher poverty rate than the rest of the state and nation. It is located in a sparsely populated region. It has a somewhat diversified economy with retail, government and education jobs contributing the largest portion of income. Tourism is another major contributor to the local economy. Ranching is a small portion of the economy although it does add to the diversity.

The importance of the ranching sector is highlighted more as a social benefit than an economic benefit. It is an important part of the people’s heritage in Dawes County. Ranching operations in the area often operate at a loss or close to the margin and their profitability can be significantly affected by a variation of market conditions. Access to federal lands for grazing, if altered significantly enough, could affect ranching profits.

3.10.2 Alternative 1 – No Action – No Livestock Grazing

Direct Effects and Indirect Effects

The elimination of all grazing within the Pine Ridge Allotment Plan would likely result in about half of the permittees primary income source being at risk with some additional part-time seasonal jobs being lost. Approximately 13,675 AUMs (Animal Unit Month) will be eliminated under Alternative 1.

The elimination of all grazing within the Pine Ridge Allotment Plan would likely result in about half (twenty) of the forty permittees primary income source being at risk with some additional part-time seasonal jobs also being lost.

Many ranching operations could go out of businesses. The elimination of all grazing on the Pine Ridge allotments will likely cause a negative impact to local communities if operations close and people move away. Alternative 1 (the no action alternative) does not assist local communities that are trying to maintain a lifestyle that includes ranching. Hence there may be significant social effects, even though the economic effects would be minimal because of the small number of ranches involved.

3.10.3 Alternative 2 – No Change – Livestock Grazing under Current Allotment Management Plans

Direct and Indirect Effects

The continuation of the current situation will not create any risk to operations using Forest Service forage. Outside forces such as interest rates or fuel prices could change the margin of profit for any operation regardless of the AUMs (Animal Unit Month). There will likely be no change from current situation due to Forest Service action.

3.10.4 Alternative 3 – Livestock Grazing using Adaptive Management

Direct Effects and Indirect Effects

Alternative 3 requires resource management requirements and some compromises between users and resources, so the potential benefits of this action alternative are greater than the current situation by proactively addressing resource concerns. This alternative would have a greater benefit and value to a larger number of interest groups.

Adaptive management measures listed in Chapter 2, section 2.3, Table 2-1 Grazing Management Toolbox have been reviewed for impacts to economic resources. All management tools listed in this table were reviewed for this analysis, but only those considered to impact economic resources were further evaluated. Specific management strategies that would have the most impact to economics have been analyzed. Alternative 3 requires allotments be managed more actively than alternative 2. Alternative 2 will reduce the total AUMs by 337. This is a 2.5% reduction in AUMs from the current situation. Due to the changes in starting and ending dates for grazing, requirements for moving herds, possible alterations in allotments, and other general management requirements in alternative 3, it is difficult to predict the impact to ranching operations. Some operators will be effective in adapting to more intensive management requirements, while others may be unable to adapt. On three allotments, proposed range improvements (fencing and water developments) will require a substantial financial investment for four permittees. However, these improvements are scheduled for implementation over a 10-15 year period, which will help distribute the expenses. As with alternative 2, outside forces play a large role in an operations ability to remain profitable.

Some ranches may not be able to adapt to the new management practices and or profit margins could become too small to remain in business. Some ranching operations could possibly fail.

Socially, it is likely that alternative 3 would have greater benefit and value to a larger number of interest groups than alternative 2. People who are interested in protecting and improving resources including wildlife and fish habitat, and increasing hunting and fishing opportunities would see their values reflected more in alternative 3's outcomes. Alternative 1 would have the greatest negative social impact to local communities as the elimination of all grazing on all allotments would likely cause ranching operations to go out of business or drastically change their current level of operation. If individuals and families move from the area, communities may lose their leaders, volunteers, participants, or other types of community energy and capacity in terms of residents.

3.11 Short-term Uses and Long-term Productivity _____

NEPA requires consideration of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502.16).

The proposed action will have short-term uses (livestock grazing) that may have impacts to different resources and uses. Some allotments may result in lower or higher vegetative structure depending on stocking rates, season of use and rotation systems. Recreationist (hikers, horseback riders) may find impediments (fences without strategically placed gates), while some sportsman may find areas of high vegetative cover providing a positive hunting experience. As these short-term trade-offs change from year to year or are rectified (placement of gates to meet public needs), the long-term productivity and sustainability for rangeland resources in the project area will be moving toward and meeting the desired conditions described in the LRMP. This condition will provide the public with a diverse ecological setting meeting the multiple use demand.

3.12 Irreversible and Irretrievable Commitments of Resources _____

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary poor condition of an individual management unit and is likely to remain so, the gap between its current condition and the ideal (potential) productivity is an ongoing irretrievable loss.

There is no irreversible commitment of resources as a result of implementation of the project alternatives. On areas of poor rangeland condition, a short-term irretrievable loss may occur until the site has reached its potential productive condition.

3.13 Cumulative Effects _____

3.13.1 Effects Common to All Alternatives

Past activities within the project area include livestock and wildlife browsing and grazing, timber harvest and thinning, and recreational activities such as hiking, horseback riding, hunting & fishing, mountain biking, and off-road motorized recreation. The activities have led to many of the existing conditions described earlier.

Reasonable foreseeable activities within the project area include implementation of recent NEPA decisions from the Chadron Creek Hazardous Fuels Reduction Environmental Assessment, and future NEPA decisions to treat hazardous fuels in the Bordeaux Creek (currently in the planning stages), East and West Ash Creek, and Soldier Creek areas of the PRGA; and travel management on the Nebraska National Forest. Implementation of these decisions will further timber harvest, road closures, travel restrictions, and prescribed burning.

Scenery Related: Cumulative effects to the scenery resource in relation to alternatives discussed in this document must be placed in the context of planned and reasonably foreseeable activities on National Forest land and adjacent private lands. Ranching on private land adjacent to the PRGA is expected to continue. Some lands now used for cattle grazing may be subdivided for residential development. The vegetation treatment from the Chadron Creek Hazardous Fuels EA and other NEPA decisions are expected to occur within 5 years within the project area, and treatment is anticipated to continue on adjacent private land. Regeneration will occur in previously treated areas.

Soils, Parklands, Riparian Related: Suppression of natural fire, intensive grazing practices, and timber harvest activities over the past 50 years have changed the pattern of vegetation communities and in some cases, natural functions. With improved livestock management practices, riparian management, and vegetation treatment areas within the PRGA, reaching the desired soil, water and vegetation desired conditions is very likely within 10-50 years. Restoring the natural processes such as soil building, nutrient cycling, and more historical/ecological representation of indicator and desirable plant species within the communities will begin to occur more rapidly and naturally than if these activities do not take place.

Noxious Weed Related: Cumulative actions that have an impact on the risk of noxious weed invasion or expansion include prescribed burning, forest vegetative treatments, and recreational use. Weeds are likely to invade areas that are treated with prescribed burning. Timber treatments also cause enough disturbances to increase noxious weed risk. Recreation practices such as off road vehicle use, mountain bike trails, and hiking trails result in bare soil and the opportunity for noxious weed invasion exists. Noxious weed seed can also be transported by recreational vehicles or stock (horses) resulting in the spread of noxious weed populations.

Paleontological and Cultural Resources Related: Cumulative effects to fossil and cultural resources relate to the level of potential rangeland developments (i.e. water tanks, wells, etc.) number of livestock, and other ground disturbing activities within the project area. The development of rangeland structures and/or level of activity otherwise within the project area may proportionately increase the number of fossil and cultural resource sites that are found, and necessitate mitigation and site protection measures. Thus, these projects are beneficial because they add to the cumulative record of identified fossil and cultural sites on the Nebraska National Forest. In addition, these projects provide opportunities to scientifically evaluate and study fossil and cultural sites.

Conversely, numerous projects within or near fossil and cultural sites could ultimately decrease the integrity of the fossil and cultural resource base. For example, rangeland improvements (and access to them) could increase public knowledge of their locations

and increase casual vandalism (i.e. arrowhead collecting) and looting. Repeated improvements and maintenance of a rangeland development, could, over time, slowly add to the attrition and deterioration of a known (but “avoided”) fossil and cultural site(s).

The number of livestock on a given allotment, and within the project area as a whole, could also add to the cumulative deterioration of the fossil and cultural resource base. While there is no common agreement as to the extent of negative effects of livestock grazing, there is no disagreement that livestock do trample fossil and cultural resources. This does not occur within the span of a single season or a year; they are cumulative and result from continued, long-term grazing operations on the natural landscape. At present, there are no known cases in the project area of specific livestock damage to fossil and cultural sites.

Wildlife Related: Cumulative effects become less and less discernible the greater the distance from the project area. The analysis of cumulative effects extends to an area only a short distance outside the fenced boundary of the allotments. The rationale for this is the relatively small home ranges of the species found within the project area with the exception of the ferruginous hawk. However, habitat available within the project area would likely consist of an insignificant (if any) portion of a ferruginous hawk’s home range. Cumulative effects may also influence the downstream aquatic environment of permanently flowing tributaries of the White River that begin on or cross the project area.

Cumulative effects also become less quantifiable over time. The alternatives presented for analysis provide management direction for a period of ten to fifteen years. The cumulative effects may be evident for only a short duration, lasting only as long as the management direction of the selected alternative. Or, they may last several decades in the case of catastrophic wildfire (i.e. the Deadhorse Fire 1973) or riparian impairment due to overgrazing.

Cumulative effects within and adjacent to the project area (on both public and private lands) include impacts of past activities such as: livestock grazing, agricultural production, commercial harvest, pre-commercial thinning, tree plantings, hazardous fuels reduction, recreation (hunting/fishing, biking, hiking, horse back riding, off-highway vehicle riding, etc.) activities, wildfires, noxious weed control (biological and chemical), and structural development. Present activities include hazardous fuels thinning, commercial harvest in Chadron State Park and on private land, livestock grazing, noxious weed control (biological and chemical), and recreation activities. Reasonable foreseeable future activities are similar to present activities, including implementation of the Chadron Creek Hazardous Fuels reduction project. Each activity may influence another, for example prescribed burning may cause a unit to be deferred from grazing for a period of time.

Livestock grazing significantly influences wildlife by altering composition and structure of vegetation. Effects range from negative to positive depending on species or habitat being evaluated. Upland rangeland conditions on the project area range from fair to excellent. However, some riparian areas have been identified as being in poor condition. Logging and wildfires (or prescribed fires) create openings that increase grassland habitat, but also leave the habitat vulnerable, in the short-term, to flooding its associated impacts. Effects from recreation are highly variable from no significant effect to direct

take (i.e. hunting). As the human population increases, so does the demand for recreation on public lands. This creates an increase in pressure on the finite amount of public land and resources available. Noxious weed control generally has positive effects overall, but can lead to significant negative impacts to some non-target species susceptible to herbicides. This is especially true concerning inappropriate application near a water source.

Cumulative effects specific to individual species can be further referenced from the Nebraska National Forest LRMP 2001 Final Environmental Impact Statement, Appendix H, with the exception of the grasshopper sparrow and the olive-sided flycatcher, which are derived from literature search pertaining to those species.

3.13.2 Alternative 1 – No Action Cumulative Effects

Soil, Water and Upland Vegetation

With the lack of livestock grazing, reaching the desired soil, water and vegetation desired conditions would be more rapid than in either Alternative 2 or 3. This alternative would not impact the intent of the CWA.

Activities occurring off-forest would provide opportunities for forest wildlife to use riparian areas more within the PRGA. This on-forest habitat improvement would then somewhat mitigate impacts off-forest. For some non-migratory species this may create a small-scale source/sink scenario. In other words, populations would expand on forest only to be limited off-forest. Habitat on public lands alone cannot compensate for losses of habitat to development occurring in non-forest ownership.

Recreation

This alternative would have no substantial cumulative effect on recreation or the trails system. However, the cumulative effect of this alternative with other anticipated activities would likely enhance the scenery resource in the long term.

If the assumption that livestock grazing is removed and the area is left open then it's possible that more people will want to use the area. The feeling of open space and unrestrictive travel is very attractive to many users. This on the other hand could be a problem in itself. With more people using the area it's possible there could be more user conflict, which in turn would require more restrictions on the users themselves, hence lowering their recreational experience.

Heritage and Paleontological

This alternative would have the least amount of cumulative effect on the fossil and cultural resource since there would be no livestock in the project area.

Stand Regeneration and Species Composition

It was assumed that forest management activities would occur regardless of whether grazing was permitted. Therefore, cumulative effects would be similar to those described under Alternative 2.

Surface Fuels

Forest management activities would tend to increase the abundance of live fuel loading in forest stands. This increase in fuel loading may increase fire intensity but prescribed fires, slash treatments, and ladder fuel treatments would be implemented to reduce the likelihood of crown fires. Since livestock grazing would not be permitted under this alternative, there would be no potential decreases in fire behavior due to annual forage utilization and trampling. It is difficult to determine whether this additional fuel would result in more acres burning than under current conditions. Roads and other barriers would still function as firebreaks. However, there is a potential for additional acres burning at higher intensities compared to current conditions.

TES/Wildlife

Elimination of grazing is expected to result in all vegetation (upland and riparian) moving toward late seral stages and riparian areas to properly functioning condition (PFC). This will create a relatively homogenous vegetative structure consisting of tall, dense grassland with high accumulations of litter. Increased risk of catastrophic fire will result from higher fuel loads. The cumulative effects under this analysis can be rather short term, lasting not much longer than for the life of the Forest Plan, or they may last for several decades in the event of catastrophic fire. Examples of catastrophic fire on the planning area include the Deadhorse Fire of 1973 and Soldier Creek Fire of 1989.

Social/Economics

This alternative could have some minor effects socially on those whom recreate on the forest. Some visitors recreating on the forest have commented that the grazing of cattle and fences negatively effect their enjoyment of the forest. If cattle are not allowed to graze, it might improve the quality of experience for the recreationist and might attract more people to the area to recreate. If the number of people recreating on the forest increases, this could bring more money into the local economy.

As stated earlier, Alternative 1 could have negative effects on the permittees and local communities. Some ranches could go out of business. Even though it might be a small number of jobs lost, those losses combined with other economic losses in the area could multiply. If circumstances such as drought, recession, and increases in fuel prices occur, this could force even more agricultural producers out of business. If a substantial number of local agricultural producers go out of business, people could move out of the area. Without those businesses and residents contributing to the local economy, retail sales could decrease which would create additional job losses. A chain of events such as this could be economically and socially devastating to the local communities.

3.13.3 Alternative 2 – No Change Cumulative Effects

Soil, Water and Upland Vegetation

Under this alternative, the desired conditions for soil, water, and vegetation will not be satisfied, even within 50 years. Areas within the PRGA will move toward desired conditions through treatment of hazardous fuels, but many upland areas that are grazed by livestock and currently not meeting the desired conditions will not improve.

This action alternative would likely meet requirements of the CWA and reduces bacteria loading in the watershed.

Recreation

The scenery resource would likely not be enhanced to the extent of Alternative 1 – No Grazing, since many areas would not improve in the long-term. Recreation under this alternative will probably remain the same or increase over time. Some people may decide not to use the National Forest for their recreational event because of lowered expectations, but there will always be a new person who wants to experience the Pine Ridge Ranger District for the first time.

Heritage and Paleontological

Based on the discussion in section 3.15.1 Effects Common to All Alternatives, cumulative effects on the fossil and cultural resources would result under this alternative if ground-disturbing activities occur.

Stand Regeneration and species composition

Forest management activities increase light and moisture to the forest floor, which increases understory diversity. Grasses, forbs, shrubs, and tree regeneration tend to increase in abundance. Hardwood regeneration would also increase, if treatments occur in suitable sites. Proposed prescribed fires would also reduce the encroachment of trees into parkland (grass uplands).

Logging roads and skid trails improve access for cattle, wildlife, and off road recreation use. Though roads and skid trails are closed to motorized travel following logging operations, enforcement is often difficult, especially with the current travel policy on the District. The road surface itself could increase or change use patterns by livestock and wildlife. Reducing tree density also improves access for livestock and motorized vehicles by removing barriers to travel.

Surface Fuels

Since forest management activities tend to increase the abundance of understory vegetation, live fuel loading would increase in forest stands. This increase in fuel loading may increase fire intensity but prescribed fires, slash treatments, and ladder fuel treatments would be implemented to reduce the likelihood of crown fires. The increase in understory abundance may also increase the use of treated areas by livestock and big game, which could offset some of the increase in fuels.

TES/Wildlife

Data collected during the field review portion of this project indicate some riparian areas located on the project area are not regenerating, or are not regenerating in a timely enough manner to meet the revised Forest Plan. Since current grazing methods have led to these conditions, it is expected that this downward trend would continue under Alternative 2 to the detriment of all species that utilize riparian areas for at least some portion their life cycle.

Social/Economics

This alternative would have no substantial cumulative effects on the social or economic resources in the area.

3.13.4 Alternative 3 – Grazing with Adaptive Management Cumulative Effects

Soil, Water and Upland Vegetation

With vegetation treatment from hazardous fuels projects, improved livestock grazing management practices, implementing best management practices as available, and implementing a variety of management tools when monitoring indicates, reaching the desired condition for soil, water and upland vegetation resources is very probable within the long-term.

Of the two action alternatives, this would best meet the requirements of the CWA and reduce bacteria loading in the watershed.

In addition, there will be a more desirable mix of healthy functioning riparian communities, which in turn, will lead to more, and higher quality habitat for the full range of fish and wildlife and sensitive plants associated with these riparian communities. However, these advances toward riparian recovery cannot compensate for the loss of habitat occurring off forest.

Recreation

The scenery resource would likely not be enhanced to the extent of Alternative 1 – No Grazing, since many areas would not improve in the long-term. With the improved vegetative grass structure, and habitat, a better recreational experience is anticipated. This could mean that there would be an increase in use on the National Forest. Like that in Alternative 1 this might lead to greater user conflicts and more restrictions in the future.

Heritage and Paleontological

Based on the discussion in section 3.15.1 Effects Common to All Alternatives, cumulative effects on the fossil and cultural resources would result under this alternative if ground-disturbing activities occur.

Stand Regeneration and species composition

Cumulative effects under this alternative would be similar to those described under Alternative 2, except efforts to improve livestock distribution would do more to decrease impacts on woody draws where it is currently a problem.

Surface Fuels

Cumulative effects on surface fuels would also be similar to Alternative 2. The few areas to be managed for high structure could have some potential for increasing fire behavior.

TES/Wildlife

Most species analyzed in this report will benefit to some degree by habitat management that results in a mosaic of vegetative structure and properly functioning riparian ecosystems. Varied habitat structure and healthy riparian areas will lead to increased animal and plant diversity and abundance. Long-term cumulative effects from Alternative 3 will provide more beneficial impacts to species and habitat, as guidance under this alternative is more defined and responsive to monitoring than Alternative 2.

Social/Economics

This alternative could have some minimal cumulative effects on the social and economic resources. It is difficult to project what the cumulative effects will be since it is unknown how the permittees will adjust to the new requirements. Socially, this alternative could reduce conflicts between permittees and those who recreate on the forest.

3.14 Other Required Disclosures

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with ...other environmental review laws and executive orders.”

The Forest Service has consulted with the following agencies to ensure compliance with other laws:

- National Historic Preservation Act for ground disturbing actions in historical places;
- U.S. Fish and Wildlife Service in accordance with the ESA implementing regulations for projects with threatened or endangered species; and
- State of Nebraska Department of Environmental Quality for compliance with the Clean Water Act.

Executive Order 12898, directs agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The proposed action appears to not result in high and adverse human health or environmental effects through its programs, policies, and activities on minority populations and low-income populations. It is recognized that the agricultural community is currently economically depressed and that this may have some adverse effects on this population. However, we have met with grazing permittees to reach workable grazing strategies and cost-sharing opportunities on structures.

CHAPTER 4. LISTS

INCLUDING PREPARERS, SCOPING, BIBLIOGRAPHY, AND ACRONYMS

4.1 Preparers and Contributors

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental impact statement.

CORE INTERDISCIPLINARY (ID) TEAM MEMBERS:		
Jeffrey S. Abegglen	ID Team Leader, Wildlife Biologist	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District
Lora H. O'Rourke	Rangeland Management Specialist	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District
Jason D. Brewer	Wildlife Biologist	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District
Jeana Lam-Pickett	Recorder, Social/Economics	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District

SUPPORT INTERDISCIPLINARY (ID) TEAM MEMBERS:		
Roger Keepers	Timber/Recreation Specialist	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District
Barb Beasley	Paleontologist	USDA Forest Service Nebraska National Forest Supervisor's Office
Diana McGinn	Timber/Silvaculturalist	USDA Forest Service Nebraska National Forest Pine Ridge Ranger District
Keri Hicks	Archeologist	USDA Forest Service Nebraska National Forest Supervisor's Office
Virginia Emly	GIS Support	USDA Forest Service Nebraska National Forest Supervisor's Office
Greg Schenbeck	Wildlife Biologist	USDA Forest Service Nebraska National Forest Supervisor's Office
Jerry Schumacher	NEPA Support/Public Involvement and Communications	USDA Forest Service Nebraska National Forest Supervisor's Office

4.2 Scoping

4.2.1 Scoping - Consulted Agencies, Tribes, Organizations and Individuals

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

FEDERAL, STATE, AND LOCAL AGENCIES:	
Nebraska Game and Parks Commission	City of Chadron
USDI Fish and Wildlife Service	Dawes County Weed Superintendent
Senator Ben Nelson	USDA Natural Resources Conservation District
Senator Chuck Hagel	Dawes County Commissioners
Representative Tom Osborne	Sioux County Commissioners
State Senator 49 th District Leroy Loudon	Upper Niobrara White Natural Resource
State of Nebraska Department of Environmental Quality	

TRIBES:	
Oglala Sioux Tribe	Santee Sioux Tribe of Nebraska
Cheyenne River Sioux Tribe	Standing Rock Sioux Tribe
Rosebud Sioux Tribe	Iowa Tribe of Kansas and Nebraska
Crow Creek Sioux Tribe	Omaha Tribe of Nebraska
Fort Peck Assiniboine and Sioux Tribes	Ponca Tribe of Nebraska
Lower Brule Sioux Tribe	

ORGANIZATIONS	
Conservation Alliance of the Great Plains	Nebraska Chapter - The Wildlife Society
Biodiversity Conservation Alliance	Nebraska Wildlife Federation
Sugarloaf Grazing Association	Audubon Nebraska
KQSK Radio Station	Pine Ridge Cycle Association
KCSR Radio Station	Nebraska Horse Council
The Chadron Record - Newspaper	Nebraska Off-Highway Vehicle Association
The Nature Conservancy	NW Nebraska Natural Resources Council
Sierra Club	Centennial Saddle Club
National Wild Turkey Federation	Nebraska Quarter Horse Association

OTHERS CONSULTED:

A total of 43 letters were sent to individuals asking for input concerning this analysis. A copy of the mailing list can be obtained from the project file.

4.3 Bibliography

Barrett, H., J. Cagney, R. Clark, J. Fogg, K. Gebhart, P. L. Hansen, B. Mitchell, D. Prichard, and D. Tippy. 1993. Riparian area management: process for assessing proper functioning condition. Bureau of Land Management, Technical Report 1737-9. 51pp.

Belsky, A.J., D.M. Blumenthal. 1997. Effects of livestock grazing on stand dynamics and soils in upland forests of the Interior West. *Conservation Biology*. Vol. II. No. 2. April 1997: p. 315-327.

Benkobi, L. 1999. Sampling residual cover on Fort Pierre National Grassland. Final Report to Nebraska National Forest, Purchase Order 43-65TO-0056. 10pp.

Benkobi, L., D.W. Uresk, G. Schenbeck, and R.M. King. 2000. Protocol for monitoring standing crop in grasslands using visual obstruction. *J. Range Manage.* 53:627-633.

BHNF Proposed Action-Livestock Grazing EA Oct. 1995 pg. 17.

Brown, P.M., C.H. Sieg. 1999. Historical variability in fire at the ponderosa pine – Northern Great Plains prairie ecotone, southeastern Black Hills, South Dakota. *Ecoscience*. Vol. 6, no. 4 (1999): p. 539-547.

Carey, J.H. 1994. *Vitis aestivalis*. . In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Coladonato, M. 1992. *Ulmus Americana*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Esser, L.L. *Sheperdia argentea*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Ferret Inc. 1987. Crow Butte Uranium Project: Dawes County, NE. Application and Supporting Environmental Report for State of Nebraska: Underground Injection Control Program – Commercial Permit. Denver, CO.

Forest Service Manual 2200 – Range Management. Chapter 2210 – Rangeland Management Planning. Effective 01/24/2003.

Fritz, M. I. 1997. Survey report for two rare invertebrate species: the tawny crescent and regal fritillary on the Nebraska National Forest, U.S. Forest Service. Report to Nebraska National Forest, Chadron, NE. Nebraska Natural Heritage Program.

Horne, Stephen and Janine McFarland. 1993 *Issue Paper, Impacts of Livestock Grazing on Cultural Resources*. Heritage Resources Program, Los Padres National Forest, Santa Barbara, California. On file, Nebraska National Forest, Supervisor's Office, Chadron.

Howard, J.L. 1996. *Populus tremuloides*. . In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Howard, J.L. 2001(September). *Pinus ponderosa var. scopulorum*. . In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August).

Hunt, Robert M. 1985. Faunal succession, lithofacies, and deposition environments in Arikaree rocks (Lower Miocene) of the Hartville Table, Nebraska and Wyoming, pp. 115-204 in (J.E. Martin, ed.) Fossiliferous Cenozoic deposits of western South Dakota and Northwestern Nebraska. *Dakoterra*, vol 2, pt.2.

Johnston, B.C. 1987. Plant associations of Region 2 – potential plant communities of Wyoming, South Dakota, Nebraska, Colorado, and Kansas (edition 4). USDA Forest Service, Rocky Mountain Region. R2-ECOL-87-2. 429 p.

Johnson, K.A. 2000 (March). *Prunus virginiana*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Marshall, A.K. 1995. *Cercocarpus montanus*. : USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

LaGarry, Hannan and Leigh Anne LaGarry, University of Nebraska-Lincoln Conservation and Survey Division Open-File Maps Nos. 53-65.

LRMP. Nebraska National Forest Land and Resource Management Plan. 2002.

Lynch, John D. 1985. Transactions of the Nebraska Academy of Sciences, XIII:33-57. Annotated Checklist of the Amphibians and Reptiles of Nebraska.

McDonald, P.M., G.O. Fiddler. 1999. Effect of cattle grazing, seeded grass, and an herbicide on ponderosa pine seedling survival and growth. USDA Forest Service Research Paper. PSW-RP-242. December 1999. 15 p.

McMurray, N. 1987. *Toxicodendron rydbergii*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>

McMurray, N. 1987. *Prunus americana*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

McWilliams, J. 2000 (April). *Symphoricarpos albus*. . In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Mollhoff, Wayne J. 2001. The Nebraska Breeding Bird Atlas: 1984-1989. Nebraska Game and Parks Commission, Lincoln, NE. 233pp.

Monfore, J.D. 1992. Cattle grazing in conifer plantations of southcentral Oregon: 11 years of successes and problems. Proceedings of a presentation at the workshop on Forest Vegetation Management without Herbicides. Oregon State University, Corvallis, February 18-19, 1992: p. 66-72.

National Wildfire Coordinating Group. 1994. Fire effects guide. Sponsored by USDA Forest Service, USDI, and National Association of State Foresters. Chapter IX – prefire and post-fire grazing management. PMS 481/ NFES 2394.

Nebraska Natural Heritage Program. 2000. Database of the Nebraska Natural Heritage Program. Nebraska Game and Parks Commission. (Information from database is also compiled on 3.5” floppy disk in Wildlife Biologist’s office at the Pine Ridge Ranger District, Chadron NE)

Nebraska Statutes = Title 23 NE Ad. Code, Chapter 2, animal importation regulation and Chapter 3 Cattle Brucellosis Regulation 003.04; Nebraska Bovine Brucellosis Act, 54-1384(2) & (3).

O’Rourke, L. Rangeland Management Specialist, Pine Ridge Ranger District. Pers. Comm..with D. McGinn, August 20, 2003.

Osborn, Alan J. and Ralph J. Hartley. n.d. *Adverse Effects of Domestic Livestock Grazing on the Archaeological Resources of Capitol Reef National Park, Utah*. Midwest Archeological Center, National Park Service Transactions and Proceedings Series 10: 136-153. On file, Nebraska National Forest, Supervisor’s Office, Chadron.

Osborn, Alan, Susan Vetter, Ralph Hartley, Laurie Walsh and Jesslyn Brown. 1987 *Impacts of Domestic Livestock Grazing on the Archeological Resources of Capitol Reef National Park, Utah*. Midwest Archeological Center Occasional Studies in Anthropology, No. 20. On file, Nebraska National Forest, Supervisor’s Office, Chadron.

Robel, R.J., J.N. Briggs, A.D. Dayton, and L.C. Hulbert. 1970. Relationships between visual obstruction measurements and weight of grassland vegetation. *J. Range Manage.* 23:295-297.

Rosario, L.C. 1988a. *Acer negundo*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Rosario, L.C. 1988b (August). *Fraxinus pennsylvanica*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Rosario, L.C. 1988c. *Celtis occidentalis*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Scher, J.S. 2002 (August). *Juniperus scopulorum*. In: : USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Shea, John J. and Joel D. Klenck. 1993 *An Experimental Investigation of the Effects of Trampling on the Results of Lithic Microwear Analysis*. Journal of Archaeological Sciences 20:175-194. On file, Nebraska National Forest, Supervisor's Office, Chadron.

Taylor, J.L. 2001 (September). *Populus deltoids*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Tirmenstein, D. 1999 (November). *Juniperus communis*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Tirmenstein, D. 1988. *Quercus macrocarps*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Tirmenstein, D. 1988a (January). *Rhus trilobata*. In: USDA Forest Service, Rocky Mountain Research Station, Sciences Laboratory (2003, August). Fire Effects Information System, (Online). At <http://www.fs.fed.us/database/feis/>.

Todd, L.C., Oskar Burger, Paul C. Burnett, Robert Walker, Sarah Larson, Maura Finkelstein, Ali Klein, Amy Fredrick and David J. Rapson. 2000 *Impacts of Domestic Livestock Grazing on the Archeological Resources of Capitol Reef National Park, Utah*. Midwest Archeological Center Occasional Studies in Anthropology. On file, Nebraska National Forest, Supervisor's Office, Chadron.

Touchan, R., T.W. Swetnam, H.D. Grissino-Mayer. Effects of livestock grazing on pre-settlement fire regimes in New Mexico. Proceedings: Symposium on fire in wilderness and park management: Missoula, MT. March 30-April 1, 1993. USDA Forest Service,

Intermountain Research Station, 1995. p. 268-272. General Technical Report INT: GTR 320.

Uresk, D.W., K.E. Severson. Response of understory species to changes in ponderosa pine stocking levels in the Black Hills. Great Basin Naturalists; Vol. 58, no. 4. Oct. 1998: p. 312-327.

U.S.D.A. Forest Service; 1996 *Memorandum of Understanding Among the Rocky Mountain Region of the U.S.D.A. Forest Service and the State Historic Preservation Offices of Colorado, Wyoming, South Dakota, and Nebraska Regarding Rangeland Management Activities*. Signed July 26, 1996 (Agreement No. 1105-0001-96-020).

USDA Forest Service. 2002. Nebraska National Forest Land Resource Management Plan (LRMP) and Final EIS. 2002.

USDA Forest Service. 1996. Rangeland analysis and management training guide. Rocky Mountain Region, Lakewood, CO.

USDA. 1977a. Soil Survey of Dawes County, Nebraska. United States Department of Agriculture. Soil Conservation Service. pgs. 7-8; 19-20; 24-25; 40-41.

USDA. 1977b. Soil Survey of Dawes County, Nebraska. United States Department of Agriculture. Soil Conservation Service. pg. 76.

Willingham, Charles G. 1994 Oglala National Grassland Survey 1998-2000: Baseline Data for Monitoring Long-Term Grazing Impacts on Archaeological Materials. Laboratory of Human Paleoecology, Department of Anthropology, Colorado State University. On file, Nebraska National Forest, Supervisor's Office, Chadron.

4.4 Acronyms

AMP(s)	Allotment Management Plans(s)
BA	Biological Assessment
BE	Biological Evaluation
BHNF	Black Hills National Forest
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy Management Act
FP	Forest Plan
FS	Forest Service
FSM	Forest Service Manual
FYP	Fossil Yield Potential
HM	Head Month
GIS	Geographic Information Systems
ID	Interdisciplinary
IDT	Interdisciplinary Team
LRMP	Land and Resource Management Plan
MOU	Memorandum of Understanding
MUSYA	Multiple-Use Sustained Yield Act
NEPA	National Environmental Policy Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOI	Notice of Intent
NRA	National Recreation Area
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PA	Programmatic Agreement
PL	Public Law
PR(#)	Pine Ridge (Unit Number) Corresponds to Forest Map
PRGA	Pine Ridge Geographic Area
ROD	Record of Decision
S&G	LRMP Standards and Guidelines
SHPO	State Historical Preservation Offices
SIA	Special Interest Area
SOPA	Schedule of Proposed Actions

TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFWS	U.S. Fish and Wildlife Service
VOR	Visual Obstruction Reading
WIPS	Western Interior Paleontological Society

4.4 INDEX

- Abstract, i
- Acronyms, 147
- Affected Environment and Environmental Consequences, 82
- Allotments
 - Allotments and Management Units in the PRGA, 14
- Alternatives Considered
 - Alternative 1, 33
 - Alternative 2, 33
 - Alternative 3, 33
 - But Eliminated from Detailed Study, 67
 - Comparison of, 69
- Appendix A, 162
- Appendix B
 - Allotment Management Summary, 177
- Appendix C
 - Glossary, 313
- Archeological Resources, 94
- Bibliography, 147
- Comments
 - Send to, ii
- Commitments of Resources
 - Irreversible and Irrecoverable, 139
- Cumulative Effects
 - Alternative 1, 141
 - Alternative 2, 143
 - Alternative 3, 144
 - Common to all alternatives, 139
- Decision Framework, 29
- Desired Condition
 - LRMP, 15
- Document Structure
 - How to read this EIS document, 11
- Economic Factors, 132
- Environmental Consequences
 - See Affected Environment, 82
- Existing Condition, 16
- Fire/Hazardous Fuels, 100
- Forest Service Sensitive Species, 113
- Forested Resources, 100
- General Management Requirements, 62
- Glossary
 - See Appendix C, 313
- Grazing Management Toolbox, 35
- Issues
 - Key and Non-key, 30
- List of Tables, ix
- Monitoring Strategy, 64
- Other Related Efforts, 31
- Paleontological Resources, 98
- Preparers
 - List of, 147
- Productivity
 - Short-term & Long-term, 138
- Proposed Action, 13
 - In Detail, 35
- Proposed Actions
 - By Allotment/Management Unit, 37
- Public Involvement, 30
- Purpose and Need
 - Site Specific, 14
- Purpose and Need for Action, 13
- Rangeland Resources, 107
- Recreation, 127
- Riparian Resources, 85
- Scope of the Analysis, 28
- Scoping
 - List of, 147
- Social Factors, 132
- Soil, 107
- Summary, iii
- Table of Contents, v
- Threatened, Endangered, Candidate Species, 113
- Water Resources, 82
- Wildlife Species
 - Management Indicator Species, 113
 - Other, 113

APPENDICES

Appendix A

LRMP Direction (Objectives, Standards and Guidelines) Compliance

The following lists the LRMP direction as it relates to livestock grazing activities and how the proposed action will comply with this direction.

LRMP Objectives, Standards & Guidelines	LRMP Direction Compliance
Chapter 1 Physical Resources – Water	
1. Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff. Standard	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
2. Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff (exceptions shall occur in special habitat situations (e.g. prairie dog habitat). Standard	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
3. In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term health and riparian ecosystem condition. Standard	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
5. Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health. Standard	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
6. Maintain long-term ground cover, soil structure, water budgets, and flow patterns of wetlands to sustain their ecological function, per 404 regulations. (The 404 regulations are guidelines established by the Environmental Protection Agency. They constitute the substantive environmental criteria used in evaluating activities regulated under Section 404(b)(1) of the Clean Water Act. The full text of these regulations can be found at 40 CFR 230). Standard	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
13. Design activities to protect and manage	Uplands will be managed to promote healthy,

the riparian ecosystem. Maintain the integrity of the ecosystem including quantity and quality of water. Standard	upward trend conditions. Riparian areas will be managed to maintain or enhance a desired vegetation buffer zone.
Chapter 1 Physical Resources - Paleontological	
1. Protect key paleontological resources (Classes 3, 4, and 5 of the Fossil Potential Classification) from disturbance, or mitigate the effects of disturbance, to conserve scientific, interpretive, and legacy values. Standard	Management requirements will be implemented when paleontological resources are threatened from ground disturbance.
3. Prior to ground-disturbing activities, conduct paleontologic surveys in any area where there is a high potential to encounter these resources. Standard	A paleontological survey or review will be conducted prior to any ground-disturbing activities.
Chapter 1 Biological Resources - Fish, Wildlife and Rare Plants	
2. Modify livestock grazing practices as needed to reduce adverse impacts of drought on food and cover for prairie grouse and other wildlife. Standard	AMPs will reflect grazing practices that will maintain rangeland health and promote high vegetative grass structure levels across the PRGA to reduce adverse impacts of drought on food and cover for prairie grouse and other wildlife.
3. When installing new livestock water tanks, install durable and effective escape ramps for birds and small mammals. During maintenance of existing tanks, replace ramps that are ineffective or missing. Standard	AMPs will require this standard.
4. Design and build new structures, including fences, to reduce hazards to big game and to allow big game movement throughout the year. (Appendix B) This doesn't include fences designed to specifically exclude wildlife. Guideline	AMPs will require this guideline.
5. Do not authorize construction of new woven wire fences and barbed-wire fences with 5 or more strands. This doesn't include fences designed to specifically exclude wildlife. Guideline	AMPs will require this guideline.
7. Manage vegetation so native forbs	Some AMPs will reflect grazing practices,

<p>periodically complete their full reproductive cycle. Guideline</p>	<p>through rest management on 2-3% or more acres across the PRGA. This will allow native forbs to periodically complete their full reproductive cycle.</p>
<p>8. Use the following criteria at the project level to help determine where to manage for tall and dense nesting habitat in as large of blocks as possible in upland areas for waterfowl, prairie grouse and other ground-nesting birds:</p> <ul style="list-style-type: none"> • Presence of moderate to highly productive soils, • Dominance of mid to tall grass species, • Proximity to waterfowl pairing ponds and/or prairie grouse display grounds, • Proximity to wetlands with well-developed emergent vegetation, <p>Proximity to cooperative waterfowl/wetland development projects and other major wetland complexes. Guideline</p>	<p>These criteria will be used in determining which management units will be managed high vegetative grass structure on an annual or multi-year basis.</p>
<p>10. During the AMP process or as other opportunities arise, design and implement livestock grazing strategies to provide well-developed emergent vegetation through the growing season on 30 to 50% of the wetlands (natural and constructed) distributed across watersheds and landscapes, contingent on local site potential. Guideline</p>	<p>Wetland areas will be protected from livestock grazing or livestock grazing strategies implemented allowing emergent vegetation to fully develop.</p>
<p>14. To help reduce adverse impacts to breeding sharp-tailed grouse and their display grounds, prohibit construction of new facilities within 0.25 miles of active display grounds. A sharp-tailed grouse display ground is no longer considered active if it has been unoccupied during the last 2 breeding seasons. This does not apply to pipelines, fences, windmills, and underground utilities. Standard</p>	<p>Sharp-tailed grouse display grounds will be monitored annually (as funding and resources permit) to reduce adverse impacts from construction of new facilities.</p>
<p>15. To help reduce disturbances to breeding and nesting sharp-tailed grouse, do not authorize the following activities within 1.0</p>	<p>Sharp-tailed grouse display grounds will be monitored annually (as funding and resources permit) to reduce adverse impacts from</p>

<p>mile of active display grounds from March 1 to June 15:</p> <ul style="list-style-type: none"> • Construction (e.g., roads, water impoundments, pipelines, utilities, oil and gas facilities, fencing) 	<p>permit) to reduce adverse impacts from construction of new facilities.</p>
<p>Chapter 1 Biological Resources – Sensitive Plant and Animal Species</p>	
<p>23. Do not authorize new facilities, roads, trails, fences, salting and mineral areas, or water developments in habitat occupied by sensitive plant species. Guideline</p>	<p>Sensitive plant species will be monitored (as funding and resources permit) to prevent adverse impacts to sensitive plant species. The District biologist will review the activity site to ensure protection of sensitive plant species.</p>
<p>24. During the AMP process or as other opportunities arise, design and implement livestock grazing strategies that allow sensitive plant species to complete their reproductive cycles at a frequency that maintains and enhances their populations. Standard</p>	<p>Some AMPs will reflect grazing practices, through rest management on 2-3% or more acres across the PRGA. This will allow any sensitive plant species to periodically complete their full reproductive cycle.</p>
<p>27. As opportunities arise, design timing, intensity and frequency of mowing, burning and livestock grazing to maintain and/or increase populations of sensitive plant species and the health of rare plant communities. Standard</p>	<p>AMPs will reflect grazing practices that will maintain rangeland health and promote sensitive plant species across the PRGA.</p>
<p>30. Design vegetation and pest management activities (e.g., prescribed burning, mowing, livestock grazing, or grasshopper spraying) and pesticide application projects in known habitats of sensitive butterfly species to reduce mortality of butterflies and to maintain or enhance nectar and larvae host plant species. Guideline</p>	<p>AMPs will reflect grazing practices that will maintain rangeland health and promote high vegetative grass structure levels as directed in the LRMP to reduce adverse impacts to sensitive butterfly species.</p>
<p>Chapter 1 Biological Resources – Raptors</p>	
<p>51. To help prevent abandonment, reproductive failure or nest destruction, prohibit development of new facilities within the minimum distances (line of sight) of active raptor nests and winter roost sites as specified in the following table (see LRMP). For the bald eagle, golden eagle, merlin,</p>	<p>Known raptor nest sites and winter roosts will be reviewed before development of new facilities to ensure compliance with minimum distances (line of sight).</p>

<p>ferruginous hawk and Swainson’s hawk, a nest is no longer considered active if it’s known to be unoccupied for the last 7 years. For the burrowing owl and other raptor species, a nest is no longer considered active if it’s known to be unoccupied during the current or most recent nesting season. This does not apply to pipelines, fences and underground utilities. Standard</p>	
<p>52. To help reduce disturbances to nesting and wintering raptors, prohibit the following activities within the minimum distances (line of sight) of active raptor nests and winter roost areas during the dates specified in the following table (see LRMP):</p> <ul style="list-style-type: none"> ▪ Construction (e.g., roads, water impoundments, oil and gas facilities) <p>Standard</p>	<p>Known raptor nest sites and winter roosts will be reviewed before development of new facilities to ensure compliance with minimum distances (line of sight).</p>
<p>53. To help reduce disturbances to nesting and wintering raptors, do not authorize the following activities within the minimum distances (line of sight) of active raptor nests and winter roost areas during the dates specified in the previous table (see LRMP):</p> <ul style="list-style-type: none"> ▪ Construction (e.g., pipelines, utilities, fencing) Guideline 	<p>Known raptor nest sites and winter roosts will be reviewed before development of new facilities to ensure compliance with minimum distances (line of sight)</p>
<p>Chapter 1 Livestock Grazing</p>	
<p>1. Allow bison grazing on the Grasslands by permit, and require amendments to grazing agreements and rules of management to allow a change of class of livestock to include bison. Evaluate bison grazing to include the following criteria: associated health issues; fence requirements; wildlife habitat needs; handling facilities; and human safety. Standard</p>	<p>This Standard applies to National Grasslands.</p>
<p>2. Cooperate with states to ensure healthy livestock (including bison), such as requiring testing by the permittee for diseases (e.g., Brucellosis) and vaccinating for other diseases prior to placement on public lands. Standard</p>	<p>AMPs will reflect State of Nebraska direction regarding vaccinations and testing to ensure healthy livestock.</p>

<p>3. Adjust livestock management activities annually as needed to take into account the effect of natural processes, such as droughts, fires, floods, and grasshoppers on forage availability. Guideline</p>	<p>AMPs will reflect grazing practices that will maintain rangeland health.</p>
<p>4. Manage livestock grazing to maintain or improve riparian/woody draw areas. Implement the following practices:</p> <ul style="list-style-type: none"> • Avoid season-long grazing and activities, such as feeding, salting, herding, or water developments, which concentrate livestock in riparian/woody draw areas. • Control the timing, duration, and intensity of grazing in riparian areas to promote establishment and development of woody species. <p>Guideline</p>	<p>AMPs will reflect grazing practices that will maintain or improve riparian/woody draw areas. Livestock grazing will not be allowed between June 15 and September 20 in these areas. Season-long grazing and activities, such as feeding, salting, herding, or water developments, will not be allowed in riparian/woody draw areas.</p>
<p>5. Meet rest objectives based on, but not limited to, the following desired conditions:</p> <ul style="list-style-type: none"> • Where high structure is required for plant and animal communities (See Geographic Area) and/or reproductive success of Management Indicator Species and threatened, endangered, and sensitive species; • Where increased fuel loads are desired for prescribed burning; • Where rest is required for vegetative recovery after wildfire or prescribed burns. • Where ungrazed areas are desired for monitoring vegetation structure or for research needs; <p>Where ungrazed areas are desired for biological diversity. Guideline</p>	<p>Some AMPs will reflect grazing practices, through rest management on two to three percent or more acres across the PRGA. This will help meet desired conditions for MIS, fuels management, plant recovery after fire, and monitoring. LRMP direction is 1 to 10% rest of the suitable rangeland each year.</p>
<p>6. When allotment management plans are revised, adjust stocking levels to account for the variations in liveweight of livestock if needed to meet desired vegetative conditions. (See Appendix C). Guideline</p>	<p>AMPs will adjust stocking levels to account for the variations in liveweight of livestock if needed.</p>
<p>7. Prohibit feed storage and regular and routine feeding of domestic livestock on National Forest System lands. Standard</p>	<p>AMPs will prohibit feed storage and regular and routine feeding of domestic livestock on National Forest System lands.</p>

	National Forest System lands.
8. Prohibit livestock grazing in developed recreation sites unless it can be accommodated before or after the recreation-use season, or unless it enhances the management of the site. Guideline	Livestock will be prohibited from developed recreation sites unless it can be accommodated before or after the recreation-use season, or unless it enhances the management of the site.
9. Prioritize and remove any fences or water developments that are not contributing to achieving desired conditions. Guideline	Fences and water developments will be removed that are not contributing to achieving desired conditions.
Chapter 1 Heritage Resources	
1. Consult with designated representatives of federally recognized American Indian tribes during design of projects with potential to affect cultural rights and practices to help ensure protection, preservation and use of areas that are culturally important to them. Standard	A total of 11 American Indian tribes were included in the scoping process and asked to provide comments to the proposed action by the Forest Service.
Chapter 1 Infrastructure Use and Management	
6. Build new and reconstructed fences to provide for big game movement (Appendix B) and access for recreation, fire protection, and mineral development. Guideline	AMPs will require this guideline.
7. As opportunities allow, install gates along all existing fences at intervals to provide reasonable access. Guideline	Through monitoring and public comments, areas will be identified along specific existing fences for new gates to provide the needed reasonable access.
8. Install all gates so they are easily opened and closed by all users. Guideline	This has been implemented and will continue on an as-need basis.
9. Install cattle guards or hinged metal gates on popular and designated travel routes. Guideline	As funding and resources allow, cattle guards or hinged metal gates will be installed on desired popular and/or designated travel routes.
10. Prioritize and reconstruct those fences that do not meet big game specifications. Guideline	As funding and resources allow, fences within the PRGA will be evaluated and prioritized for reconstruction meeting big game specifications.
Chapter 2 Pine Ridge Geographic Area – Grassland Vegetation Objectives	

<p>2. The desired plant species composition objectives across the geographic area is as follows:</p> <table border="0"> <tr> <td>Late Seral</td> <td>Late Intermediate Seral</td> <td>Early Intermediate Seral</td> <td>Early Seral</td> </tr> <tr> <td>15 to 25%</td> <td>40 to 70%</td> <td>5 to 15%</td> <td>1 to 20%</td> </tr> </table> <p>Objective</p>	Late Seral	Late Intermediate Seral	Early Intermediate Seral	Early Seral	15 to 25%	40 to 70%	5 to 15%	1 to 20%	<p>Through AMPs, plant species composition will move toward this objective. The proposed action is estimated to result in the following:</p> <table border="0"> <tr> <td>Late Seral</td> <td>Late Intermediate Seral</td> <td>Early Intermediate Seral</td> <td>Early Seral</td> </tr> <tr> <td>18%</td> <td>64%</td> <td>8%</td> <td>10%</td> </tr> </table>	Late Seral	Late Intermediate Seral	Early Intermediate Seral	Early Seral	18%	64%	8%	10%
Late Seral	Late Intermediate Seral	Early Intermediate Seral	Early Seral														
15 to 25%	40 to 70%	5 to 15%	1 to 20%														
Late Seral	Late Intermediate Seral	Early Intermediate Seral	Early Seral														
18%	64%	8%	10%														
<p>3. Manage the geographic area to meet the vegetation structure objectives identified below:</p> <table border="0"> <tr> <td>High</td> <td>Moderate</td> <td>Low</td> </tr> <tr> <td>10 to 20%</td> <td>65 to 85%</td> <td>5 to 15%</td> </tr> </table> <p>Objective</p>	High	Moderate	Low	10 to 20%	65 to 85%	5 to 15%	<p>Through AMPs, measurable progress in achieving the vegetative structure objective is expected to occur. The proposed action is estimated to result in the following:</p> <table border="0"> <tr> <td>High</td> <td>Moderate</td> <td>Low</td> </tr> <tr> <td>19%</td> <td>76%</td> <td>5%</td> </tr> </table>	High	Moderate	Low	19%	76%	5%				
High	Moderate	Low															
10 to 20%	65 to 85%	5 to 15%															
High	Moderate	Low															
19%	76%	5%															
<p>Chapter 2 Pine Ridge Geographic Area – Rest Objectives</p>																	
<p>1. Rest 1-10 percent of the suitable rangeland each year. Objective</p>	<p>Two to three percent or more of the management units across the PRGA will be rested.</p>																
<p>Chapter 2 Pine Ridge Geographic Area – Wildlife, Fish, and Rare Plant Objectives</p>																	
<p>1. Management Indicator Species: Plains Sharp-tailed Grouse</p> <ul style="list-style-type: none"> • Provide diverse and quality grassland habitat across the geographic area at levels that, in combination with habitat on adjoining lands, helps support stable to increasing populations of sharp-tailed grouse and other wildlife with similar habitat needs. Objective • Establish and maintain quality nesting and brooding habitat for sharp-tailed grouse (see Appendix H) and associated wildlife by meeting vegetation objectives for high structure within 10 years. Objective 	<p>Through AMPs, quality grassland habitat and vegetative grass structure will meet this objective. Currently, over 40% of the PRGA is estimated to be in a high vegetative grass structure condition. Areas of known and potential sharp-tailed grouse activity will be emphasized.</p>																
<p>Chapter 2 Pine Ridge Geographic Area – Riparian Objectives</p>																	
<p>1. Over the life of the plan, manage riparian areas to maximize riparian vegetation such as</p>	<p>Uplands will be managed to promote healthy, upward trend conditions. Riparian areas will</p>																

sedges, rushes, willows, cottonwoods, hackberry, boxelder, and green ash. Objective	be managed to maintain or enhance a desired vegetation condition.
Chapter 2 Pine Ridge Geographic Area – Perennial Stream Fisheries Objectives	
1. Maintain or enhance adequate streamside vegetative cover to promote shading, cooler water temperatures and streambank undercutting for trout fisheries. Objective	Uplands will be managed to promote healthy, upward trend conditions. Riparian areas (which includes cold-water streams) will be managed to maintain or enhance a desired riparian condition. Collectively, streamside conditions will provide for desired trout fisheries objective.
Chapter 2 Pine Ridge Geographic Area – Grassland Vegetation S&G	
1. Use current monitoring information and stocking rate guidelines for livestock grazing (see Appendix I) to help design and implement range management strategies for meeting desired vegetation objectives. Standard	Appendix I of the LRMP will be used to develop AMPs to help meet desired vegetative objectives.
2. New structural range improvements (fences and water developments) may be constructed as needed to achieve desired condition objectives (wildlife habitat, botanical, range management, visual quality and recreation). Guideline	Wildlife habitat, botanical, rangeland management, visual quality and recreation elements will be considered when structural improvements are proposed to move toward and meet desired conditions.
3. Emphasize livestock management principles such as, light and heavy grazing intensity techniques (see Appendix I) season of use, number of animals, kind of livestock, and incorporate these principles into the grazing management system to achieve high and low vegetation structure objectives. Guideline	Appendix I of the LRMP will be used to develop AMPs to help meet desired vegetative objectives.
Chapter 2 Pine Ridge Geographic Area – Infrastructure S&G	
1. Allow no net decrease in the average pasture size. Guideline	May deviate from this guideline in order to meet desired conditions. See Section 2.3.3 of the EIS.
2. Allow no net increase in the number of water developments. Guideline	May deviate from this guideline in order to meet desired conditions. See Section 2.3.3 of the EIS.

	the EIS.
Chapter 2 Pine Ridge Geographic Area – Wildlife, Fish, and Rare Plant S&G	
<p>Management Indicator Species:</p> <p>Plains Sharp-tailed Grouse A range of 10 to 20% of the acres is prescribed for high structure grasslands in this geographic area. A substantial amount of this acreage should be located where it would optimize habitat for sharp-tailed grouse and associated species.</p> <p>The following criteria will be considered during site-specific project level planning to help determine the best locations to manage for high structure grasslands:</p> <ul style="list-style-type: none"> • Presence of moderate to highly productive soils and range sites, • Proximity to sharp-tailed grouse display grounds, • Proximity to shrub habitats, private croplands and other sharp-tailed grouse foraging habitats. Guideline <p>Establish and maintain quality foraging habitat for sharp-tailed grouse and associated wildlife species by enhancing and/or maintaining a diversity of forb species in grassland communities and regeneration of shrub patches and the shrub component of wooded draws and riparian habitats.</p> <p>Guideline</p>	<p>Appendix I of the LRMP will be used to develop AMPs to help meet desired vegetative objectives. The listed criteria will be used to develop site-specific locations to manage for high structure grasslands.</p>
<p>2. Where deer and/or elk management is emphasized, livestock grazing, timber harvests, and road use activities shall be scheduled or limited to avoid disturbing elk and deer during the critical calving/fawning season and winter months. Guideline</p>	<p>Important elk calving/deer fawning and wintering areas will be identified. Grazing disturbance timeframes may deviate from this guideline in order to meet desired conditions on a larger landscape perspective. See Section 2.3.3 of the EIS.</p>
<p>6. Defer livestock grazing and/or timber harvest operations until after July 1 - 15 or rest pastures annually from grazing in identified calving/fawning and wintering areas. Guideline</p>	<p>Important elk calving/deer fawning and wintering areas will be identified. Grazing disturbance timeframes may deviate from this guideline in order to meet desired conditions on a larger landscape perspective. See Section 2.3.3 of the EIS.</p>

	Section 2.3.3 of the EIS.
<p>9. Where wild turkey management is emphasized in ponderosa pine areas, timber harvests and livestock grazing activities shall follow these guidelines:</p> <ul style="list-style-type: none"> • Where wild turkey brood cover is desired, maintain a vegetative height of at least 8 inches and 70% ground cover of herbaceous vegetation or a comparable VOR along forest edge openings and along riparian areas. Brood cover should be maintained through at least July 15. Guideline • Riparian areas shall be deferred from grazing until July 1 to prevent excessive removal of herbaceous vegetation used as brood habitat. Guideline 	<p>Grazing disturbance timeframes and desired vegetative grass structure (short-term) have been implemented across the PRGA for several allotments with high vegetative grass structure objectives. Strategies include a deferred turn-on date (early July) to promote this desired condition.</p>
<p>Chapter 3 Management Area Direction 1.1 Wilderness: Soldier Creek</p>	
<p>Livestock Grazing. 1. See Forest Service Manual 2323.22 for direction on livestock grazing activities. Standard</p>	<p>Forest Service Manual direction will be followed and implemented through the AMP.</p>
<p>Invasive Plant Species. 1. Control noxious and invasive plant species with mechanical, chemical or biological control means. Recreational or permitted livestock must use certified noxious weed seed free forage. Standard</p>	<p>Certified noxious weed seed free forage will be required forest-wide.</p>
<p>Infrastructure. 1. Allow permanent electric fences. Standard 2. New fences shall be placed to promote visual integrity and overall cost efficiency in construction and long-term maintenance. Guideline 3. As fences are reconstructed, allow only wood fence posts in the Wilderness.</p>	<p>These standards and guidelines will be noted in the AMP and will be followed.</p>

Guideline	
Chapter 3 Management Area Direction	
AREA	
<p>Livestock Grazing</p> <p>1. Allow livestock facilities that do not detract from the semi-primitive character of the area. Standard</p>	<p>This standard will be noted in the AMP and will be followed.</p>
<p>Infrastructure</p> <p>1. Prohibit construction of facilities and structures that are not subordinate to the landscape. Guideline</p> <p>2. Allow no net gain of fences and water developments. Standard</p>	<p>These standards and guidelines will be noted in the AMP and will be followed.</p>
Chapter 3 Management Area Direction	
2.1 Special Interest Areas	
<p>2.1h - Bur Oak Enclosure SIA: This area is unsuitable for livestock grazing. Standard</p>	<p>No livestock grazing will be allowed in this SIA area.</p>
<p>2.1j - Mountain Mahogany Stand SIA: Management emphasis is on protecting the unique botanical community, and on regeneration and maintenance of species by reducing canopy cover through various treatment methods, such as understory cutting and prescribed burning of ponderosa pine.</p>	<p>Management emphasis direction has been considered in the proposed action.</p>
Chapter 3 Management Area Direction	
3.51 Bighorn Sheep Habitat	
<p>Desired Conditions</p> <p>Habitats capable of supporting bighorn sheep are managed to provide an abundant supply of food and cover. Other resource management activities are modified as needed to maintain high habitat suitability levels and desired levels of solitude.</p>	<p>Management emphasis direction has been considered in the proposed action.</p>
<p>Livestock Grazing</p> <p>1. Do not convert existing livestock</p>	<p>Domestic sheep will not be allowed to graze NFS lands.</p>

<p>allotments to domestic sheep allotments in or adjoining this management area. Standard</p>	
<p>Chapter 3 Management Area Direction 5.12 General Forest and Rangelands: Range Vegetation Emphasis</p>	
<p>Desired Condition: Management emphasis is on a balance of resource uses and opportunities, such as livestock grazing, wildlife habitat, dispersed recreation, minerals management and timber harvest. Some areas produce substantial forage for livestock and wildlife.</p>	<p>Management emphasis direction has been considered in the proposed action.</p>
<p>Livestock Grazing 1. Reference Chapter 1, Grassland-wide Direction, Section I, Livestock Grazing; and Chapter 2, Geographic Area descriptions.</p>	<p>See Chapter 1, Livestock Grazing narrative above.</p>
<p>Infrastructure 1. When reconstructing water impoundments, consider opportunities to enhance native wildlife and plant species habitat and restoration of natural drainage patterns. Guideline</p>	<p>This guideline will be noted in the AMP and will be followed.</p>
<p>Chapter 3 Management Area Direction 7.1 Residential/Forest Intermix</p>	
<p>Desired Conditions A variety of plant communities, structural stages and associated wildlife habitats are provided through vegetative manipulation and natural processes. Natural openings, meadows, and other plant communities are maintained to protect soil and water resources, and key wildlife habitat areas. Timber harvest, livestock grazing, and prescribed fire may be used to attain a natural-appearing landscape, and to minimize the risks of catastrophic fires and epidemic levels of insects and diseases.</p>	<p>Management emphasis direction has been considered in the proposed action.</p>

Appendix B

Allotment Management Summary

The first table in Appendix B summarizes the current grazing management (Alternative 2) and the proposed grazing management (Alternative 3) and compares the two alternatives to each other. Alternative 1 is no grazing, so it is not illustrated. The second table shows the AUM difference per allotment by alternative.

Appendix B then illustrates a table of acreages and figures for each grazing allotment. These acreages, percentages and figures include management area acres, National Forest Lands, State lands, and private land acres within the allotment; capable and non-capable acres; permitted animal unit months (AUMs) and adjusted stocking AUMs; and the proposed action estimated percent of seral stages and percent grassland structure for the allotment.

Capable acres are those areas of land determined to be capable to produce resources under an assumed set of management practices and at given levels of management intensity while maintaining long-term health and sustainability. Capability depends on current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices.

NRCS rangeland analysis methodology was used to determine rangeland condition and initial stocking rates. Rangeland condition is determined on each range site (soil type) and an AUM/acre value assigned. All acres and range sites within the management unit were included in the initial stocking rate determinations. The initial stocking rate was then adjusted to represent actual carrying capacity or forage available to livestock. Non-capable acres were subtracted from the initial stocking rates. The resource professional determines the adjusted stocking AUMs by using capable acres and other factors such as animal class, season of use, introduced or non-native species, management system, and historical grazing patterns and vegetative response. Acres primarily in the open parklands, gentle slopes and accessible areas were counted as acres "capable" of providing forage for livestock.

Species composition described in ecological seral stages (early, early intermediate, late intermediate and late) have been crossed-walked from the early version of the NRCS rangeland analysis. They are represented by percentages within each allotment.

Currently, vegetative grass structure data is not available for each allotment within the PRGA. Percentages were estimated for each management unit and then totaled for the allotment. It is recognized that structure percentages can vary between structural stages (i.e., moderate structural stage may range from moderate to high structural stage). Monitoring over the next three years will be conducted to validate these estimates.

Appendix B also addresses the four components of the allotment management plans (AMPs) for each allotment. In accordance with FSM 2210, AMPs will consist of four elements designed to move the allotment towards the desired condition. These are: (1) Objectives; (2) Management requirements; (3) Improvements needed; and (4) Monitoring and evaluation standards.

The objectives for each allotment are briefly described. Management requirements and Improvements needed describe the proposed action for each allotment in detail, with possible adaptive management strategies should the proposed management not move toward and meet LRMP desired conditions. Monitoring and evaluation standards are listed as to what method will be used. The detailed descriptions of these monitoring and evaluation standards are described in monitoring section of the environmental impact statement.

Appendix B. Table 1. Comparison Between Alternative 2 - Current Condition and Alternative 3 - Proposed Action

Allotment Name	Alt. 2. Current Condition	Alt. 3. Proposed Action	Change in Days Use or Livestock or range improvements
Aristocrat Butte	5/16-10/30 annually 5.60 months 44 cow/calf	Pasture rotation Yr. 1 5/20-8/25 Yr. 2 rest Yr. 3 6/24-9/29 3.26 months 85 yearlings (70 on NFS)	70 days less use
Aspen	no permitted use	no change	No change
Barrel Butte	Two pasture rotation Yr. 1 5/16-10/1 Yr. 2 5/23-10/7 4.6 months	Modified two pasture rotation Yr. 1 5/29-10/4 Yr. 2 6/1-10/7 4.29 month	9 days less use, 8-13 days later turn-on date, 3 days later off-date
Big Bordeaux	Three pasture rotation 5/16 – 10/15 5.09 months 34 cow/calf, 2 bulls, 65 yearlings 37S grazed in spring annually	No change in AUMs Develop three pasture rotation with Unit 37S utilized at all seasons 34 cow/calf, 2 bulls, 65 yearlings	Fencing off Big Bordeaux Creek in Unit 37S-no livestock use
Brickner	6/1 – 10/22 4.8 months 29 cow/calf, 1 bull	no change	No change
Chadron Creek	5/20-11/15 6 months 103 cow/calf, 5 bulls 11/1-12/31 2.03 months 4 horses	6/1-11/27 6 months 103 cow/calf, 5 bulls 10/1-11/30 2.03 months 4 horses	12 day later turn –on and off date, horses 30 day earlier on and off date, same AUMs removing 1 mile of fence, remove water-gap, develop water
Cherry Creek	5/16-10/15 5.06 months 28 cow/calf, 2 bulls	5/21-10/15 4.93 month 28 cow/calf, 2 bulls	4 days less use, 4 days later turn-on date
Collons	Rotation plan Yr. 1 7/15 – 10/7 Yr. 2 8/7-10/31	no change	No change

Allotment Name	Alt. 2. Current Condition	Alt. 3. Proposed Action	Change in Days Use or Livestock or range improvements
	2.83 months 85 cow/calf		
Dairy	11/1 – 3/31 5.0 months 10 cow/calf on NFS	no change	No change
Deadhorse	Yr. 1 7/20 – 10/07 Yr. 2 8/1 – 10/19 2.70 months 75 cow/calf	Annually 7/20 – 10/8 2.70 months 75 cow/calf	Change seson of use to 7/20-10/8 annually, same AUMs
Deadman Creek	No permitted use	Allow 124 AUMs utilization by existing permittees where appropriate	
East Ash	Three pasture rotation with Units 14 and 16 being utilized in spring and fall 5/10 – 10/1 4.75 months 164 cow/calf, 7 bulls	No change in AUMs, create 3 riparian units, implement riparian grazing dates 5/15 – 10/5 4.75 months 164 cow/calf, 7 bulls	Remove 1.75 miles fence, construct 3.75 miles new fence, construct 5 new water developments, removal of two water developments, continue range rider, split herds in rotation, no livestock use in Unit 16W
Flannigan Butte	5/15 – 10/15 Unit 26 grazed after 9/1 annually 5.13 months 90 cow/calf, 4 bulls	No change in AUMs	Fence off spring & wooded draw from livestock and NFS property from private, develop water-share with Unit 25
Gobbler	Three pasture rotation with Unit 39 utilized in spring annually 5/16 – 10/15 5.10 months 57 cow/calf, 2 bulls	No change in AUMs Modify three pasture rotation, utilize Unit 39 in fall 2 out of 3 years	
Hallstead	Four pasture rotation 5/16 – 9/30 4.47 months 57 cow/calf, 2 bulls	No change in AUMs, implement two pasture rotation 5/16 – 9/30 4.47 months 57 cow/calf, 2 bulls	Remove water-gap, remove 1 mile fence to create 2 pastures rather than 4
Homestead	5/16-10/15 5.10 months	6/1-10/19 4.70 months	12 days less use, 16 day later turn-on-date, 4 day later

Allotment Name	Alt. 2. Current Condition	Alt. 3. Proposed Action	Change in Days Use or Livestock or range improvements
	42 cow/calf, 2 bulls	42 cow/calf, 2 bulls	off-date
Horseshoe	Variable season of use not to exceed 61 AUMs on NFS land, riparian units grazed in early spring or fall	No change	
King's Canyon	Two pasture rotation 5/15-10/15 <i>5.13 months</i> 61 cow/calf, 3 bulls (54 cow/calf on NFS)	Two pasture rotation 5/20-10/10 <i>4.79 month</i> 61 cow/calf, 3 bulls (54 cow/calf on NFS)	10 days less use, 5 day later turn-on date and 5 day earlier off date
Little Creek	Four pasture rotation 5/20 – 10/20 <i>5.13 months</i> 100 cow/calf pair (35 on NFS)	No change in AUMs but incorporating 7 unit pasture rotation with private not to exceed 190 AUMs on NFS land	Estimated change from 35 cow/calf to 74 yearlings (on NFS) for 3 months grazing season
Lower Sawlog	Three pasture rotation with riparian unit grazed in the spring and fall, but outside riparian grazing dates 5/16-10/2 <i>4.66 months</i> 20 cow/calf, 1 bull	Three pasture rotation with private land utilized in mid-season and implement riparian grazing dates Yr. 1 5/5-6/15, 8/11-9/30 Yr. 2 5/5-7/25, 9/20-9/30 <i>3.08 months</i> 24 cow/calf, 1 bull	47 days less use, increase of 4 cow/calf pair to meet Forest lower limit standard of 125 head minimum
Rattlesnake Butte	Three pasture rotation system with private Yr. 1 6/1 – 6/30 and 9/20-11/3 Yr. 2 6/15 – 8/1 and 10/1-11/1 Yr. 3 8/19 – 11/1 <i>2.5 months</i> 77 cow/calf, 3 bulls	No change	Fence spring from livestock use, develop water to share with Unit 26
Roberts	Three pasture rotation with riparian units 17E, and 17W following riparian grazing dates <i>3.32 months</i> 84 cow/calf and 3 bulls	No change	
Rock Canyon	6/1-10/31 <i>5.06 months</i>	6/1-10/1 <i>4.10 month</i>	30 less days use, 30 days earlier off-date

Allotment Name	Alt. 2. Current Condition	Alt. 3. Proposed Action	Change in Days Use or Livestock or range improvements
	29 cow/calf and 2 bulls (6 cow/calf on NFS)	29 cow/calf and 2 bulls (6 cow/calf on NFS)	
Sandy Trail	6/1-8/31 3.06 months 20 cow/calf and 1 bull	6/15-9/10 2.93 month 20 cow/calf and 1 bull	4 days less use, 14 day later turn-on date, 10 day later off-date
School Section	No permitted livestock use	Allow 115 AUMs utilization by existing permittees where appropriate	
Scott	Two pasture rotation 6/16-9/5 2.73 months 36 yearlings, 24 cow/calf, and 1 bull	No change	
Slicker	Three pasture rotation 5/18-10/11 4.9 months 186 cow/calf and 6 bulls (29 cow/calf on NFS)	Three pasture rotation 5/25-10/7 4.53 month 186 cow/calf and 6 bulls (29 cow/calf on NFS)	11 days less use, 7 day later turn-on date, 4 day earlier off-date
Soldier Creek	Four pasture rotation 5/10 – 9/30 4.76 months 240 cow/calf, 10 bulls herds combined entire season range rider	No change in AUMs, split herds first 42 days in spring, continue range rider	
Steffensen	Two pasture rotation 6/1 – 10/8 4.33 months 105 cow/calf and 5 bulls	No change	
Strong Canyon	Three pasture rotation 6/1 – 9/30 4.06 months 50 cow/calf and 2 bulls	No change	
Table Road	Two pasture rotation Yr. 1 5/20 – 8/18 Yr. 2 6/1 – 8/30	No change	

Allotment Name	Alt. 2. Current Condition	Alt. 3. Proposed Action	Change in Days Use or Livestock or range improvements
	3.03 months 33 cow/calf and 2 bulls		
Trunk Butte	Three pasture rotation with riparian units not following riparian grazing dates 5/20-10/20 5.13 months 75 cows, 40 yearlings, 80 cow/calf and 3 bulls	Riparian Unit 18 being utilized in the fall with a range rider, riparian Unit 19N utilized in the spring following riparian grazing dates, and upland pasture Unit 19S being utilized in middle of season 5/20-10/9 4.76 month 75 cows, 40 yearlings, 80 cow/calf and 3 bulls	11 days less use, 11 day earlier off-date
West Ash	Four pasture rotation with riparian unit PR8 following riparian grazing dates 7/3 – 8/6 and 8/21-10/2 2.43 months 95 cow/calf and 4 bulls	No change	
Wetterstrom	Three pasture rotation 5/15 – 10/2 (10 days use on private land) 4.18 months 63 cow/calf and 3 bulls	No change	

Appendix B. Table 2. Total AUMs by Allotment and Change by Alternative

A total reduction of 337 AUMs will affect 13 permittees within 10 allotments.

<u>Allotment Name</u>	<u>No Grazing</u>	<u>Condition</u>	<u>Proposed Action</u>	<u>AUMs</u>
Aristocrat Butte	0	331	235	-96
Aspen	0	0	0	0
Barrel Butte	0	156	146	-10
Big Bordeaux	0	524	524	0
Brickner	0	192	192	0
Chadron Creek	0	858	858	0
Cherry Creek	0	202	197	-5
Collons	0	317	317	0
Dairy	0	66 (on NFS)	66 (on NFS)	0
Deadhorse	0	267	267	0
Deadman Creek	0	*	*	*
East Ash	0	1066	1066	0
Flannigan Butte	0	641	641	0
Gobbler	0	1026	1026	0
Hallstead	0	360	360	0
Homestead	0	296	263	-33
Horseshoe	0	61 (on NFS)	61 (on NFS)	0
King's Canyon	0	420	403	-17
Little Creek	0	190 (on NFS)	190 (on NFS)	0
Lower Sawlog	0	128	102	-26
Rattlesnake Butte	0	275	275	0
Roberts	0	385	385	0
Rock Canyon	0	40 (on NFS)	32 (on NFS)	-8
Sandy Trail	0	86	82	-4
School Section	0	*	*	*
Scott	0	180	180	0
Slicker	0	1204	1146	-58
Soldier	0	1552	1552	0

<u>Allotment Name</u>	<u>Alt. 1. No Grazing</u>	<u>Alt. 2. Current Condition</u>	<u>Alt. 3. Proposed Action</u>	<u>Change in AUMs</u>
Creek				
Steffensen	0	627	627	0
Strong Canyon	0	278	278	0
Table Road	0	140	140	0
Trunk Butte	0	1122	1042	-80
West Ash	0	318	318	0
Wetterstrom	0	367	367	0
Total	0	13,675	13,338	-337
Summary	Reduction of 13,675 AUMs	0 AUM Reduction	Reduction of -337 AUMs	

*The School Section and Deadman Allotments currently have no permitted livestock use. These areas will be utilized by existing permittees at a total of 239 AUMs however, overall AUMs will not increase so they were not counted.

Aristocrat Butte

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation - Acres	691.0	77	
Total Allotment Acres	897.5	100	
National Forest Land Acres	691.0	77	
State Land Acres	0	0	
Private Land Acres	206.5	23	
Capable Acres (NFS Lands)	603	87	
Non-Capable Acres (NFS Lands)	88	13	
Current Permitted Livestock Grazing (AUMs)			331
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			235
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		0	
*Proposed Action High Structure Stage (%)		100	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Aristocrat Butte

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and an early intermediate to late intermediate seral stage over the life of the AMP. This allotment contains highly erodible sandy soil. A rest rotation will help stabilization of soils. The proposed management will enhance soil stability.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Management

Proposed Management: Authorized Use will be 70 yearlings on NFS land and 15 yearlings on private lands (72 Animal Units) for a period of 3.26 months. Total animal unit months for the allotment are 235.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR28	5/20	8/25	98	3.26	235
Total			98	3.26	235

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR28	Rest	Rest	0	0	0
Total			0	0	0

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR28	6/24	9/29	98	3.26	235
Total			98	3.26	235

Start over with Year 1.

Adaptive Management: Combine grazing with Unit PR27. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Develop water on the southeast corner to share between Unit 28 and Unit 29. This will improve animal distribution. There is a greater need for additional water in Unit 29, but for cost effectiveness water will be available for both Units. A small enclosure exists in the north side of the Unit that contains a wooded draw this enclosure will be maintained by the permittee to ensure livestock do not access the wooded draw.

- Construct 1 mile of fence along NFS and private land boundary, excluding private land from the allotment.

Adaptive Management Improvements: Remove existing fence between PR28 and PR27. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Aspen

Summary	Acres	% of Allotment	Number or Percent
Management Area 3.51 Bighorn Sheep - Acres	181.2	42	
Total Allotment Acres	428.0	100	
National Forest Land Acres	181.2	42	
State Land Acres	0	0	
Private Land Acres	246.7	58	
Capable Acres (NFS Lands)	0	0	
Non-Capable Acres (NFS Lands)	181.2	100	
Current Permitted Livestock Grazing (AUMs)			0
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			Non-capable rangeland
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		0	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Aspen

Objective(s): This allotment is currently vacant and no livestock use is proposed.

This unit contains very steep rugged terrain considered to be non-capable rangeland for livestock use. Only small open parklands exist, but range analysis has been completed within the savannah range sites (ponderosa pine stands).

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat.

Management

Proposed Management: No permitted livestock use on this allotment due to non-capable rangeland.

Adaptive Management: Implement wildlife management strategies (timber management, prescribed fire, etc.) outside the scope of this decision.

Improvements

Proposed Improvements: Construct 1.25 mile of fence to prevent trespass livestock access from private lands and West Ash Road ROW.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Barrel Butte

Summary	Acres	% of Allotment	Number or Percent
Management Area 3.51 Bighorn Sheep - Acres	468.4	98	
Total Allotment Acres	476.4	100	
National Forest Land Acres	468.4	98	
State Land Acres	0	0	
Private Land Acres	8	2	
Capable Acres (NFS Lands)	270.4	58	
Non-Capable Acres (NFS Lands)	198	42	
Current Permitted Livestock Grazing (AUMs)			156
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			146
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		80	
*Proposed Action Late Seral (%)		20	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		70	
*Proposed Action High Structure Stage (%)		30	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Barrel Butte

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and an early intermediate to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Management

Proposed Management: Authorized Use will be 25 cow/calf pair and 1 bull (34 Animal Units) for a period of 4.29 months. Total animal unit months for the allotment are 146. Implement riparian use dates of no livestock use from June 15 to September 20 in PR60A.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR60	6/1	9/20	112	3.73	127
PR60A	9/21	10/7	17	0.56	19
PR60B	Rest	Rest	0	0	0
Total			129	4.29	146

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR60A	5/29	6/15	17	.56	19
PR60	6/15	10/4	112	3.73	128
PR60B	Rest	Rest	0	0	0
Total			129	4.29	146

Start over with Year 1.

Adaptive Management: Authorized use of 25 cow/calf pair and 1 bull (34 Animal Units) for a period of 2.52 months for a total of 86. Utilize PR60A in the fall every year.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR60	7/24	9/20	59	1.96	67
PR60A	9/21	10/7	17	0.56	19
PR60B	Rest	Rest	0	0	0
Total			76	2.52	86

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR60	6/15	8/12	59	1.96	67

PR60A	9/21	10/7	17	0.56	19
PR60B	Rest	Rest	0	0	0
Total			76	2.52	86

Start over with Year 1.

Improvements

Proposed Improvements: Develop spring in Unit 60 to provide livestock water. Pipe water from spring to the north to two stock tanks. Fence the tanks so that livestock from Unit 60 as well as Unit 9 have access.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Big Bordeaux

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	1971.0	99	
Total Allotment Acres	1979.7	100	
National Forest Land Acres	1971.0	99	
State Land Acres	0	0	
Private Land Acres	8.7	1	
Capable Acres (NFS Lands)	1305	66	
Non-Capable Acres (NFS Lands)	666	34	
Current Permitted Livestock Grazing (AUMs)			524
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			695
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		53	
*Proposed Action Late Seral (%)		47	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		29	
*Proposed Action High Structure Stage (%)		71	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Big Bordeaux

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use for Cogdill Enterprises will be 34 c/c 2 bulls (48 Animal Units) for a period of 5.09 months. Authorized Use for Pine Springs Ranch will be 65 yearlings (55 Animal Units) for a period of 5.09 months. Total animal unit months for the allotment are 524. Currently, Pine Springs Ranch is utilizing PR38A along with intermixed private land at 4 animal units for 4 months (16 AUMs).

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR37S	5/16	6/24	40	1.33	137
PR37N	6/25	8/18	55	1.83	188
PR37E	8/19	10/15	58	1.93	199
Total			152	5.09	524

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR37N	5/16	7/9	55	1.83	188
PR37E	7/10	9/5	58	1.93	199
PR37S	9/6	10/15	40	1.33	137
Total			152	5.09	524

Grazing Plan – Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR37E	5/16	7/12	58	1.93	199
PR37S	7/13	8/21	40	1.33	137
PR37N	8/22	10/15	55	1.83	188
Total			152	5.09	524

Start over with Year 1.

Adaptive Management: Defer turn-on date after May 27. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Construct .75 mile of new fence within Unit 37S to exclude livestock from Big Bordeaux Creek. Livestock will not be allowed to utilize this riparian area.

Reduce the size of the water-gap on Big Bordeaux Creek where cattle from Unit 37E and Unit 37N can access.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Brickner

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	112.2	27	
Total Allotment Acres	417.6	100	
National Forest Land Acres	112.2	27	
State Land Acres	0	0	
Private Land Acres	305.4	73	
Capable Acres (NFS Lands)	49.2	44	
Non-Capable Acres (NFS Lands)	63	56	
Current Permitted Livestock Grazing (AUMs)			192
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			192
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Brickner

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 6 cow/calf pair on NFS land and 23 cow/calf pair and 1 bull on private lands (40 Animal Units) for a period of 4.8 months. Total animal unit months for the allotment are 192 with 38 of those AUMs allowed on NFS land.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR38	6/1	10/22	144	4.8	192
Total			144	4.8	192

Adaptive Management: Fence NFS land from private lands within the Unit. Authorized Use will be 29 cow/calf pair and 1 bull (40 Animal Units) for a period of 4.59 months. Total animal unit months would be 184 with 38 of those AUMs allowed on NFS land. It will be grazed after 9/19 every year to meet riparian management guidelines.

Grazing Plan Option

Unit	On Date	Off Date	Days Use	Months	AUMs
PR 38 Private	6/1	9/18	110	3.66	146
PR38 NFS	9/20	10/17	28	.93	38
Total			138	4.59	184

See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Construct .75 mile of fence along NFS and private property boundary line. Construct water development on NFS land within PR38.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Chadron Creek

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	737.5	29	
Management Area 7.1 Residential/Forest Intermix - Acres	1608.9	64	
Total Allotment Acres	2514.6	100	
National Forest Land Acres	2346.3	93	
State Land Acres	164.1	6	
Private Land Acres	4.2	1	
Capable Acres (NFS Lands)	1141.30	49	
Non-Capable Acres (NFS Lands)	1205	51	
Current Permitted Livestock Grazing (AUMs)			858
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			715
*Proposed Action Early Seral (%)		85	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		0	
*Proposed Action Late Seral (%)		15	
*Proposed Action Low Structure Stage (%)		63	
*Proposed Action Moderate Structure Stage (%)		15	
*Proposed Action High Structure Stage (%)		22	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Chadron Creek

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a low, and moderate to high grassland vegetative structure level(s) and an early to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Residential/Forest Intermix: Livestock grazing strategies and intensities are managed to attain a natural appearing landscape, and to minimize the risks of catastrophic fires and epidemic levels of insects and disease over the life of the AMP.

Other: Allow for low vegetative grass structure within Units 24A, 24B, 24C and 24D to reduce grass fuel loads within the rural urban intermix.

Management

Proposed Management: Authorized Use will be 103 cow/calf pair, 5 bulls and 4 horses on NFS land (143/5 Animal Units) for a period of 6.00 months. Total animal unit months for the allotment are 868 AUMs for cow/calf pair and 10 AUMs for horses. Unit 24F is a riparian enclosure and only periodic livestock use will be allowed and not to exceed 50 AUMs.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24A	6/1	6/30	30	1.00	143
PR24B	7/1	8/27	58	1.93	276
PR24C&D	8/28	11/9	74	2.47	353
PR24E	11/10	11/27	18	.60	86
Total			180	6.00	858

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24B	6/1	7/28	58	1.93	276
PR24C&D	7/29	10/10	74	2.47	353
PR24A	10/11	11/9	30	1.00	143
PR24E	11/10	11/27	18	.60	86
Total			180	6.00	858

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24C&D	6/1	8/13	74	2.47	353
PR24A	8/14	9/12	30	1.00	143
PR24B	9/13	11/9	58	1.93	276
PR24E	11/10	11/27	18	.60	86
Total			180	6.00	858

Start over with Year 1.

Grazing Plan - Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24G (Horse Unit)	10/1	11/30	61	2.03	10
Total			61	2.03	10

Adaptive Management: Option 1. Authorized Use will be 108 cow/calf pair and 4 horses on NFS land (143/5 Animal Units) for a period of 5.00 months. Total animal unit months for the allotment are 714 AUMs for cow/calf pair and 10 AUMs for horses. Unit 24F is a riparian enclosure and only periodic livestock use will be allowed.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24A	6/1	6/27	27	.89	127
PR24B	6/28	8/8	42	1.39	200
PR24C&D	8/9	10/10	63	2.09	300
PR24E	10/11	10/29	18	.60	86
Total			150	5.00	714

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24B	6/1	7/12	42	1.39	200
PR24C&D	7/13	9/13	63	2.09	300
PR24A	9/14	10/10	27	.89	127
PR24E	10/11	10/29	18	.60	86
Total			150	5.00	714

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24C&D	6/1	8/2	63	2.09	300
PR24A	8/3	8/29	27	.89	127
PR24B	8/30	10/10	42	1.39	200
PR24E	10/11	10/29	18	.60	86
Total			150	5.00	714

Start over with Year 1.

Grazing Plan - Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24G (Horse Unit)	10/1	11/30	61	2.03	10
Total			61	2.03	10

Option 2. Authorized Use will be 103 cow/calf pair, 5 bulls and 4 horses on NFS land (143/5 Animal Units) for a period of 3.56 months. Total animal unit months for the allotment are 520 AUMs for cow/calf pair and 10 AUMs for horses. Unit 24F is a riparian enclosure and only periodic livestock use will be allowed.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24A	5/20	6/12	25	.83	119
PR24B	6/13	7/9	27	.90	130
PR24C&D	7/10	8/15	37	1.23	175
Private	8/15	9/19			
PR24E	9/20	10/7	18	.60	86

Total			107	3.56	510
--------------	--	--	------------	-------------	------------

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24B	5/20	6/15	27	.90	130
PR24C&D	6/16	7/22	37	1.23	175
PR24A	7/23	8/16	25	.83	119
Private	8/17	9/19			
PR24E	9/20	10/7	18	.60	86
Total			107	3.56	510

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24C&D	5/20	6/25	37	1.23	175
PR24A	6/26	7/22	25	.83	119
PR24B	7/23	8/16	27	.90	130
Private	8/17	9/19			
PR24E	9/20	10/7	18	.60	86
Total			107	3.56	510

Start over with Year 1.

Grazing Plan - Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR24G (Horse Unit)	10/1	11/30	61	2.03	10
Total			61	2.03	10

Improvements

Proposed Improvements:

- Remove water-gap on the east side of Unit 24C
- Develop water on the east side of Unit 24C.
- Remove 1 mile of fence between Unit 24C and 24D

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management. Construct fence to exclude livestock from spring area on east side of 24C.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Cherry Creek

Summary	Acres	Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	573.6	96	
Total Allotment Acres	594.5	100	
National Forest Land Acres	573.6	96	
State Land Acres	0	0	
Private Land Acres	20.9	4	
Capable Acres (NFS Lands)	366.6	64	
Non-Capable Acres (NFS Lands)	207	36	
Current Permitted Livestock Grazing (AUMs)			202
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			197
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		98	
*Proposed Action Late Intermediate Seral (%)		2	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		95	
*Proposed Action High Structure Stage (%)		5	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Cherry Creek

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and an early intermediate to late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Unit 51A is a riparian enclosure with no permitted livestock use.

Management

Proposed Management: Authorized Use will be 28 cow/calf pair and 2 bulls on NFS land (40 Animal Units) for a period of 4.93 months. Total animal unit months for the allotment are 197.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR51	5/21	10/15	148	4.93	197
Total			148	4.93	197

Adaptive Management: Authorized Use of 30 cow/calf pair and 2 bulls on NFS land (40 Animal Units) for a period of 4.56 months. Total animal unit months for the allotment would be 182.

Grazing Plan Option 1-Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR51	6/1	10/15	137	4.56	182
Total			137	4.56	182

Improvements

Proposed Improvements: Use water sources as a tool to control livestock use patterns. The windmill on the west side should be left off for a period of time to allow livestock to utilize the east side and then turned on and cattle moved to the windmill so that livestock will utilize the west side of the Unit. This will allow grasses some recovery time from grazing pressure.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Collons

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	1137.8	100	
Total Allotment Acres	1138.7	100	
National Forest Land Acres	1137.8	100	
State Land Acres	0	0	
Private Land Acres	0.8	0	
Capable Acres (NFS Lands)	527.8	46	
Non-Capable Acres (NFS Lands)	610	54	
Current Permitted Livestock Grazing (AUMs)			317
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			317
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Collons

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 85 cow/calf pair on NFS land (112 Animal Units) for a period of 2.83 months. Total animal unit months for the allotment are 317.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR35	7/15	10/7	85	2.83	317
PR35N	Rest				
PR35M	Rest				
PR35S	Rest				
Total			85	2.83	317

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR35	8/7	10/31	85	2.83	317
PR35N	Rest				
PR35M	Rest				
PR35S	Rest				
Total			85	2.83	317

Start over with Year 1.

Adaptive Management: Authorized Use will be 85 cow/calf pair on NFS land (112 Animal Units) for a period of 2.23 months. Total animal unit months for the allotment are 250.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR35	7/15	9/19	67	2.23	250
PR35N	Rest				
PR35M	Rest				
PR35S	Rest				
Total			67	2.23	250

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR35	8/1	10/6	67	2.23	250
PR35N	Rest				

PR35M	Rest				
PR35S	Rest				
Total			67	2.23	250

Start over with Year 1.

Allow 2-4 days use for gathering and mothering-up cattle in PR35N on the east side away from the creek.

Improvements

Proposed Improvements:

- Remove water-gap on Big Bordeaux Creek
- Develop water on the east side of the Unit.

Adaptive Management Improvements: Develop water on the southwest corner of the Unit to share between Unit 34, 35, and 37N. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Dairy

Summary	Acres	% of Allotment	Number or Percent
Management Area 3.51 Bighorn Sheep – Acres	459.9	79	
Total Allotment Acres	581.4	100	
National Forest Land Acres	459.9	79	
State Land Acres	2.9	1	
Private Land Acres	118.6	20	
Capable Acres (NFS Lands)	79.9	17	
Non-Capable Acres (NFS Lands)	380	83	
Current Permitted Livestock Grazing (AUMs)			66
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			66
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		37	
*Proposed Action Late Seral (%)		63	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		29	
*Proposed Action High Structure Stage (%)		71	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Dairy

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Management

Proposed Management: Authorized Use will be 10 cow/calf pair on NFS land and 120 cow/calf pair on private lands (172 Animal Units) for a period of 5.0 months. Total animal unit months for the allotment are 860 (66 AUMs on NFS land). Livestock are fed throughout the winter on private lands and allowed to “drift” onto NFS land if now snow cover. Permittee is billed for 50 animal months. Unit 7 is a vacant Unit and no livestock use is allowed.

Grazing Plan - Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR6	11/1	3/31	151	5.0	860
Total			151	5.0	860

Unit 7 is vacant and no livestock use is permitted within this Unit.

Adaptive Management: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Construct 1 mile of fence along private land on the east and south boundary line to control trespass livestock from private land

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Deadhorse

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	769.4	99	
Total Allotment Acres	776.6	100	
National Forest Land Acres	769.4	99	
State Land Acres	0	0	
Private Land Acres	7.2	1	
Capable Acres (NFS Lands)	397.4	52	
Non-Capable Acres (NFS Lands)	372	48	
Current Permitted Livestock Grazing (AUMs)			267
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			267
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		97	
*Proposed Action Late Seral (%)		3	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Deadhorse

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and an early intermediate to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 75 cow/calf pair on NFS land (99 Animal Units) for a period of 2.70 months. Total animal unit months for the allotment are 267.

Unit 20A is an enclosure and no livestock use is allowed.

Grazing Plan -Annually

Unit	On Date	Off Date	Days Use	Months	AUMs
PR20	7/20	10/8	81	2.70	267
Total			81	2.70	267

Adaptive Management: Authorized Use will be 75 cow/calf pair on NFS land (99 Animal Units) for a period of 1.58 months. Total animal unit months for the allotment are 157.

Unit 20A is an enclosure and no livestock use is allowed.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR20	7/20	9/4	47	1.58	157
Total			47	1.58	157

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR20	8/25	10/10	47	1.58	157
Total			47	1.58	157

Start over with Year 1.

Improvements

Proposed Improvements:

- Fence riparian area on the north end of the Unit to be included within Unit 20A.
- Construct .75 mile of pipeline from the existing well north to improve animal distribution.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Deadman

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	559.5	91	
Total Allotment Acres	613.2	100	
National Forest Land Acres	559.5	91	
State Land Acres	0	0	
Private Land Acres	53.8	9	
Capable Acres (NFS Lands)	190.5	34	
Non-Capable Acres (NFS Lands)	369	66	
Current Permitted Livestock Grazing (AUMs)			0
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			124
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Deadman

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Management

Proposed Management: No grazing permit is allocated to this allotment. The allotment will be used as a “swing pasture” for existing Term Grazing Permit holders use when conditions warrant. For example a permittee could move livestock from his assigned allotment to this unit if prescribed or wildfire resulted in the need to rest his assigned unit from livestock use. A total of 124 AUMs will be allowed.

Adaptive Management: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

East Ash

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation - Acres	1307.0	30	
Management Area 1.31a Backcountry Rec Non-motorized – Acres	3010.2	69	
Management Area 2.1 Special Interest Area - Acres	2.8	1	
Total Allotment Acres	4352.6	100	
National Forest Land Acres	4320.1	99	
State Land Acres	0	0	
Private Land Acres	32.5	1	
Capable Acres (NFS Lands)	2088.1	48	
Non-Capable Acres (NFS Lands)	2232	52	
Current Permitted Livestock Grazing (AUMs)			1066
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			1066
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

East Ash

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Nonmotorized Backcountry Recreation – National Recreation Area (NRA): Manage allotment to limit (no net gain) the number of structures (such as fences and water tanks), maintain or increase pasture size, and promote a range of natural variability through natural processes, including grazing strategies over the life of the AMP.

Special Interest Areas: Through vegetative manipulation, maintain or restore natural conditions of the Burr Oak SIA over the life of the AMP.

Management

Proposed Management: Authorized Use will be 139 cow/calf pair and 6 bulls on NFS land (192 Animal Units) for Rockin Arrow Ranch and 25 cow/calf pair and 1 bull (34 Animal Units) for Mandelko Ranch for a period of 4.80 months. Total animal unit months for the allotment are 1066.

Year 1 of the rotation will split animal numbers with 25 cow/calf pair and 1 bull (Mandelko) going into Unit 16E and 139 cow/calf pair and 6 bulls (Rockin Arrow Ranch) in Unit 14 for a total of 35 days. Herds will then be combined into Unit 15N for 46 days. Herds will be split again with 25 cow/calf pair (Mandelko) going into Unit 16E and 139 cow/calf pair (Rockin Arrow Ranch) going into Unit 15S for 62 days. A range rider will be needed to herd livestock from riparian areas while they are in Unit 16E.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	Animal Number/Class	AU	AUMs
PR16E	5/15	6/18	35	1.16	25 cow/calf, 1 bull	34	39
PR14	5/15	6/18	35	1.16	139 cow/calf, 6 bulls	192	223
PR15N	6/19	8/3	46	1.53	164 cow/calf	226	346
PR15S	8/4	10/5	62	2.06	139 cow/calf	183	384
PR16E	8/4	10/5	62	2.06	25 cow/calf	34	70
Total			143				1066

Year 2 of the rotation will split animal numbers with 25 cow/calf pair and 1 bull (Mandelko) going into Unit 16E for 35 days and 139 cow/calf pair and 6 bulls (Rockin Arrow Ranch) going into Unit 15N from 5/15 to 7/5. Mandelko's cattle will be moved into Unit 15N joining Rockin Arrow Ranch herd on 6/18, all then will be moved into 15S

on 7/5. On 8/28 139 cow/calf pair (RockinArrow Ranch) will be moved to Unit 14 and 25 cow/calf pair (Mandelko) will be moved to Unit 16E. A range rider will be needed while cattle are in Units 14 and 16E.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	Animal Number/Class	AU	AUMs
PR16E	5/15	6/18	35	1.16	25 cow/calf, 1 bull	34	39
PR15N	5/15	6/18	35	1.16	139 cow/calf, 6 bulls	192	223
PR15N	6/19	7/5	16	.54	164 cow/calf, 7 bulls	226	123
PR15S	7/6	10/5	53	1.77	164 cow/calf	216	384
PR14	8/28	10/5	39	1.30	139 cow/calf	183	70
PR16E	8/28	10/5	39	1.30	25 cow/calf	34	44
Total			143				1051

Start over with Year 1.

Management will include removing approximately 1.75 miles of fence and building 3.75 miles of new fence to control livestock use on East Ash Creek and Cunningham Creek. This will create more upland areas available to livestock. Unit PR15 will be increased in size and a new unit created in unit PR16 to be called PR15N. The existing unit PR15 will be called unit PR15S. The new created riparian units will be called PR16W and PR16E. Unit PR14 will be reduced in size. Unit PR16W may be used only on a periodic basis for a short duration.

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Construct new fence as well as take out old fence to create a 15N, 15S, 16E and 16W. This will create riparian units as well as make available more upland. There will be net gain or loss of fencing and water developments within the NRA.

- Construct 0.8 mile of new fence and remove 1.4 mile of fence within unit PR14 (within the NRA)
- Develop water on upland between PR12S and PR14 (outside NRA)
- Remove water-gap on East Ash tributary near Big Spring (within the NRA)
- Develop water in PR15N on the west side (outside the NRA) and on the east side of PR15N that will be shared with unit PR17W (within the NRA)
- Remove existing water development in PR15S (bottomless tank) (within the NRA)
- Develop water in PR15S on the east side (within the NRA)
- Construct 0.6 miles of fence (within the NRA) to exclude livestock from Cunningham and construct 1.1 miles of fence (outside NRA) to exclude livestock from East Ash Creeks within unit PR16
- Develop water on uplands in PR16 on east and west sides

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Flannigan Butte

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation - Acres	737.8	50	
Total Allotment Acres	1477.0	100	
National Forest Land Acres	737.8	50	
State Land Acres	6.3	0	
Private Land Acres	733.0	50	
Capable Acres (NFS Lands)	312.8	42	
Non-Capable Acres (NFS Lands)	425	58	
Current Permitted Livestock Grazing (AUMs)			641
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			641
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		44	
*Proposed Action Late Intermediate Seral (%)		56	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Flannigan Butte

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and an early intermediate to late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management:

Proposed Management: Authorized use will be 90 cow/calf pair and 4 bulls (125 Animal Units). Private and NFS land exist within Unit 47. Within Unit 47 a total of 100 AUMs will be allowed on NFS land and 354 AUMs allowed on private land. Unit 26 will be allowed 187 AUMs. Total AUMs for the allotment will be 641.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR47	5/15	8/31	109	3.63	454
PR26	9/1	10/15	45	1.50	187
Total			154	5.13	641

The NFS property boundary will be fenced on-line in the NE1/4 of Section 27, T32N, R49W to be included in PR26. A total of 100 AUMs will be allowed for NFS land that occurs in PR47. Livestock will “drift” from PR47 to PR26 from 9/1 to 10/15.

Adaptive Management:

Authorized use will be 90 cow/calf pair and 4 bulls (125 Animal Units). Private and NFS land exist within Unit 47. Within Units 47E and 47W a total of 100 AUMs will be allowed on NFS land and 354 AUMs allowed on private land. Unit 26 will be allowed 187 AUMs. Total AUMs for the allotment will be 641.

The NFS property boundary will be fenced on-line in the NE1/4 of Section 27, T32N, R49W to be included in PR26. An additional fence will be built to divide Unit 47 into two units – called Unit 47W and Unit 47E. A three-unit rotation system will be developed utilizing Units 26, 47W, and 47E.

Grazing Plan –Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR26	5/20	7/3	45	1.50	187
PR47E	7/4	8/27	55	1.82	227
PR47W	8/28	10/22	55	1.82	227
Total			155	5.14	641

Grazing Plan –Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR47E	5/20	7/13	55	1.82	227
PR47W	7/14	9/6	55	1.82	227
PR26	9/7	10/22	45	1.50	187
Total			155	5.14	641

Grazing Plan –Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR47W	5/20	7/13	55	1.82	227
PR26	7/14	8/27	45	1.50	187
PR47E	8/28	10/29	55	1.82	227
Total			155	5.14	641

Improvements:

Proposed Action Improvements:

- Construct 1 mile of fence and remove .5 mile of fence to include NFS land into Unit 26 that is currently fenced in with Unit 47.
- Construct .5 mile of fence to exclude livestock from the spring and associated woody draw.
- Develop water in middle of Unit 26 to share with Unit 25.

Adaptive Management Improvements:

- Construct 1 mile of fence and remove .5 mile of fence to include NFS land into Unit 26 that is currently fenced in with Unit 47.
- Construct .5 mile of fence to exclude livestock from the spring and associated woody draw.
- Develop water in middle of Unit 26 to share with Unit 25.
- Construct .5 mile of fence to divide Unit 47.
- See Table 2-1 Grazing Management Toolbox.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Gobbler

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	2897.6	95	
Total Allotment Acres	3039.8	100	
National Forest Land Acres	2897.6	95	
State Land Acres	0	0	
Private Land Acres	142.3	5	
Capable Acres (NFS Lands)	2138.6	74	
Non-Capable Acres (NFS Lands)	759	26	
Current Permitted Livestock Grazing (AUMs)			1026
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			1026
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Gobbler

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and an early intermediate to late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 57 cow/calf pair and 2 bulls (78 Animal Units) for Chasek Ranch and 90 cow/calf pair and 3 bulls (123 Animal Units) for Dexter Ranch for a period of 5.10 months. Total animal unit months for the allotment are 1026.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR39	5/16	6/19	35	1.16	196
PR40	6/20	8/14	56	1.86	376
PR43	8/15	10/15	62	2.06	416
Total			153	5.10	1026

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR40	5/16	7/9	56	1.86	376
PR43	7/10	9/9	62	2.06	416
PR39	9/10	10/15	35	1.16	196
Total			153	5.10	1026

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR43	5/16	7/16	62	2.06	416
PR40	7/17	9/10	56	1.86	376
PR39	9/11	10/15	35	1.16	196
Total			153	5.10	1026

Start over with Year 1.

Adaptive Management: Authorized Use will be 57 cow/calf pair and 2 bulls (78 Animal Units) for Chasek Ranch and 90 cow/calf pair and 3 bulls (123 Animal Units) for Dexter Ranch for a period of 4.13 months. Total animal unit months for the allotment are 835.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR39	5/18	6/15	29	.96	196
PR40	6/16	7/31	46	1.53	310
PR43	8/1	9/18	49	1.63	329
Total			124	4.13	835

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR40	6/17	8/1	46	1.53	310

PR43	8/2	9/19	49	1.63	329
PR39	9/20	10/19	29	.96	196
Total			124	4.13	835

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR43	6/17	8/3	49	1.63	329
PR40	8/4	9/19	46	1.53	310
PR39	9/20	10/19	29	.96	196
Total			124	4.13	835

Start over with Year 1.

Riparian management emphasis in Unit PR39 no livestock use from 6/15 to 9/20.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Hallsted

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	747.0	98	
Total Allotment Acres	758.7	100	
National Forest Land Acres	747.0	98	
State Land Acres	0	0	
Private Land Acres	11.7	2	
Capable Acres (NFS Lands)	634	85	
Non-Capable Acres (NFS Lands)	113	15	
Current Permitted Livestock Grazing (AUMs)			360
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			360
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		60	
*Proposed Action Late Seral (%)		40	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		50	
*Proposed Action High Structure Stage (%)		50	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Hallsted

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate to late seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 57 cow/calf pair and 2 bulls on NFS land (78 Animal Units) for a period of 4.47 months. Total animal unit months for the allotment are 360.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR42N	5/16	7/29	75	2.47	195
PR42S	7/30	9/30	63	2.07	165
Total			138	4.47	360

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR42S	5/16	7/17	63	2.07	165
PR42N	7/18	9/30	75	2.47	195
Total			138	4.47	360

Start over with Year 1.

Management will include removal of two fences from the 4-unit allotment and create two larger units, PR42N and PR42S.

Adaptive Management: Authorized Use will be 57 cow/calf pair and 2 bulls on NFS land (78 Animal Units) for a period of 3.39 months. Total animal unit months for the allotment would be 265.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR42N	5/20	7/20	62	2.06	161
PR42S	7/21	8/29	40	1.33	104
Total			102	3.39	265

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR42S	5/20	6/28	40	1.33	104
PR42N	6/29	8/29	62	2.06	161
Total			102	3.39	265

Start over with Year 1.

Management will include removal of two fences from the 4-unit allotment and create two larger units, PR42N and PR42S.

Additional Adaptive Management option proposed is to incorporate into the Gobbler Allotment.

Improvements

Proposed Improvements:

- Remove .5 mile of fence between Unit 42A and 42B and .5 mile between Unit 42M and 42S, creating 42N and 42S.
- Remove water-gap on Big Bordeaux Creek.

Adaptive Management Improvements: Develop water in middle of Unit 42S if water currently provided from private land is no longer accessible. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Homestead

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	945.4	98	
Total Allotment Acres	963.8	100	
National Forest Land Acres	945.4	98	
State Land Acres	0	0	
Private Land Acres	18.4	2	
Capable Acres (NFS Lands)	668.4	71	
Non-Capable Acres (NFS Lands)	277	29	
Current Permitted Livestock Grazing (AUMs)			296
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			273
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Homestead

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Management

Proposed Management: Authorized Use will be 21 cow/calf pair and 1 bull for Hebbert Ranch and 21 cow/calf pair and 1 bull for Strotheide Ranch on NFS land (58 Animal Units) for a period of 4.70 months. Total animal unit months for the allotment are 273.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR29	6/1	10/19	141	4.70	273
Total			141	4.70	273

Adaptive Management: Authorized Use would be 21 cow/calf pair and 1 bull for Hebbert Ranch and 21 cow/calf pair and 1 bull for Strotheide Ranch on NFS land (58 Animal Units) for a period of 4.23 months. Total animal unit months for the allotment would be 246.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR29	6/15	10/19	127	4.23	246
Total				4.23	246

Improvements

Proposed Improvements: Develop water on the west side of the Unit to share between Unit 28 to improve animal distribution.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Horseshoe

Summary	Acres	% of Allotment	Percent
Management Area 5.12 Rangeland Vegetation – Acres	215.2	22	
Total Allotment Acres	970.2	100	
National Forest Land Acres	215.2	22	
State Land Acres	0	0	
Private Land Acres	754.9	78	
Capable Acres (NFS Lands)	151.2	70	
Non-Capable Acres (NFS Lands)	64	30	
Current Permitted Livestock Grazing (AUMs)			61 On NFS land
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			61 On NFS land
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		100	
*Proposed Action Late Intermediate Seral (%)		0	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Horseshoe

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and early intermediate to late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: This allotment contains private and National Forest System lands (NFS) within Units 1N, 1S, 1AN, and 1AS. Authorized Use will be variable numbers and season of use not to exceed 61 animal unit months on NFS land. The allotment is managed under an intensive rotation system with high animal numbers for short-duration of use. Riparian areas on NFS land are fenced to control livestock use during early spring or late fall.

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Kings Canyon

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation – Acres	1491.5	88	
Total Allotment Acres	1702.8	100	
National Forest Land Acres	1491.5	88	
State Land Acres	0	0	
Private Land Acres	211.3	12	
Capable Acres (NFS Lands)	1060.5	71	
Non-Capable Acres (NFS Lands)	431	29	
Current Permitted Livestock Grazing (AUMs)			420
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			403
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		17	
*Proposed Action Late Intermediate Seral (%)		83	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		99	
*Proposed Action High Structure Stage (%)		1	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Kings Canyon

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and an early intermediate to late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 54 cow/calf pair and 3 bulls on NFS land and 7 cow/calf pair on private lands (84 Animal Units) for a period of 4.79 months. Total animal unit months for the allotment are 403.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR33	5/20	8/27	100	3.33	280
PR61	8/28	10/10	44	1.46	123
Total			144	4.79	403

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR61	5/20	7/2	44	1.46	123
PR33	7/3	10/10	100	3.33	280
Total			144	4.79	403

Start over with Year 1.

Unit 33A is riparian exclosure with no livestock use allowed.

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Develop water on the east side of Unit 33 to share between Unit 33 and Unit 37N to improve animal distribution. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Little Creek

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	606.8	43	
Management Area 3.51 Bighorn Sheep - Acres	85.7	6	
Total Allotment Acres	1423.9	100	
National Forest Land Acres	692.6	49	
State Land Acres	0	0	
Private Land Acres	731.3	51	
Capable Acres (NFS Lands)	394.6	57	
Non-Capable Acres (NFS Lands)	298	43	
Current Permitted Livestock Grazing (AUMs)			190 On NFS land
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			190 On NFS land
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Little Creek

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Management

Proposed Management: Authorized Use will be 74 yearlings on NFS land and 61 yearlings on private lands (115 Animal Units) for a period of 2.56 months. Total animal unit months for the NFS land within the allotment are 190.

This allotment contains private and NFS land. The private landowner is currently constructing water developments and fences on private land that will eventually result in 7 units managed under an intensive rotation system. NFS land occurs with intermixed private land in Unit 12 West and all of 12 South will contain NFS land after the proposed fencing is completed.

Permitted use will not exceed 19 AUMs in 12 West on NFS lands and 109 AUMs on private lands and not exceed 171 AUMs in 12 South.

Grazing Plan – These Units will be incorporated into a 7-pasture rotation system with adjoining private lands.

Unit	On Date	Off Date	Days Use	Months	AUMs
12 West	Variable		33	1.11	128
12 South	Variable		44	1.48	171
Total			77	2.56	299

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements:

- Construct 1 mile of fence between NFS and private land in the southern end of unit PR12S where appropriate.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Lower Sawlog

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation – Acres	641.8	87	
Total Allotment Acres	736.2	100	
National Forest Land Acres	641.8	87	
State Land Acres	2.4	0	
Private Land Acres	92	12	
Capable Acres (NFS Lands)	438.8	68	
Non-Capable Acres (NFS Lands)	203	32	
Current Permitted Livestock Grazing (AUMs)			128
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			102
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		61	
*Proposed Action Late Intermediate Seral (%)		39	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Lower Sawlog

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and an early intermediate to late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 24 cow/calf pair and 1 bull on NFS land (33 Animal Units) for a period of 3.08 months. Total animal unit months for the allotment are 102.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR0	5/5	5/15	11	.36	12
PR1	5/16	6/15	31	1.03	34
private	6/16	8/10			
PR4	8/11	9/19	40	1.33	44
PR1	9/20	9/30	11	.36	12
Total			93	3.08	102

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR0	5/5	5/15	11	.36	12
PR1	5/16	6/15	31	1.03	34
PR4	6/16	7/25	40	1.33	44
private	7/26	9/19			
PR1	9/20	9/30	11	.36	12
Total			93	3.08	102

Start over with Year 1.

Units 0 and 1 contain riparian areas. Unit 0 also contains rehabilitated farm fields planted to intermediate wheatgrass. Livestock best utilize this grass in the spring. To encourage livestock to remain in the uplands away from Lower Sawlog Creek, they will be put in Unit 4 at the windmill rather than through the gate at the road near the creek.

Adaptive Management: Reduce livestock number and/or season of use. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: An additional tank and submersible pump installed at the windmill for periods when the winds are not sufficient to allow the windmill to pump water.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Rattlesnake Butte

Summary	Acres	% of Allotment	Percent
Management Area 5.12 Rangeland Vegetation – Acres	636.2	100	
Total Allotment Acres	636.9	100	
National Forest Land Acres	636.2	100	
State Land Acres	0	0	
Private Land Acres	0.7	0	
Capable Acres (NFS Lands)	578.2	91	
Non-Capable Acres (NFS Lands)	58	9	
Current Permitted Livestock Grazing (AUMs)			275
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			275
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Rattlesnake Butte

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate to late seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Management

Proposed Management: Authorized Use will be 77 cow/calf pair and 3 bulls on NFS land (110 Animal Units) for a period of 2.5 months. Total animal unit months for the allotment are 275.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR25	6/1	6/30	30	1.0	110
PR25	9/20	11/3	45	1.5	165
Total			75	2.5	275

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR25	6/15	8/1	45	1.5	165
PR25	10/1	11/1	30	1.0	110
Total			75	2.5	275

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR25	8/19	11/1	75	2.5	275
Total			75	2.5	275

Start over with Year 1.

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements:

- Construct .25 mile of fence to exclude livestock from the spring on the north end of the Unit.
- Develop water in Unit 26 to be shared between Unit 26 and Unit 25 to improve animal distribution.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Roberts

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	534.7	34	
Management Area 1.31a Backcountry Rec Non-motorized – Acres	1039.2	65	
Total Allotment Acres	1595.8	100	
National Forest Land Acres	1573.9	99	
State Land Acres	0	0	
Private Land Acres	21.9	1	
Capable Acres (NFS Lands)	975.9	62	
Non-Capable Acres (NFS Lands)	598	38	
Current Permitted Livestock Grazing (AUMs)			385
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			385
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		69	
*Proposed Action High Structure Stage (%)		31	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Roberts

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Nonmotorized Backcountry Recreation (NRA): Manage allotment to limit (no net gain) the number of structures (such as fences and water tanks), maintain or increase pasture size, and promote a range of natural variability through natural processes, including grazing strategies over the life of the AMP.

Management

Proposed Management: Authorized Use will be 29 cow/calf pair and 1 bull for Motz Ranch and 55 cow/calf pair and 2 bulls for Smith Ranch on NFS land (116 Animal Units) for a period of 3.32 months. Total animal unit months for the allotment are 385.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR17N	5/1	5/15	15	.5	58
PR17E	5/16	6/15	31	1.03	119
PR17N	9/4	9/20	17	.56	65
PR17W	9/21	10/27	37	1.23	143
Total			100	3.32	385

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR17N	5/1	5/15	15	.5	58
PR17W	5/16	6/15	31	1.03	119
PR17N	9/4	9/16	13	.43	50
PR17E	9/17	10/27	41	1.36	158
Total			100	3.32	385

Start over with Year 1.

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Maintain wooded draw enclosures.

Adaptive Management Improvements:

Develop water on the west side of PR 17N to improve animal distribution and reduce water conflicts between peak recreational stock use and permitted livesock use at the Roberts Trailhead. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Rock Canyon

Summary	Acres	% of Allotment	Percent
Management Area 5.12 Rangeland Vegetation – Acres	112.1	29	
Total Allotment Acres	384.1	100	
National Forest Land Acres	112.2	29	
State Land Acres	26.2	7	
Private Land Acres	245.7	64	
Capable Acres (NFS Lands)	82.2	73	
Non-Capable Acres (NFS Lands)	30	27	
Current Permitted Livestock Grazing (AUMs)			40 On NFS land
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			32 On NFS land
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		100	
*Proposed Action Late Intermediate Seral (%)		0	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Rock Canyon

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level(s) and an early intermediate to late intermediate seral stage over the life of the AMP.

Management

Proposed Management: Authorized Use will be 6 cow/calf pair on NFS land and 23 cow/calf pair and 2 bulls on private lands (41 Animal Units) for a period of 4.10 months. Total animal unit months for the allotment are 208 with 32 AUMs allowed on NFS land.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR6	6/1	10/1	123	4.10	208
Total			123	4.10	208

Adaptive Management: Authorized Use would be 6cow/calf pair on NFS land and 25 cow/calf pair on private lands (41 Animal Units) for a period of 3.04 months. Total animal unit months for the allotment would be 125.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR6	6/15	9/13	69	2.30	94
Total			69	2.30	94

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Sandy Trail

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation – Acres	156.1	98	
Total Allotment Acres	159.2	100	
National Forest Land Acres	156.1	98	
State Land Acres	0	0	
Private Land Acres	3	2	
Capable Acres (NFS Lands)	154.1	99	
Non-Capable Acres (NFS Lands)	2	1	
Current Permitted Livestock Grazing (AUMs)			86
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			82
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		100	
*Proposed Action Late Intermediate Seral (%)		0	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Sandy Trail

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and an early intermediate seral stage over the life of the AMP.

Management

Proposed Management: Authorized Use will be 20 cow/calf pair and 1 bull on NFS land (28 Animal Units) for a period of 2.93 months. Total animal unit months for the allotment are 82.

Grazing Plan -Annual

Unit	On Date	Off Date	Days Use	Months	AUMs
PR27	6/15	9/10	88	2.93	82
Total			88	2.93	82

Adaptive Management: Incorporate into adjoining Aristocrat Butte Allotment. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Remove 1-mile fence between Unit 27 and Unit 28. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

School Section

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	559.2	100	
Total Allotment Acres	559.3	100	
National Forest Land Acres	559.2	100	
State Land Acres	0	0	
Private Land Acres	0.1	0	
Capable Acres (NFS Lands)	263.2	47	
Non-Capable Acres (NFS Lands)	296	53	
Current Permitted Livestock Grazing (AUMs)			0
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			115
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		100	
*Proposed Action Late Intermediate Seral (%)		0	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

School Section

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and an early intermediate to late intermediate seral stage over the life of the AMP.

Management

Proposed Management: This is a newly acquired tract of land (land exchange) that used to belong to the State of Nebraska. There is no permit currently assigned to this allotment. We will manage the unit as a swing pasture with existing permittees and allow 115 AUMs until we get better rangeland analysis/stocking rate data. On date will be no earlier than 5/20.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR34	5/20				115
Total					

Adaptive Management: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Develop water in southeast corner of the Unit to share between Units 34, 35 and 37N to improve animal distribution. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Scott

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	150.0	39	
Management Area 7.1 Residential/Forest Intermix - Acres	229.0	59	
Total Allotment Acres	388.5	100	
National Forest Land Acres	379.0	98	
State Land Acres	0	0	
Private Land Acres	9.6	2	
Capable Acres (NFS Lands)	320	84	
Non-Capable Acres (NFS Lands)	59	16	
Current Permitted Livestock Grazing (AUMs)			180
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			180
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		37	
*Proposed Action Moderate Structure Stage (%)		63	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Scott

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a low to moderate grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Residential/Forest Intermix: Livestock grazing strategies and intensities are managed to attain a natural appearing landscape, and to minimize the risks of catastrophic fires and epidemic levels of insects and disease over the life of the AMP.

Other: The Pine Ridge Job Corp Center exists on the west boundary of Unit 44. Therefore, Unit 44 will be managed for low structure to reduce hazardous fine fuels.

Management

Proposed Management: Authorized Use will be 36 yearlings for Chasek Ranch and 24 cow/calf pair and 1 bull for Dexter Ranch on NFS land (66 Animal Units) for a period of 2.73 months. Total animal unit months for the allotment are 180.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR44	6/16	7/27	42	1.40	92
PR46	7/28	9/5	40	1.33	88
Total			82	2.73	180

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR46	6/16	7/25	40	1.33	88
PR44	7/26	9/5	42	1.40	92
Total			82	2.73	180

Start over with Year 1

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Slicker

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation - Acres	1339.3	35	
Management Area 3.51 Bighorn Sheep - Acres	2173.4	56	
Management Area 2.1 Special Interest Area - Acres	94.9	2	
Total Allotment Acres	3859.5	100	
National Forest Land Acres	3607.6	93	
State Land Acres	0	0	
Private Land Acres	252.0	7	
Capable Acres (NFS Lands)	2249.6	62	
Non-Capable Acres (NFS Lands)	1358	38	
Current Permitted Livestock Grazing (AUMs)			1204
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			1146
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Slicker

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and late intermediate seral stage over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Special Interest Areas: Through vegetative manipulation, maintain or restore natural conditions of the SIA over the life of the AMP.

Management

Proposed Management: Authorized Use will be 157 cow/calf pair and 6 bulls (85%) on NFS land and 29 cow/calf pair (15%) on private lands (253 Animal Units) for a period of 4.53 months. Total animal unit months for the allotment are 1146. Unit 30C was previously named Unit 30D.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30A	5/25	7/11	48	1.60	405
PR30B	7/12	9/7	58	1.93	488
PR30C	9/8	10/7	30	1.00	253
Total			136	4.53	1146

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30B	5/25	7/21	58	1.93	488
PR30A	7/22	9/7	48	1.60	405
PR30C	9/8	10/7	30	1.00	253
Total			136	4.53	1146

Start over with Year 1

Cattle utilize the northeast side of unit 30A more heavily than the south and east portions of the Unit. For a portion of the period of use water will be shut off at the well on the northeast side to encourage livestock to move toward the underutilized portions of the Unit.

Adaptive Management: Option A. Authorized Use will be 163 cow/calf pair (85%) on NFS land and 29 cow/calf pair (15%) on private lands (253 Animal Units) for a period of 4.42 months. Total animal unit months for the allotment are 1123. Unit 30C was previously named Unit 30D.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30A	6/1	7/14	44	1.46	371
PR30B	7/15	9/13	60	2.00	508
PR30C	9/14	10/12	29	.96	244
Total			133	4.42	1123

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30B	6/1	7/30	60	2.00	508
PR30A	7/31	9/13	44	1.46	371
PR30C	9/14	10/12	29	.96	244
Total			133	4.42	1123

Start over with Year 1

Option B. Authorized Use will be 157 cow/calf pair and 6 bulls (85%) on NFS land and 29 cow/calf pair (15%) on private lands (253 Animal Units) for a period of 3.95 months. Total animal unit months for the allotment would be 1000. Unit 30C was previously named Unit 30D.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30A	6/1	7/13	43	1.43	362
PR30B	7/14	9/7	56	1.86	471
PR30C	9/8	9/27	20	.66	167
Total			119	3.95	1000

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR30B	6/1	7/26	56	1.86	471
PR30A	7/27	9/7	43	1.43	362
PR30C	9/8	9/27	20	.66	167
Total			119	3.95	1000

Start over with Year 1

Improvements

Proposed Improvements: Enhance existing water in the south end of Unit 30B to replace failing “Square Cistern” well.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Soldier Creek

Summary	Acres	% of Allotment	Number or Percent
Management Area 1.1 Wilderness: Soldier Creek - Acres	7802.6	81	
Management Area 1.31 Backcountry Rec Non-motorized – Acres	1775.7	19	
Total Allotment Acres	9578.3	100	
National Forest Land Acres	9578.3	100	
State Land Acres	0	0	
Private Land Acres	0	0	
Capable Acres (NFS Lands)	5773.3	60	
Non-Capable Acres (NFS Lands)	3805	40	
Current Permitted Livestock Grazing (AUMs)			1552
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			1552
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		33	
*Proposed Action Late Seral (%)		67	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		61	
*Proposed Action High Structure Stage (%)		39	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Soldier Creek

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate to late seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Wilderness Management: Livestock grazing strategies and intensities are managed to achieve or maintain native plant and animal species and communities over the life of the AMP.

Nonmotorized Backcountry Recreation: Manage allotment to limit the number of structures, maintain or increase pasture size, and promote a range of natural variability through natural processes, including grazing strategies over the life of the AMP.

Management

Proposed Management: Authorized Use will be 240 cow/calf pair and 10 bulls on NFS land (332 Animal Units) for a period of 4.76 months (2.0 months for bulls). Total animal unit months for the allotment are 1552. This allotment is assigned to the Soldier Creek Grazing Association, which has three members: B. Galey, J. Bannan, and M. Bannan. Each are allocated 11 animal units (AU). From 5/10 – 6/20 herds are split with 80 cow/calf pair and 3 bulls (B. Galey) going into Unit 53NE while 160 cow/calf pair and 7 bulls (J. Bannan and M. Bannan) going into Unit 53SW. Herds will be joined when they move into Unit 53SE and into 53NW. A range rider will be required while cattle are in Units 53NE and 53NW.

Grazing Plan –Annual

Unit	On Date	Off Date	Days Use	Months	Animal Number/Class	AU	AUMs
PR53NE	5/10	6/20	42	1.4	80 cow/calf, 3 bulls	110	154
PR53SW	5/10	6/20	42	1.4	160 cow/calf, 7 bulls	222	311
PR53SE	6/21	7/31	40	1.33	240 cow/calf, 10 bulls	332	443
PR52NW	8/1	9/30	61	2.03	240 cow/calf	317	644
Total			143	4.76			1552

Adaptive Management: Monitor uplands and riparian areas, adjust stocking levels and dates and combine the split herd in spring time if desired condition is not being met. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Develop water in the uplands in Unit 53SW to draw livestock off the riparian area. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Steffensen

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	1101.4	98	
Total Allotment Acres	1118.3	100	
National Forest Land Acres	1101.4	98	
State Land Acres	0	0	
Private Land Acres	16.9	2	
Capable Acres (NFS Lands)	871.4	79	
Non-Capable Acres (NFS Lands)	230	21	
Current Permitted Livestock Grazing (AUMs)			630
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			630
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Steffensen

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate seral stage over the life of the AMP.

Management

Proposed Management: Authorized Use will be 105 cow/calf pair and 5 bulls on NFS land (146 Animal Units) for a period of 4.33 months. Total animal unit months for the allotment are 630.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR21	6/1	8/13	74	2.46	359
PR22	8/14	10/8	56	1.86	271
Total			130	4.33	630

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR22	6/1	7/26	56	1.86	271
PR21	7/27	10/8	74	2.46	359
Total			130	4.33	630

Start over with Year 1

Adaptive Management: Reduce numbers of livestock if monitoring indicates downward trend on upland rangeland condition. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Strong Canyon

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	1187.0	99	
Total Allotment Acres	1191.9	100	
National Forest Land Acres	1187.0	99	
State Land Acres	0	0	
Private Land Acres	4.9	1	
Capable Acres (NFS Lands)	814	68	
Non-Capable Acres (NFS Lands)	373	32	
Current Permitted Livestock Grazing (AUMs)			278
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			278
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Strong Canyon

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level(s) and a late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Management

Proposed Management: Authorized Use will be 50 cow/calf pair on NFS land and 2 bulls (69 Animal Units) for a period of 4.06 months. Total animal unit months for the allotment are 278. Bulls will graze from 6/1 to 8/24.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR41 E	6/1	8/1	62	2.06	142
PR41M	8/2	9/10	40	1.33	92
PR41W	9/11	9/30	20	.66	44
Total			122	4.06	278

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR41W	6/1	6/20	20	.66	44
PR41M	6/21	7/30	40	1.33	92
PR41E	7/31	9/30	62	2.06	142
Total			122	4.06	278

Start over with Year 1

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Construct a .75-mile of fence to exclude livestock from woody draw in Unit PR41M. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Table Road

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	244.9	51	
Management Area 1.31a Backcountry Rec Non-motorized – Acres	190.1	40	
Total Allotment Acres	479.6	100	
National Forest Land Acres	435.0	91	
State Land Acres	0	0	
Private Land Acres	44.6	9	
Capable Acres (NFS Lands)	190	44	
Non-Capable Acres (NFS Lands)	245	56	
Current Permitted Livestock Grazing (AUMs)			140
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			140
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		100	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Table Road

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Nonmotorized Backcountry Recreation (NRA): Manage allotment to limit (no net gain) the number of structures (such as fences and water tanks), maintain or increase pasture size, and promote a range of natural variability through natural processes, including grazing strategies over the life of the AMP.

Management

Proposed Management: Authorized Use will be 33 cow/calf pair and 2 bulls on NFS land (46 Animal Units) for a period of 3.03 months. Total animal unit months for the allotment are 140.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR15A	5/20	7/1	43	1.43	66
PR13	7/2	8/18	48	1.60	74
Total			91	3.03	140

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR13	6/1	7/18	48	1.60	74
PR15A	7/19	8/30	43	1.43	66
Total			91	3.03	140

Start over with Year 1

Adaptive Management: Authorized Use will be 33 cow/calf pair and 2 bulls on NFS land (46 Animal Units) for a period of 2.5 months. Total animal unit months for the allotment are 114.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR15A	6/1	7/5	35	1.13	53
PR13	7/6	8/14	40	1.33	61
Total			75	2.5	114

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR13	6/1	7/10	40	1.33	61
PR15A	7/11	8/14	35	1.13	53
Total			75	2.5	114

Start over with Year 1

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Trunk Butte

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Range Vegetation - Acres	2519.5	52	
Management Area 1.31a Backcountry Rec Non-motorized – Acres	2167.5	45	
Total Allotment Acres	4817.9	100	
National Forest Land Acres	4687.0	97	
State Land Acres	0	0	
Private Land Acres	130.9	3	
Capable Acres (NFS Lands)	2252	48	
Non-Capable Acres (NFS Lands)	2435	52	
Current Permitted Livestock Grazing (AUMs)			1122
Adjusted NRCS Range Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			1042
*Proposed Action Early Seral (%)		57	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		43	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		32	
*Proposed Action Moderate Structure Stage (%)		68	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Trunk Butte

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a low to moderate grassland vegetative structure level and an early to late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Nonmotorized Backcountry Recreation (NRA): Manage allotment to limit (no net gain) the number of structures (such as fences and water tanks), maintain or increase pasture size, and promote a range of natural variability through natural processes, including grazing strategies over the life of the AMP.

Other: Unit 18 will be managed for low structure to reduce hazardous fine fuels within this remote inaccessible portion of the NRA, and meet the desired range of natural variability in the NRA.

Management

Proposed Management: Authorized Use will be 75 cows and 40 yearlings (109 Animal Units) for McGannon Ranch and 80 cow/calf pair and 3 bulls (110 Animal Units) for Scherbarth Ranch on NFS land for a total of 219 total Animal Units for a period of 4.76 months. Total animal unit months for the allotment are 1042.

Grazing Plan – Annually

Unit	On Date	Off Date	Days Use	Months	AUMs
19N	5/20	6/15	27	.90	197
19S	6/16	8/3	49	1.63	357
18	8/4	10/9	67	2.23	488
Total			143	4.76	1042

To meet riparian area management direction a range rider will be needed to herd cattle at least two days per week from the riparian area along Indian Creek while cattle are in Unit 18. Additionally, mineral tubs, salt and/or fly rubs will be placed on uplands to draw cattle from the riparian area.

Adaptive Management: Authorized Use will be 75 cows and 40 yearlings (109 Animal Units) for McGannon Ranch and 80 cow/calf pair and 3 bulls (110 Animal Units) for Scherbarth Ranch on NFS land for a total of 219 total Animal Units for a period of 3.96 months. Total animal unit months for the allotment are 869.

Grazing Plan -Annually

Unit	On Date	Off Date	Days Use	Months	AUMs
19N	5/20	6/8	20	.68	150
19S	6/9	7/27	49	1.62	356
Private					
18	9/1	10/20	50	1.66	363
Total				3.96	869

To meet riparian area management direction a range rider will be needed to herd cattle at least two days per week from the riparian area along Indian Creek while cattle are in Unit18 from 9/1 – 9/20.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: Construct .75 mile of temporary electric fence to protect the riparian area in 19N. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

West Ash

Summary	Acres	% of Allotment	Number or Percent
Management Area 3.51 Bighorn Sheep – Acres	1802.5	98	
Total Allotment Acres	1841.1	100	
National Forest Land Acres	1802.5	98	
State Land Acres	0	0	
Private Land Acres	38.6	2	
Capable Acres (NFS Lands)	709.5	39	
Non-Capable Acres (NFS Lands)	1093	61	
Current Permitted Livestock Grazing (AUMs)			318
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			318
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		100	
*Proposed Action Late Seral (%)		0	
*Proposed Action Low Structure Stage (%)		0	
*Proposed Action Moderate Structure Stage (%)		83	
*Proposed Action High Structure Stage (%)		17	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

West Ash

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a moderate to high grassland vegetative structure level and a late intermediate seral stage over the life of the AMP.

Wooded Draws: Wooded draws will reflect multiple layers and age classes of forbs, shrubs, and trees over the life of the AMP.

Riparian/Streams (including seeps and springs): Riparian areas will reflect multiple layers and age classes of forbs, regenerating shrubs and trees; and submergent and emergent vegetation will exist along streams, seeps and springs over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Management

Proposed Management: Authorized Use will be 95 cow/calf pair and 4 bulls on NFS land (131 Animal Units) for a period of 2.43 months. Total animal unit months for the allotment are 318. When private land is fenced off, reduce 5 days use in Unit 11A.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR9	7/3	7/23	21	.7	92
PR11A	7/24	8/6	14	.3	39
Private	8/7	8/20			-
PR10	8/21	9/25	36	1.2	157
PR8	9/26	10/2	7	.23	30
Total			78	2.43	318

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR11A	7/4	7/17	14	.3	39
PR9	7/18	8/6	21	.7	92
Private	8/7	8/20			
PR10	8/21	9/25	36	1.2	157
PR8	9/26	10/2	7	.23	30
Total			78	2.43	318

Start over with Year 1

Adaptive Management: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: No improvements proposed.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Riparian Areas (including seeps and springs) and Wooded Draws: Stream bank condition and woody plant utilization assessment.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Riparian Areas (including seeps and springs) and Wooded Draws: Proper Functioning Conditions and/or Riparian Woody Regeneration.

Wetterstrom

Summary	Acres	% of Allotment	Number or Percent
Management Area 5.12 Rangeland Vegetation - Acres	712.7	75	
Management Area 3.51 Bighorn Sheep - Acres	237.1	25	
Total Allotment Acres	950.0	100	
National Forest Land Acres	949.8	100	
State Land Acres	0	0	
Private Land Acres	.02	0	
Capable Acres (NFS Lands)	745.8	78	
Non-Capable Acres (NFS Lands)	204	22	
Current Permitted Livestock Grazing (AUMs)			367
Adjusted NRCS Rangeland Analysis Est. Capacity (AUMs) [Same as Moderate Grazing Intensity (LRMP Appendix I)]			367
*Proposed Action Early Seral (%)		0	
*Proposed Action Early Intermediate Seral (%)		0	
*Proposed Action Late Intermediate Seral (%)		72	
*Proposed Action Late Seral (%)		28	
*Proposed Action Low Structure Stage (%)		28	
*Proposed Action Moderate Structure Stage (%)		72	
*Proposed Action High Structure Stage (%)		0	

*Estimates based on professional judgment. Estimated structural stages displayed in the above table can vary for the allotment due to factors such as seral stage, topography, range site and soils, livestock grazing intensity, livestock season of use, and weather conditions.

Wetterstrom

Objective(s): Livestock grazing will be used as a management tool to meet the following resource objective(s) or desired conditions:

Parkland (grass uplands): Upland rangeland conditions will reflect mixed grass and forb communities providing a low to moderate, and moderate to high grassland vegetative structure level(s) and late intermediate to late seral stage over the life of the AMP.

Bighorn Sheep Management: Capable bighorn sheep habitat, within Unit 31E, will reflect abundant supply of forage and cover. Other resource management activities will be modified as needed to maintain a high quality and solitude habitat over the life of the AMP.

Other: Allow for low vegetative grass structure within Units 31W to reduce fine fuel loads within the rural urban intermix.

Management

Proposed Management: Authorized Use will be 63 cow/calf pair and 3 bulls on NFS land (88 Animal Units) for a period of 4.18 months. Total animal unit months for the allotment are 367. Private land will be incorporated into the rotation system for a minimum of 10 days use. The timing of private land use within the rotation can be variable and will be dependent upon other private land uses/practices at the time.

Grazing Plan -Year 1

Unit	On Date	Off Date	Days Use	Months	AUMs
PR31E	5/15	6/12	29	.96	84
Private	6/13	6/22			
PR31W	6/23	8/1	35	1.16	102
PR31M	8/2	10/2	62	2.06	181
Total			126	4.18	367

Grazing Plan -Year 2

Unit	On Date	Off Date	Days Use	Months	AUMs
PR31W	5/15	6/18	35	1.03	91
Private	6/19	6/28			
PR31M	6/29	8/29	62	2.06	181
PR31E	8/30	9/27	29	.96	84
Total			126	4.18	367

Grazing Plan -Year 3

Unit	On Date	Off Date	Days Use	Months	AUMs
PR31M	5/15	7/15	62	2.06	181
Private	7/16	7/25			
PR31E	7/26	8/23	29	.96	84
PR31W	8/24	9/27	35	1.16	102
Total			126	4.18	367

Start over with Year 1

Adaptive Management: Change season of use and/or livestock utilization days. See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Improvements

Proposed Improvements: Remove steel tanks from the north well in Unit 31M and replace with rubber tire tanks to help reduce damage caused by vandals who shoot holes in the steel tanks.

Adaptive Management Improvements: See Table 2-1 Grazing Management Toolbox for other possible adaptive management.

Monitoring & Evaluation

Short-Term Monitoring

Parkland (grass uplands): Rangeland readiness and grassland structure monitoring.

Long-term Monitoring

Parkland (grass uplands): NRCS Rangeland Trend, Similarity Index Comparison, and Overall Rangeland Health.

Appendix C

Glossary

Access - The opportunity to approach, enter, and make use of public or private land.

Active Nest – A nest that is still structurally sound and could reasonably be expected to be occupied in the future; the period of time that a nest can be unoccupied but still classified as active varies and is dependent on the characteristics of the species most likely to use the nest in the future.

Activity - A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental quality objectives.

Activity Area - An area of land impacted by a management activity or activities. An activity area can range from a few acres to an entire watershed depending on the type of monitoring being conducted.

Adaptive Management - A type of natural resource management in which decisions are made as part of an ongoing process. Adaptive management involves testing, monitoring, evaluating, and incorporating new knowledge into management approaches based on scientific findings and the needs of society. Results are used to modify management policy.

Adaptive Management (as defined in this EIS) - Adaptive management is defined as a process where land managers implement management practices that are designed to meet LRMP standards and guidelines, and would likely achieve the desired conditions in a timely manner. If monitoring shows that desired conditions, as described by LRMP Direction, are not being met, then an alternate set of management actions, the effects of which are analyzed in this EIS, would be implemented to achieve the desired results.

Adjustment - Change in animal numbers, seasons of use, kinds or classes of animals, or management practices as warranted by specific conditions.

Administrative Use - Use authorized by Forest Service officials to complete management functions and activities.

Adverse Effects (Heritage Resources) - Any effect on a heritage resource that would be considered harmful to those characteristics that qualify the property for inclusion in the National Register of Historic Places.

Aesthetics - Pertaining to the quality of human perception of natural beauty (including sight, sound, smell, touch, taste, and movement).

Affected Environment - The biological and physical environment that will or may be changed by actions proposed and the relationship of people to that environment.

Allocation - The assignment of a land area to a particular use or uses to achieve management goals and objectives.

Allotment - A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a rangeland allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands, including national grasslands.

Allotment Management Plan (AMP) - The document containing the action program needed to manage the rangeland resource for livestock utilization, and possibly wildlife

utilization, while considering the soil, watershed, wildlife, recreation, timber, and other resources in a rangeland allotment.

Allowable Use – 1) The degree of utilization considered desirable and attainable on various parts of a ranch or allotment considering the present nature and condition of the resource, management objectives, and levels of management. 2) The amount of forage planned to be used to accelerate rangeland improvement.

Alternative - A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis as expressed in goals and objectives. One of several policies, plans, or projects proposed for decision-making. An alternative need not substitute for another in all respects.

Analysis Area - One or more capability areas combined for the purpose of analysis in formulating alternatives and establishing various impacts and effects.

Animal Unit Month (AUM) - The amount of feed or forage required by an animal-unit for one month by a specific age and class of livestock. AUMs are calculated by multiplying the animal unit equivalent by animal numbers then multiplying by months use. Example (32 cow/calf x 1.32 x 5.00 months = 211 AUMs).

Animal-Month – (Also known as head month). A month's tenure upon the rangeland by one animal. Must specify kind and class of animal. Note: This term is not synonymous with animal unit month (AUM). Grazing fees are based on “head months”. Head months are calculated by multiplying animal numbers by month's use. Example: (32 cow/calf x 5 months = 160 HMs). HMs are then multiplied by the current year grazing fee (160 HMs x \$1.35 = \$216.).

Animal-Unit - Considered to be a mature 1,000-pound cow or the equivalent, based on an average daily forage consumption of 26 pounds dry matter per day.

Animal Unit Equivalents – cow 1.00, cow/calf 1.32, bull 1.50, yearling .85, horse 1.20.

Annual Plant - A plant that completes its life cycle and dies in one year or less.

Aquatic Ecosystem - An ecosystem (biological and physical components and their interactions) in which water is the principal medium. Examples include wetlands, streams, reservoirs, and areas with plants or animals characteristic of either permanently or seasonally inundated soils.

Archeological Resource - Any physical remains of past human life or activities.

Authorized Forest Officer - The Forest Service employee delegated the authority to perform specific duties: generally a regional forester, forest supervisor, district ranger, or minerals staff officer.

Available Forage - That portion of the forage production that is accessible for use by a specified kind or class of grazing animal.

Available Lands - Those portions of the national forest or national grassland not administratively excluded from timber harvest or livestock grazing.

Basal Area - The cross-sectional area of the stem or stems of a plant or of all plants in a stand. Herbaceous and small woody plants are measured at or near the ground level. Larger woody plants are measured at breast or other designated height. The area is expressed in square feet per acre.

Best Management Practices (BMPs) - Land management methods, measures or practices intended to minimize or reduce water pollution as well as practices that result in healthy ecosystems. Usually, BMPs are applied as a system of practices rather than a

single practice. BMPs are selected based on site-specific conditions that reflect natural background conditions and political, social, economic, and technical feasibility.

Biennial Plant - A plant that lives for two years, usually flowering and fruiting only in the second year and then dying.

Big Game - Certain wildlife that may be hunted for sport under state laws and regulations, including elk, pronghorn antelope, mule and white-tail deer, turkey, and bighorn sheep.

Biological Diversity - The full variety of life in an area, including the ecosystems, plant and animal communities, species and genes, and the processes through which individual organisms interact with one another and their environments. Emphasis is on the diversity of native or endemic species.

Biological Resource - Plants and animals of direct or indirect value to human beings.

Botanical Area - A unit of land that contains plant specimens, plant groups, or plant communities that are significant because of their form, color, occurrence, habitat, location, life history, arrangement, ecology, rarity, or other features.

Broadcast Burning - A fire ignited under specific conditions (prescriptions) and within established boundaries to achieve some land management objective.

Broadcast Seeding - Process of scattering seed on the surface of the soil prior to natural or artificial means of covering the seed with soil.

Broadcast Treatments (Pest Management) - The uniform application of pesticide over an entire area.

Browse - Twigs, leaves, and young shoots of trees and shrubs upon which animals feed: in particular, those shrubs that are utilized by some livestock and big game animals for food.

Buffer Zone - An area on the edge of protected areas with restrictive land-use controls allowing only activities compatible with protection of the core area, such as research, environmental education, recreation, and tourism.

Butte - An isolated hill with relatively steep sides. A mesa.

Candidate Species – Species for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list the species for protection under the Endangered Species Act.

Capable Rangeland - The potential of an area of land to produce resources, supply goods and services and allow resource uses under an assumed set of management practices and at given levels of management intensity. Capability depends on current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices such as silviculture or protection from fire, insects, and disease.

Carrying Capacity - The maximum possible stocking rate that is consistent with maintaining or improving vegetation or related resources. It may vary from year to year in the same area due to fluctuating forage production. Also called grazing capacity.

Carrying Capacity (Wildlife and Livestock Grazing) - The maximum number of animals that can be supported in a given environment without deteriorating that environment.

Cavity - A hollow in a tree that is used by birds or mammals for roosting and reproduction.

CFR - Code of Federal Regulations.

Class of Animal - Description of age and/or sex-group for a particular kind of animal. Example: cow, calf, yearling, ewe, doe, fawn, etc.

Climax - 1) The final or stable biotic community in a successional series that is self-perpetuating and in dynamic equilibrium with the physical habitat. 2) The assumed end point in succession.

Cold-water Fishery - Stream and lake waters that support predominately cold-water species of game or food fishes, which have maximum, sustained water-temperature tolerances of about 70 degrees Fahrenheit in the summer.

Community (Biological) - Any assembly of organisms living together.

Community (Social) - The people who reside in one locality and are subject to the same laws or who have common interests, etc.

Community Allotment - An allotment upon which several permittees manage livestock in common.

Community Lifestyles - The ways in which residents conduct their everyday routines and how those routines are associated with the national forests or national grasslands.

Community Stability - The capacity of community to absorb and cope with change without major hardship to institutions or groups within the community.

Congressionally Designated Areas - Lands within the boundaries of a component of the National Wilderness Preservation System, the National Wild and Scenic River System, the National Trails System, the National Monuments and the Recreation and Scenic Areas within the National Forest System, including national grasslands, and similar areas designated by Congressional legislation.

Conservation - The aggregate of practices and customs to perpetuate sustained yield of renewable resources and prevent waste of nonrenewable resources.

Conservation Practices - Required land use practices on the national grasslands that are imposed upon the persons or organizations holding grazing permits (including grazing agreements) in order to protect, improve, develop, and administer the land and thus assist in furthering the program of land conservation and good land utilization.

Consumptive Uses - Uses of a resource that reduce the supply. Examples include irrigation, domestic and industrial water use, grazing, and timber harvest.

Continuous Grazing - The grazing of a specific unit by livestock throughout a year.

Conversion (Vegetation) - To change the dominant vegetative species or growth form, such as grass/forb, through vegetative management.

Cool-Season Plant - A plant that generally makes the major portion of its growth during the late fall, winter, and early spring. Cool-season species generally exhibit the C3 photosynthetic pathway.

Cooperating Agency - Any federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major federal action significantly affecting the quality of the human environment.

Cost - The negative or adverse effects or expenditures resulting from an action. Costs may be monetary, social, physical, or environmental in nature.

Council on Environmental Quality (CEQ) - An advisory council to the President established by the National Environmental Policy Act of 1969.

Cover Type - The vegetative species that dominates a site. Cover types are named for one plant species or non-vegetative condition presently (not potentially) dominant, using

canopy or foliage cover as the measure of dominance. In several cases, sites with more than one dominant species have been lumped together into one cover type. Co-dominance is not necessarily implied.

Cover/Forage Ratio - The ratio of tree cover (usually conifer types) to foraging areas, such as natural openings.

Created Opening - A treated forest area 10 basal area or less, which is designated to produce forage.

Cretaceous - The final period of the Mesozoic era (after the Jurassic and before the Tertiary period of the Cenozoic era), thought to have covered the span of time between 135 and 65 million years ago; also, the corresponding system of rocks. It is named after the Latin word for chalk (creta) because of the English chalk beds of this age.

Critical Habitat (Threatened, Endangered, and Proposed Species) - Habitat of federally listed threatened or endangered species where those physical and biological features essential to conservation of the species are found and which may require special management considerations or protection. This habitat may currently be occupied or may be determined by the Secretary of the interior to be essential for areas outside the species' current range.

Cross Fence - A fence that divides an allotment or pasture into smaller units.

Cultural Resources - See Heritage Resources.

Cumulative Impact - The impact on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of the source (federal or nonfederal agencies, individuals). Cumulative effects can result from individually minor but collectively significant actions taking place over time.

Deciduous (Plant) - Plant parts, particularly leaves, that are shed at regular intervals or at a given stage of development; that is, a deciduous plant regularly loses or sheds its leaves.

Decision Documents - Documents that provide the criteria and information used in the formulation and evaluation of alternatives and the preferred alternative.

Decreaser (Plant) - Plant species of the original or climax vegetation that will decrease in relative amount with continued disturbance (heavy defoliation, fire, drought) to the norm. Some agencies use this only in relation to response to overgrazing.

Deferment - Delay of livestock grazing on an area for an adequate time to allow plant reproduction, establishment of new plants, or restoration of vigor of existing plants.

Deferred Rotation - To discontinue grazing on various parts of a range in succeeding years, allowing each part of the range to rest successively during the growing season to permit seed production, establishment of seedlings, or restoration of plant vigor. Each rested part of the range is grazed during the year. At least two, but usually three or more, separate grazing units are required.

Defoliation - The removal of plant leaves by grazing or browsing, cutting, chemical defoliant, or natural phenomena, such as hail, fire, or frost.

Designated Wilderness Areas - See Wilderness.

Desired Future Condition - A portrayal of the land or resource conditions that are expected to result if goals and objectives are fully achieved.

Desired Plant Community - A plant community that produces the kind, proportion, and amount of vegetation necessary for meeting or exceeding the land use plan/activity plan

objectives established for an ecological site. The desired plant community must be consistent with the site's capability to produce the desired vegetation through management, land treatment, or a combination of the two.

Desired Plant Species - Species that contribute positively to the management objectives.

Deteriorated Range - Range where vegetation and soils have significantly departed from the natural potential. Corrective management measures, such as seeding, would change the designation from deteriorated range to some other term.

Developed Recreation - This type of recreation is dependent on facilities provided to enhance recreational opportunities in concentrated use areas. Examples include campgrounds and picnic areas. Facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water and buildings.

Developed Recreation Sites - Relatively small, distinctly defined areas where facilities are provided for concentrated public use, such as campgrounds, picnic areas, and swimming beaches.

Direct Effects - Environmental effects caused by an action and that occur at the same time and place.

Dispersed Recreation - This type of recreational use requires few, if any, improvements and may occur over a wide area. This type of recreation involves activities related to roads, trails and undeveloped waterways, and beaches. The activities do not necessarily take place on or adjacent to a road, trail, or waterway, only in conjunction with them. Activities are often day-use oriented and include hunting, fishing, boating, off-road vehicle use, hiking, and others.

District Ranger - The official responsible for administering the National Forest System lands, including national grasslands, on a ranger district.

Disturbance - A discrete event, either natural or human induced, that causes a change in the existing condition of an ecological system.

Diversity - Diversity refers to the distribution and abundance of different plant and animal communities and species within the area covered by land and resource management plans. This term is derived from the National Forest Management Act (NFMA). This term is not synonymous with biological diversity.

Domestic - Refers to those animals and plants that are under the control of humans throughout their life cycle. Animals whose breeding is controlled by humans.

Down and Dead Woody Material - Woody material, from any source, that is dead and lying atop the ground.

Draft Environmental Impact Statement (DEIS) - The statement of environmental effects required for major federal actions under Section 102 of the National Environmental Policy Act and released to the public and other agencies for comment and review.

Drought - Any year or sequence of years when annual precipitation amounts are less than 75% below average.

Dry Meadow - A meadow dominated by grasses and characterized by soils that become moderately dry by mid-summer.

Ecological Diversity - The variety of ecosystems occurring within a given landscape.

Ecology - The study of the interrelationships of organisms with their environment.

Ecosystem - 1) A community of living plants and animals interacting with each other and with their physical environment. A geographic area where it is meaningful to

address the interrelationships with human social systems, sources of energy, and the ecological processes that shape change over time. 2) A community of organisms and its environment functioning as an ecological unit in nature.

Ecosystem Health - A condition where the parts and functions of an ecosystem are sustained over time and where the system's capacity for self-repair is maintained, such that goals for uses, values, and services of the ecosystem are met.

Ecosystem Management - Scientifically based land and resource management that integrates ecological capabilities with social values and economic relationships to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term.

Edge Effect - Either suppression of growth or excessive growth at the edges of a plot where the plants come in contact with plants of a different variety and different competitive ability. With respect to edges as boundaries of ecosystems, it refers to the greater diversity of animals found, those from each of the adjoining ecosystems as well as those that specialize on the edge itself.

Effects - Physical, biological, social, and economic results (expected or experienced) resulting from achievement of outputs. Effects can be direct, indirect, and cumulative.

Effects (Heritage Resources) - Impacts to the characteristics that qualify a heritage resource for the National Register of Historic Places. These can include alterations in location, setting, use design, materials, feeling, and association. Adverse effects include:

- Physical destruction or damage.
- Isolation from or alteration of setting.
- Introduction of visual, audible, or atmospheric elements.
- Physical deterioration from neglect or from any action.
- Transfer, lease, or sale.

Eligible (Heritage Resources) - Indicates that a specific heritage resource qualifies for or is already listed in the National Register of Historic Places.

Emergent Vegetation - A plant rooted in water with much of its vegetative growth extending above the water surface.

Encroachments - Improvements occupied or used on National Forest System lands, including national grasslands, without authorization.

Endangered Species - Any species of animal or plant in danger of extinction throughout all or a significant portion of its range and so designated by the Secretary of Interior in accordance with the 1973 Endangered Species Act.

Endangered Species Act of 1973 - An act to conserve ecosystems for endangered species and threatened species, to conserve the endangered species and threatened species themselves, and to take appropriate steps to achieve the purposes of the (relevant) treaties and conventions.

Endemic - Plants or animals that occur naturally in an area and whose distribution is relatively limited to a particular locality.

Environment - All the conditions, circumstances, and influences surrounding and affecting the development of an organism or group of organisms.

Environmental Analysis - An analysis of alternative actions and their predictable short- and long-term environmental effects, which include physical, biological, economic, social, and environmental design factors and their interactions.

Environmental Assessment - A concise public document, for which a federal agency is responsible, that serves to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
- Aid an agency's compliance with the National Environmental Policy Act when no environmental impact statement is necessary.
- Facilitate the preparation of an environmental impact statement when one is necessary.

Environmental Impact Statement (EIS) - A document prepared by a federal agency in which anticipated environmental effects of a planned course of action or development are evaluated. A federal statute (Section 102 of the National Environmental Policy Act of 1969) requires that such statements be prepared. An EIS is prepared first in draft or review form and then in a final form and includes the following points:

- The environmental impact of the proposed action.
- Any adverse impacts that cannot be avoided by the action.
- The alternative courses of action.
- The relationship between local short-term use of the human environment and the maintenance and enhancement of long-term productivity.
- A description of the irreversible and irretrievable commitment of resources, which would occur if the action were accomplished.

Eradication (Plant) - Complete killing or removal of a noxious plant from an area, including all plant structures capable of sexual or vegetative reproduction.

Erosion - The wearing away of the land surface by running water, wind, ice, gravity, or other geological activities.

Executive Order - An order or regulation issued by the President or some administrative authority under presidential direction.

Exotic - Not native to the place where it is found. Often in reference to a specific race or variety of an organism that has been transplanted to a new region.

Exotic Species - An organism that exists in a free state in an area in which it is not native. Also refers to animals from outside the country in which they are held captive or in free-ranging populations.

Extinction - Disappearance of a taxon of organisms from existence in all regions.

Extirpated - The elimination of a species from a particular area.

Facility - Structures needed to support the management, protection, and utilization of the national forests and national grasslands, including buildings, utility systems, and other construction features. There are three categories of facilities: recreation, administrative, and permitted.

Fauna - All vertebrate and invertebrate animal species.

Feed Lot - A commercial facility for high-intensity feeding of livestock under a controlled environment.

Fertilizer - Mineral nutrients added to the substrate of plants to enhance growth and vitality.

Fire Incidence - The average number of fires in a specified area during a specified time.

Fire Occurrence - Number of fires per unit time in a specified area. Synonymous with fire frequency.

Fire Risk - The chance of a fire starting, as affected by nature and incidence of causative agents, including lightning, people, and industry. Three risk scales are used:

- **High:** includes locations where lightning, people, or industry has commonly caused fires in the past.
- **Moderate:** includes locations where lightning, people, or industry has periodically caused fires in the past.
- **Low:** includes locations where lightning, people, or industry has infrequently caused fires in the past.

Fire Suppression - All the work and activities connected with fire-extinguishing operations beginning with discovery and continuing until the fire is completely extinguished.

Fire Suppression Objective - To suppress wildfires at minimum costs consistent with land and resource management objectives and fire management direction as determined by the National Fire Management Analysis System (NFMAS). This includes all work and activities associated with fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished. An example might be a fire suppression objective of five acres, based on a cost-effectiveness analysis.

Fire-dependent Systems - Forests, grasslands, and other ecosystems historically composed of species of plants that evolved with and are maintained by fire regimes.

Fireline Intensity - The rate of heat energy released per unit time per unit length of a fire front. Numerically, it is the product of the heat combustion, quality of fuel consumed per unit area in the fire front, and the rate of spread of a fire (as measured in BTUs per second foot of the fire front).

Floodplain - The area adjacent to a stream/river channel effective in carrying flow, within which carrying capacity must be preserved and where the flood hazard is generally highest; that is, where flood depths and velocities are the greatest (FSH 2520).

Flora - All plant species.

Forage - Vegetation used for food by wildlife and livestock, particularly ungulate wildlife and domestic livestock.

Forage Production - The weight of forage that is produced within a designated period of time on a given area. The weight may be expressed as green, air dry, or oven dry. The term may also be modified as to time of production such as annual, current year, or seasonal forage production.

Forbs - Any herbaceous plant other than those in the grass, sedge, and rush families. For example, any non grass-like plant that has little or no woody material.

Forest Plan (Forest Land and Resource Management Plan) - A document that guides natural resource management and establishes standards and guidelines for a national forest or national grassland. Required by the National Forest Management Act.

Forest Supervisor - Official responsible for administering any particular national forest. Forest supervisors report to regional foresters.

Forested Range - Forestland that produces, at least periodically, sufficient under story vegetation suitable for forage and that can be grazed without significantly impairing wood production and other forest values.

Fossil - The remains or traces of an organism or assemblage of organisms that have been preserved by natural processes in the Earth's crust. Minerals, such as oil and gas, coal, oil shale, bitumen, lignite, asphaltum and tar sands, phosphate, limestone, diatomaceous earth, uranium, and vanadium, while they may be of biologic origin, are not here considered fossils. Fossils of scientific value may occur within or in association with such minerals.

Fragmentation - The breakup of a large land area (such as a grassland) into smaller patches isolated by areas converted to a different land type. The opposite of connectivity.

FSH - Forest Service Handbook

FSM - Forest Service Manual

Fuel Break - A zone in which fuel quantity has been reduced or altered to provide a position for wildfire suppression. Fuel breaks are designated or constructed before the outbreak of a fire. Fuel breaks may consist of one or a combination of the following: natural barriers, constructed fuel breaks, and human-made barriers.

Fuel Loading - The volume of available or burnable fuels in a specified area, usually expressed in tons per acre.

Fuel Treatment - Any manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control, including lopping, chipping, crushing, piling, and burning. Synonymous with fuel modification.

Fuels - The organic materials that will support the start and spread of a fire: duff, litter, grass, weeds, forbs, brush, trees, and dead woody materials.

Fuels Management - Manipulation or reduction of fuels to meet protection and management objectives while preserving and enhancing environmental quality.

Geographic Area - A piece of land where management is directed toward achieving a specified desired condition.

Geographic Information System (GIS) - A spatial type of information management system that provides for the entry, storage, manipulation, retrieval, and display of spatially oriented data.

Geological Area - A unit of land that has been designated by the Forest Service as containing outstanding formations or unique geological features of the earth's development, including caves and fossils.

Grass - A member of the grass family, Poaceae.

Grassland - Any land on which the dominant plants are grasses or on which grasses originally dominated.

Grazing - The act of animals consuming plants on range or pasture.

Grazing Association - A group of individuals permitted to graze the National Grassland under a grazing agreement. This group is governed by its established constitution, by-laws, and rules of management.

Grazing Capacity - The maximum number of livestock under management that a given range area is capable of supporting within guidelines found in the allotment management plan.

Grazing Distribution - Dispersion of livestock or wild herbivores grazing within a given area.

Grazing District - 1) An administrative unit of federal range established by the Secretary of the Interior under the provisions of the Taylor Grazing Act of 1934, as

amended. 2) An administrative unit of state, private, or other rangelands, established under certain state laws.

Grazing Fee - A charge, usually on a monthly basis, for grazing use by a given kind of animal.

Grazing Land - An area of rangeland, public or private, that is used by animals for grazing.

Grazing Permit - Official, written permission to graze a specified number, kind, and class of livestock for a specific period on a defined range allotment.

Grazing Season – 1) A period of grazing to obtain optimum use of the forage resource. 2) On public lands, an established period for which grazing permits are issued.

Grazing System - A specialization of grazing management that defines systematically recurring periods of grazing and deferment for two or more pastures or management units. Some examples are: deferred grazing, rotation grazing, deferred-rotation grazing, and short-duration grazing.

Grazing Trespass - The grazing of livestock on a range area without proper authority and resulting from a willful or negligent act.

Grazing Unit - An area of rangeland, public or private, that is grazed as an allotment or pasture.

Grazing, Short-duration - A grazing system in which animals are concentrated on less than one-half of the total land area and the lengths of deferment exceed the lengths of grazing.

Ground Cover - The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, cobble, gravel, stones, and bedrock. Ground cover plus bare ground would total 100 percent.

Groundwater - Water within the Earth that supplies wells and springs. Specifically, water in the zone of saturation where all openings in soils and rocks are filled. The upper surface level forms the water table.

Growing Season - In temperate climates, that portion of the year when temperature and moisture permit plant growth.

Guideline - Advisable actions that should be followed to achieve grassland or forest goals and objectives. Deviations from guidelines must be analyzed during project-level analysis and be documented in a project decision document but do not require management plan amendments.

Habitat – The sum total of environmental conditions of a specific place occupied by a wildlife species or a population of such species.

Habitat Capability – The capacity of a vegetative community to support selected wildlife and fish species for all or a part of its life cycle. Habitat capacity is normally expressed as projected populations or densities of animals.

Habitat Effectiveness - As used in this document, habitat effectiveness refers to the capability of an area to support big game based on forage, cover, open roads, and the spatial distribution of the three factors, regardless of the time of year.

Habitat Suitability – A measure of current habitat quality relative to the local biological potential of an area to provide habitat for a species. Habitat suitability is usually expressed as low, moderate or high or is quantitatively presented as an index value scaled from 0 (unsuitable) to 1.0 (optimum habitat).

Hard Snags - A dead or partially dead tree composed primarily of sound wood, particularly sound sapwood.

Hardwood - Pertains to broadleaf trees or shrubs.

Hardwood Draws - Upland drainages containing deciduous trees and shrubs.

Hay - Herbage, especially grass and legumes, mowed, cured, and stored for fodder.

Haying - The mowing, baling, and storage of hay to be used as a product.

Herb - A plant with one or more stems that dies back to the ground each year.

Herbaceous Crop - A crop of plants with herb characteristics.

Herbicide - A chemical substance used for killing plants.

Herbivore - An animal that subsists principally or entirely on plants or plant material.

Herd - An assemblage of animals usually of the same species.

Heritage Resources - The physical remains and conceptual content or context of an area. Physical remains may include artifacts, structures, landscape modifications, rock art, trails, or roads. Conceptual content/context includes the setting for legendary, historic, or prehistoric events, such as a sacred area for American Indians.

Historic Property - Any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register. This term includes artifacts, records, and remains related to and located within such properties.

Home Range - The geographic area within which an animal restricts its activities.

Human Environment - Includes the natural and physical environment and the relationship of people within that environment.

IDT - Interdisciplinary Team

Implementation - Those activities necessary to initiate the actions in the approved land and resource management plan.

Inaccessible Range - Rangeland that is not grazed by livestock because of barriers, distance to water or steep slopes.

Increaser (Plant) - Plant species of the original vegetation that increase in relative amount, at least for a time, under continued disturbance (heavy defoliation, fire, drought) to the norm.

Indigenous Species - Animals or plants that originated in the area in which they are found; for example, animals or plants that were not introduced after frontier settlement of the Northern Great Plains and that naturally occur on the Northern Great Plains.

Indirect Effects - Environmental effects caused by an action but resulting later in time or farther away in place, yet which are still reasonably foreseeable.

Infrastructure - The facilities, utilities, and transportation systems needed to meet public and administrative needs.

Ingress - The act or right to enter; access; entrance.

Instream Flows - The minimum water volume (cubic feet per second) in each stream necessary to meet seasonal stream flow requirements for maintaining aquatic ecosystems, visual quality, recreational opportunities, and other uses.

Intensity (Fire Management) - A measure (in BTUs per foot per second) of the energy released per unit of time in an area of actively burning fire; the amount of heat released per foot of fire front per second.

Intensive Grazing Management - Grazing management that attempts to increase production or utilization per unit area or production per animal through a relative increase in stocking rates, forage utilization, labor, resources, or capital. Intensive grazing

management is not synonymous with rotation grazing. Grazing management can be intensified by using any one or more of a number of grazing methods that use relatively more labor or capital resources.

Interdisciplinary Team (ID Team) - A group of people with different specialized training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one discipline is sufficiently broad to adequately solve the problem. Through interaction, participants bring different points of view and a broader range of expertise to bear on the problem.

Intermittent Stream – 1) A stream that flows only 50 to 90 percent of the year when it receives water from some surface source, such as melting snow. 2) A stream that does not flow continuously, as when water losses from evaporation or seepage exceed the available stream flow.

Introduced Species - A species not a part of the original fauna or flora of the area in question.

Invader (Plant) - Plant species that were absent in undisturbed portions of the original vegetation of a specific range site and will invade or increase following disturbance or continued heavy grazing.

Invasive Plant - A species that displays rapid growth and spread, free from natural controls and enhanced by abundant seed production and germination.

Invertebrate Fossils - The fossilized remains of animals that do not have a bony skeleton or backbone. Examples of invertebrate fossils include: shellfish, snails, and bugs.

Irretrievable Commitments - Applies to losses of production or use of renewable natural resources for a period of time. For example, road construction leads to an irretrievable loss of the productivity of the land under which the road is located. If the road is later obliterated, the land may eventually become productive again. The production lost is irretrievable, but the action is not irreversible.

Irreversible Commitments - Decisions causing changes that cannot be reversed. For example, if an area is mined, that area cannot, at a later date, be allocated to some other resource activities, such as Wilderness. Once mined, the ability of that area to meet Wilderness criteria, for instance, has been irreversibly lost. Irreversible commitments often apply to some non-renewable resource, such as minerals and heritage resources.

Key Area - 1) An area selected to monitor the effects of management activities on ecosystem health. Examples may include but are not limited to, woody draws, uplands, riparian areas, and valley bottoms. 2) That portion of a pasture or grazing unit which is selected as a monitoring point because of its location, use, or grazing value.

Keystone Species - Species that play roles affecting many other organisms in an ecosystem. Often they are grouped according to their perceived importance to humans, such as upland birds or waterfowl.

Land Exchange - The conveyance of nonfederal land or interests to the United States in exchange for National Forest System land, including national grasslands, or interests in such land.

Land Unit - A mapped land type polygon or a mapped soil unit.

Landline Location - The legal identification, accurate location, and description of property boundaries.

Landowner - Person who has title to land recognized by the prevailing legal system.

Landscape - The landforms of a region in aggregate.

Late Succession Forests - Ecosystems distinguished by old trees and related structural features. The term encompasses the later stages of stand development that typically differ from earlier stages in structure, composition, function, and other attributes. There are two types of late succession ponderosa pine defined for the Northern Great Plains:

- Open-canopy, late succession ponderosa pine occurs where periodic, low-intensity fires have been part of the ecosystem. These late successional stands consist of clumps or groups of trees with grasses in the openings between the clumps. The clumps or groups of trees contain little down dead material and few small trees.
- Closed-canopy, late succession ponderosa pine occurs where periodic, low-intensity, high-frequency fires have not been a significant part of the ecosystem. These stands contain large old trees with open branches and irregular crowns. The stands have multiple canopy layers made up of various-aged trees. They are well-stocked with trees and contain standing dead and down trees.

Lead Agency - The agency or agencies preparing or having taken the primary responsibility for preparing an environmental impact statement.

Listed Species - Any species of fish, wildlife, or plant officially designated as endangered or threatened by the Secretary of the Interior or Commerce.

Litter - A surface layer of loose organic debris consisting of freshly fallen or slightly decomposed organic materials.

Livestock - Domestic animals.

Livestock Use Permit - Used to document specific animal numbers, class, and seasons of use under a specified management plan for a given period (10 years).

Management - The organization of actions designed to reach a given set of objectives.

Management Area - Area of the grassland that are managed for a particular emphasis. These areas have common management direction and may be non contiguous on the national forest or national grassland.

Management Indicator Species - A plant or animal species selected because their status is believed to (1) be indicative of the status of a larger functional group of species, (2) be reflective of the status of a key habitat type, or (3) act as an early warning of an anticipated stressor to ecological integrity. The key characteristic of a MIS species is that its status and trend provide insights to the integrity of the larger ecological system to which it belongs.

Management Indicators (Fish and Wildlife) - Plant or animal species or habitat components selected in a planning process used to monitor the effects of planned management activities on populations of wildlife and fish, including those that are socially or economically important.

Marginal Land - Land of questionable physical or economic capabilities for sustaining a specific use.

Market Value - The unit price of an output normally exchanged in a market after at least one stage of production, expressed in terms of what people are willing to pay as evidenced by market transactions.

Memorandum of Understanding (MOU) - A legal agreement between the Forest Service, other agencies, private parties, or individuals resulting from consultation between them that states specific measures they will follow to accomplish a project. A memorandum of understanding is not a fund-obligating document.

Midgrass - Grasses which normally grow 18 - 36 inches tall, as in western wheatgrass.

Migration - The movement of genotypes (as individuals) into or out of a population.

Minimum Management Requirements - Standards for resource protection, vegetative manipulation, silviculturist practices, even-age management, riparian areas, soil and water, and diversity to be met in accomplishing National Forest System goals and objectives.

Mitigate - To lessen the severity.

Mitigation (Heritage Resources) - Actions taken to reduce or eliminate adverse effects caused to heritage resources. Avoidance is not considered a mitigation measure.

Mixed grass prairie - Grassland type west of the tallgrass prairie in North America, consisting of a mixture of tall-, short-, and midgrasses and other herbaceous plants, also called mixed prairie.

Monitoring and Evaluation - The sample collection and analysis of information regarding LRMP management practices to determine how well objectives have been met, as well as the effects of those management practices on the land and environment.

Monoculture - The cultivation of a single crop to the exclusion of other land uses.

Motorized Equipment - Machines that use a motor, engine, or other nonliving power source. This includes, but is not limited to, such machines as chain saws, aircraft, snowmobiles, generators, motor boats, and motor vehicles. It does not include small battery or gas-powered hand-carried devices, such as shavers, wristwatches, flashlights, cameras, stoves, or other similar small equipment.

Motorized Recreation - A recreational opportunity provided through the use of a motorized vehicle. This includes travel on and off highways, Forest roads, and four-wheel-drive primitive roads and trails. Travel regulations may be established to protect forest and grassland resources, to minimize use conflicts, and to promote user safety.

MOU - See Memorandum of Understanding.

Mowing - The cutting of hay to be left on the ground.

Multiple Use - According to the Multiple Use Sustained Yield Act of 1960, multiple use is the management of all the various renewable surface resources of the National Forest System, including national grasslands, so that they are utilized in the combination that will best meet the needs of the American people. Such management makes the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. Some lands will be used for less than all of the resources. Harmonious and coordinated management of the various resources is employed, each with the other, without impairment of the productivity of the land. Consideration is given to the relative values of the various resources and not necessarily the combination of uses that gives the greatest dollar return or the greatest unit output.

National Environmental Policy Act of 1969 (NEPA) - An act declaring a national policy to encourage productive harmony between people and their environment, to promote efforts that will prevent or eliminate damage to the environment and the biosphere and stimulate the health and welfare of people and to enrich the understanding of the ecological systems and natural resources important to the nation and to establish a Council on Environmental Quality.

National Forest Management Act (NFMA) - A 1976 law that amended the Forest and Rangeland Renewable Resources Planning Act and requires the preparation of Regional and Forest Plans and regulations to guide forest plan development.

National Forest System (NFS) Lands - Federal lands designated by Executive Order or statute as national forests, national grasslands, or purchase units, or other lands under the administration of the U.S. Forest Service.

National Grasslands - Lands designated national grasslands by the Secretary of Agriculture and permanently held by the Department of Agriculture under Title III of the Bankhead-Jones Farm Tenant Act.

National Recreation Trails - Trails designated by the Secretary of Interior or the Secretary of Agriculture as part of the national system of trails authorized by the National Trails System Act. National recreation trails provide a variety of outdoor recreation uses.

National Register of Historic Places (NRHP) - A list of heritage resources that have local, state, or national significance maintained by the Secretary of the Interior.

National Wilderness Preservation System - All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.

Native - A plant or animal indigenous to a particular locality.

Native Seed - Seeds of plants considered indigenous to the Northern Great Plains.

Natural - Occurring in conformity with the ordinary course of nature. An area having undergone no, or at least minimal, disturbance by anthropogenic forces.

Natural Area - An area of land in which organisms and geological processes are undisturbed by humans, with as few controls as possible.

Natural Barrier - A natural feature that will restrict livestock movements, such as a dense stand of trees or downfall, or a feature that will stop the spread of fire, such as a talus slope, water course, or areas otherwise devoid of fuel.

Natural Community - A community uninfluenced by external factors.

Natural Fuels - Fuels resulting from natural processes and not directly generated or altered by land management practices.

NEPA Process - Means all measures necessary for compliance with the requirements of Section 2 and Title I of NEPA.

Non-consumptive Use - Those resources that do not reduce the supply. No consumptive uses of water include hydroelectric power generation, boating, swimming, etc.

Nonmotorized Activities - Activities that do not incorporate the use of a motor, engine, or other nonliving power source. This includes such machines as aircraft, hovercraft, motorboats, automobiles, motor bikes, snowmobiles, bulldozers, chainsaws, rock drills, and generators.

Non-point Source Pollution - Pollution whose source is not specific in location. The sources of the pollutant discharge are dispersed, not well-defined or constant. Examples include sediments from logging activities and runoff from agricultural chemicals.

Non-vertebrate Fossils - The fossilized remains of anything that does not have a bony skeleton or backbone. Examples of non-vertebrate fossils include: plants, pollen, petrified wood, shellfish, snails, and bugs.

Notice of Intent - Notice that an environmental impact statement will be prepared and considered. The notice briefly describes the proposed action and possible alternatives,

the agency's scoping process, and the address and name of the agency to contact regarding questions about the proposed action and the environmental impact statement.

Noxious Weeds - Those plant species designated as weeds by federal or state laws. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host for serious insects or diseases, and generally non-native.

Objective - A concise, time-specific statement of measurable, planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and resources to be used in achieving identified goals.

Occupied Nest - Nest that is repaired or tended in the current year; also includes nests within a nesting territory while raptors are demonstrating pair bonding activities and developing an affinity to the area.

Open Range - 1) Range that has not been fenced into management units. 2) All suitable rangeland of an area upon which grazing is permitted. 3) Untimbered rangeland. 4) Range on which the livestock owner has unlimited access without benefit of land ownership or leasing.

Operating Plan - A written plan, approved by a forest officer and prepared by those engaged in mining activity on the national forest or national grassland. It covers prospecting, exploration, or extraction activities that will take place on National Forest System lands, including national grasslands.

Overgrazing - Continued heavy grazing that exceeds the recovery capacity of the community and creates a deteriorated range.

Overstocking - Placing a number of animals on a given area that will result in overuse if continued to the end of the planned grazing period.

Overstory - The portion of vegetation in a forest that forms the uppermost foliage layer.

Paleontological Areas - A unit of land that contains fossils of plants and animals, shellfish, early vertebrates, coal swamp forests, early reptiles, dinosaurs, and other prehistoric plants and animals.

Paleontological Resources - Fossil resources, including both body and trace fossils, of all groups of organisms (vertebrates, invertebrates, plants, pollen, and spores, etc.)

Paleontology - The study of life in past geologic times.

Parturition Habitat - Habitat used by big game species during the birthing season.

Pasture - A land area consisting of grass or other growing plants used as food by grazing animals. Also an area used for grazing, often enclosed and separated from other areas by fences, hedges, ditches, or walls.

Perch-inhibitors - Devices placed on power poles to discourage raptor perching and mortality from electrocution.

Perennial Plant - A plant that lives for two or more years.

Perennial Streams - Streams that flow continuously throughout most years.

Permitted Grazing - Use of a National Forest System range allotment under the terms of a grazing permit.

Permittee (Grazing) - One who holds a permit to graze livestock on state, federal, or certain privately owned lands.

Persons at One Time (PAOT) - A recreational capacity measurement indicating the number of people who can use a facility or area at one time.

Person-Year - The amount of work done by one person working all year or several people working a portion of a year. Approximately 2,000 working hours.

Pesticide - A chemical agent formulated to kill or suppress insects, plants, or animals.

pH - The degree of acidity or alkalinity.

Plain - A broad stretch of relatively level, treeless land.

Planning Area - The area of the National Forest System, including national grasslands, covered by a Regional or Forest Plan.

Planning Criteria - Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgments and decisions are based.

Planning Period - A time interval for which inputs and outputs are identified in a planning process. Current RPA and National Forest Plan intervals are five and ten years, respectively.

Planning Records - Documents and files that contain detailed information and decisions made in developing the Forest Plan. Available at the Forest Supervisor's Office.

Planning Unit - Each individual national grassland and forest in the planning area.

Plant Associations - A grouping of plants that have reached dynamic equilibrium with the local environmental conditions; equivalent to climax. On site, there is no evidence of replacement by other dominant plant species, and there is no evidence of serious disturbances.

Plant Communities - Assemblages of plant species living in an area. A plant community is an organized unit to the extent that it has characteristics in addition to the individuals and populations and functions as a unit.

Potential Natural Community (PNC) - A taxonomic unit of vegetation classification. The biotic community that would be established under present environmental conditions if all successional sequences were completed without additional human-caused disturbances. Natural disturbances, such as drought, flood, wildfire, grazing by native fauna, and insect and disease infestations, are inherent in the development of potential natural communities, which may include naturalized, non-native species.

Prairie - A tract of level to hilly land that has a dominance of grasses and forbs, has a scarcity of shrubs, and is treeless. The natural plant community consists of various mixtures of tall grass, mid-grass, and short-grass plant species.

Prairie Grouse - A name used in this document to refer collectively to sharp-tailed grouse, prairie chicken, and sage grouse.

Precambrian - All geologic time and its corresponding rocks before the beginning of the Paleozoic; it is equivalent to about 90 percent of geologic time.

Preferred Alternative - The alternative recommended for implementation in the Forest Plan based on the evaluation completed in the planning process.

Prehistoric Site - Archeology sites associated with American Indians and usually occurring before contact with Europeans.

Prescribed Burning - Controlled application of fire to wild land fuels in either their natural or modified state, under specified environmental conditions, that allows the fire to be confined to a predetermined area and, at the same time, to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed Fire - A fire burning with prescription, resulting from planned or unplanned ignition.

Prescription (Fire Management) - A written statement defining objectives to be attained as well as temperature, humidity, wind direction and speed, fuel-moisture content, and soil moisture under which the fire will be allowed to burn. Generally expressed as acceptable ranges of the various indices and the limit of the geographic area to be covered.

Primary Range - Areas that animals prefer to use and over which they will graze when management is limited. The area on which overuse will occur before secondary range is used when animals are allowed to shift for themselves.

Primitive Area - All areas so designated by the Secretary of Agriculture on the effective date of the Wilderness Act and that have not yet been permanently designated as Wilderness or to other use by act of Congress.

Productivity - The total quantity of organic material produced within a given period by organisms or the energy that this represents, such as gram-calories per square centimeter per year. The innate capacity of an environment to produce plant and animal life. The capacity of a soil to produce a certain kind of crop under a defined set of management conditions.

Proper Functioning Condition (PFC) - Riparian/wetland areas achieve proper functioning condition when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. This reduces erosion; improves water quality; filters sediment; captures bed load; aids floodplain development; improves floodwater retention and groundwater recharge; develops root masses that stabilize stream banks against cutting action; develops diverse ponding and channel characteristics to provide habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and supports greater biodiversity. The functioning condition of riparian/wetland areas is a result of the interaction among geology, soil, water, and vegetation.

Proposed Action - In terms of the National Environmental Policy Act, the project, activity, or action that a federal agency intends to implement or undertake and which is the subject of an environmental analysis.

Proposed Critical Habitat - Habitat proposed for designation to benefit any listed or proposed species. Notice of proposed critical habitat appears in the Federal Register.

Proposed Species - Any species of fish, wildlife, or plant that is proposed by the Fish and Wildlife Service or the National Marine Fisheries Service for listing as threatened or endangered.

Public - The people of an area, state, or nation that can be grouped together by a commonality of interests, values, beliefs, or life-style.

Public Access - Usually refers to a road or trail route over which a public agency has secured a right-of-way for public use.

Public Involvement - A Forest Service process designed to broaden the information base upon which agency decisions are made. It includes the following steps:

- Informing the public of Forest Service activities, plans, and decisions.
- Encouraging public understanding about the participation in the planning processes that lead to final decision-making.

Public Issue - A subject or question of widespread public interest identified through public participation relating to management of National Forest System lands, including national grasslands.

Quality Habitat – Habitat that is highly suitable for a plant or animal species or community based on the local biological site potential.

Range - Any land supporting vegetation suitable for grazing including rangeland, grazeable woodland, and shrubland.

Range Allotment - A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands, including national grasslands, and other associated lands administered by the Forest Service.

Range Analysis - Systematic acquisition and evaluation of rangeland resources data needed for allotment management planning and overall land management.

Range Condition – 1) A rangeland is considered to be in satisfactory condition when the desired condition is being met or short-term vegetative objectives are being achieved to move the rangeland toward the desired condition or trend. Unsatisfactory condition is when the desired condition is not being met and short-term vegetative objectives are not being achieved to move the rangeland toward the desired condition or trend. 2) Historically, range condition usually has been defined in one of two ways: (a) a generic term relating to present status of a unit of range in terms of specific values or potentials. Specific values or potentials must be stated or (b) the present state of vegetation of a range site in relation to the climax (natural potential) plant community for that site. It is an expression of the relative degree to which the kinds, proportions and amounts of plants in a plant community resemble that of the climax plant for the site.

Range Development, Nonstructural - Any practice designed to improve range condition or facilitate more efficient utilization of the range.

Range Development, Structural - Any structure or excavation to facilitate management of range or livestock.

Range Management - A distinct discipline founded on ecological principles and dealing with the use of rangelands and range resources for a variety of purposes. These purposes include use as watersheds, wildlife habitat, grazing by livestock, recreation, and aesthetics, as well as associated uses. Two kinds of range management can be described:

- **Extensive** range management carries the goal to control livestock numbers within the present capacity of the range, but little or no attempt is made to achieve uniform distribution of livestock. Range management investments are minimal and only to the extent needed to maintain stewardship of the range in the presence of grazing. Past resource damage is corrected and resources are protected from natural catastrophes.
- **Intensive** range management carries the goal to maintain full plant vigor and to achieve full livestock utilization of available forage. This goal is achieved through implementation of improved grazing systems and construction and installation of range improvements. Cultural practices, such as seeding and fertilizing, to improve forage quality and quantity may be used.

Rangeland - Lands on which the native vegetation is predominately grasses, grass-like plants, forbs, or shrubs suitable for grazing or browsing usage. Includes lands revegetated naturally or artificially to provide a forage cover that is managed like native vegetation.

Rangeland Health - The degree to which the integrity of the soil, the vegetation, the water, and air as well as the ecological processes of the rangeland ecosystem is balanced and sustained. Integrity is defined as: Maintenance of the structure and functional attributes characteristic of a particular locale, including normal variability.

Ranger District - Administrative subdivision of the national forest or national grassland supervised by a district ranger who reports to a forest supervisor.

Rare Communities - A ranking system used by The Nature Conservancy to assess relative endangerment. Community types are ranked on a global, national, and state scale of 1 to 5. A rank of G1 (Global 1) indicates that a community type is critically imperiled globally to rarity, endemism, and/or threats. A rank of G5 indicates little to no risk of global elimination. Similar definitions apply to national and state rankings.

Record of Decision - A document separate from, but associated with, an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action.

Recovery Plan - Identifies, justifies, and schedules the research and management action necessary to reverse the decline of a species and ensure its long-term survival.

Recreation Capacity - The number of people who can take advantage of the supply of recreational opportunities at one time without substantially diminishing the quality of the recreational experience or the area's resources.

Recreation Opportunity - Availability of a real choice for a user to participate in a preferred activity within a preferred setting in order to realize desired experiences.

Regeneration - The renewal of a tree crop, whether by natural or artificial means. This term may also refer to the crop itself.

Region - An administrative unit within the National Forest System lands, which includes national grasslands. The United States is divided into nine geographic regions. Each region has a headquarter office and is supervised by a regional forester. Each region contains national forests and sometimes national grasslands or other lands administered by the Forest Service.

Rehabilitation - Actions taken to restore or reclaim site productivity, water quality, or other values.

Renewable Resources - Resources that can be used indefinitely when the use rate does not exceed the ability to renew the supply. However, in the RPA program, the term is used to describe those matters within the scope of the responsibilities and authorities of the Forest Service as required by the Forest And Rangeland Renewable Resources Planning Act of 1974. Consequently, the renewable resources include: timber, range, minerals, wildlife and fish, water, recreation, and Wilderness.

Residual Cover - Standing or lodged herbaceous vegetation left after livestock grazing and killing frost.

Responsible Official - The Forest Service employee who has the delegated authority to make a specific decision.

Rest - To leave an area of rangeland ungrazed by livestock or unharvested by mechanical methods for at least one year (12 consecutive months).

Rest Rotation (Livestock Grazing) - An intensive system of management where grazing is deferred on various parts of the range during succeeding years, allowing the deferred part complete rest for one year. At least two, but usually three or more, separate grazing units are required.

Restoration - Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes. Generally refers to the process of enabling the system to resume its resiliency to disturbances.

Revegetation - The reestablishment and development of plant cover. This may take place naturally through the reproductive processes of the existing flora or artificially through reforestation or reseeding.

Rhizome - A horizontal underground stem, usually sending out roots and above-ground shoots from the nodes.

Riparian - The bands and adjacent areas of water bodies, water courses, seeps, and springs whose waters provide soil moisture in excess of what is locally available. This results in a more moist habitat than that found on the contiguous flood plains and uplands. Refers to land bordering a stream, lake, or tidewater, and generally implies a particular type of habitat physiognomy often characterized by an over story of trees or other large woody plants with a complex under story of other woody and/or herbaceous species.

Riparian Area - Areas of the aquatic and riparian ecosystems with distinctive resource values and characteristics that are geographically delineated (FSM 2526). Ecological units with distinctive vegetation, landform, soil, and water regimes consisting of the aquatic ecosystem and wet-to-moist areas located between aquatic ecosystems and adjacent terrestrial ecosystems. Includes floodplains and wetlands. Riparian ecosystems are distinguished by soil characteristics and distinctive existing or potential vegetation communities that are adapted to soils with consistently high levels of moisture.

Riparian Communities - Repeating, classified, defined and recognizable assemblages of plant or animal communities associated with riparian areas.

Riparian Ecosystem - A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem. It is identified by soil characteristics and by distinctive vegetative communities that require free or unbounded water.

Risk Assessment - Process of gathering data and making assumptions to estimate short- and long-term effects on human health or the environment from particular products or activities.

Risk Index (Fire Management) - A number related to the probability of an ignition.

Road - A general term denoting a way with at least two-wheel tracks for purposes of travel by vehicles greater than 50 inches in width.

Rocky Mountain Region - The Forest Service organizational units consisting of Colorado, Wyoming, part of South Dakota, Nebraska, and Kansas. Also known as Region 2.

Rodenticide - A chemical agent formulated to kill rodents.

Rotation - The planned number of years between the formation or regeneration of a crop or stand and its final cutting at a specified stage of maturity.

Rotation Grazing - A grazing scheme where animals are moved from one grazing unit (paddock) in the same group of grazing units to another without regard to specific graze/rest periods or levels or plant defoliation.

Runoff - The total stream discharge of water, including both surface and subsurface flow, usually expressed in acre-feet of water yield.

Rural Development - A partnership or program designed to enrich the cultural life, enhance the environment, provide employment, and improve living conditions in rural America.

Savanna - A grassland with scattered trees, either as individuals or clumps. Often a transitional type between true grassland and forest.

Scenery - General appearance of a place, a landscape, or features of a landscape.

Scenic Area - A unit of land with outstanding natural beauty that requires special management to preserve this beauty.

Scoping Process - An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action. Identifying the significant environmental issues deserving of study and de-emphasizing insignificant issues, narrows the scope of the environmental impact statement accordingly.

Season-long Grazing (Livestock Grazing) - Allowing livestock to graze a single pasture throughout one growing season.

Secondary Range - Range that is lightly used or unused by livestock under minimal management and will ordinarily not be fully used until the primary range has been overused.

Sediment - Material suspended in water or deposited in streams and lakes.

Sediment Load - The solid material transported by a stream and expressed as the dry weight of all sediment that passes a given point in a given period of time.

Seeps - A spot where water or petroleum flows from the earth, often forming the source of a small stream.

Sensitive Species - Those plant and animal species identified by Regional Foresters for which population viability is a concern, as evidenced by the following:

- Significant current or predicted downward trends in population numbers or density.
- Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Seral (Ecology) - A biotic community that is in a developmental, transitory stage in an ecological succession.

Seral Stages (Ecology) - The sequence of a plant community's successional stages to potential natural vegetation.

Sere - The series of stages that follow one another in an ecologic succession. A series of biotic communities that follow one another in time on any given area of the earth's surface.

Shortgrass - Grasses which normally are only a few inches tall, including blue and hairy grama and buffalograss

Shortgrass prairie - Native grasslands which are dominated by shortgrasses.

Significant Archeological Sites - Sites eligible for inclusion in the National Register of Historic Places as determined by the Forest Service in consultation with the State Historic Preservation Officer.

Silviculture - Generally, the science and art of tree management, based on the study of the life history and general characteristics of forest trees and stands, with particular reference to local factors. More particularly, the theory and practice of controlling the establishment, composition, constitution, and growth of forests for desired conditions.

Site Productivity - Production capability of specific areas of land.

Snag - A standing dead tree or standing portion from which at least the leaves and smaller branches have fallen. Often called a stub if it is less than 20 feet tall.

Social Analysis - An analysis of the social (as distinct from the economic and environmental) effects of a given plan or proposal for action. Social analysis includes identification and evaluation of all pertinent desirable and undesirable consequences to all segments of society.

Soft Snag – A snag composed primarily of wood in advanced stages of decay and deterioration, particularly in the sapwood portions; generally not merchantable.

Soil Compaction - A physical change in soil properties that results in a decrease in porosity and an increase in soil bulk density and strength.

Soil Erosion - The detachment and movement of soil from the land surface by water or wind. Soil erosion and sediment are not the same.

Soil Productivity - The inherent capacity of a soil to support the growth of specified plants, plant communities, or a sequence of plant communities. Soil productivity may be expressed in terms of volume or weight/unit area/year, percent plant cover, or other measures of biomass accumulation.

Soil Profile - A vertical section of the soil from the surface down through all of its layers into the parent material.

Soil Survey - A general term for the systematic examination of soils in the field and in laboratories; their description and classification; the mapping of soil types; the interpretation of soils according to their adaptability for various crops, grasses, and trees; their response to treatment for plant production or for other purposes; and their productivity under different management systems.

Soil Surveys - The systematic examination, description, classification, and mapping of soils in an area.

Special Interest Area - Place with unusual scenic, historic, prehistoric, scientific, natural, or other special attributes which merit special attention and management.

Special Uses - Improvements or activities owned or carried out by private individuals, corporations, or other business entities on National Forest System lands, including national grasslands, under the authorization of a permit.

Special-use Permits - A permit, term permit, lease, or easement that allows occupancy, use, rights, or privileges on National Forest System lands, including national grasslands (36 CFR 261.2).

Species - A group of potentially interbreeding populations that is reproductively isolated from other such groups.

Species at Risk – Federally listed endangered, threatened, candidate, and proposed species and other species for which loss of viability, including reduction in distribution or abundance, is a concern within the planning area. Other species at risk include sensitive species and state listed species.

Species Composition – The proportions of various plant species in relation to the total on a given area. It may be expressed in terms of cover, density, weight, etc.

Species Diversity - A measurement that relates the density of individuals of a species in a habitat to the number of different species present in the habitat. The number of different species in a given habitat.

Species Viability - A species consisting of self-sustaining and interacting populations that are well distributed through the species' range. Self-sustaining populations are those that are sufficiently abundant and have sufficient diversity to display the array of life history strategies and forms to provide for their long-term persistence and adaptability over time.

Stand - A community of trees or other vegetative growth occupying a specific area and sufficiently uniform in species composition, age, spatial arrangement, and conditions as to be distinguishable from the other growth on adjoining lands, so forming a silvicultural or management entity.

Standard - Actions that must be followed or are required limits to activities in order to achieve grassland or forest goals and objectives. Site-specific deviations from standards must be analyzed and documented in management plan amendments.

State Historic Preservation Officer (SHPO) - A person appointed by a state's governor to administer the State Historic Preservation Program.

Stewardship - Caring for land and associated resources and passing healthy ecosystems to future generations.

Stocking Rate (Livestock Management) - The actual number of animals, expressed in either animal units or animal unit months, on a specific area for a specific time.

Stream Health - The condition of a stream, relative to robust health, for that stream type and landscape, considering indicators such as channel pattern, slope, particle size, pool frequency and depth, bank vegetation, and woody debris, which reflect the stability and habitat quality of the stream.

Stream Order - A classification of the relative position of streams in a channel network. Each nonbranching channel segment is designated as a first-order stream. The channel segment below the confluence of the two first-order tributaries. The channel segment below the confluence of two second-order streams is designated a third-order stream, etc.

Stream Type - A class of stream reach having a discrete combination of valley geomorphology and climate, flow regime, stream size, and channel morphology, which differs from other stream types in its ability to support biota and respond to management.

Structural Stages (Silviculture) - Any of several developmental stages of tree stands described in terms of tree age and the extent of canopy closure they create.

Structural Stage 1 (Grass/Forb): Forest openings created by disturbances, such as fire or wind throw. Meadows and prairies are also modeled as grass/forb, although succession will not move beyond this stage.

Structural Stage 2 (Shrubs/Seedlings): Developmental stage dominated by tree seedlings (less than one-inch diameter breast height) and shrub species.

Structural Stage 3 (Sapling/Pole): Developmental stage dominated by young trees up to seven inches diameter breast height, 10 to 50 feet tall, and usually less than 50 years old. This stage is subdivided into three canopy closure classes: 1) less than 40 percent, b) 40 to 70 percent, and c) greater than 70 percent.

Structural Stage 4 (Mature): Consists of trees larger and older than Structural Stage 3. Also classified by the same canopy closure categories as Structural Stage 3.

Structural Stage 5 (Old Growth): This structural stage is characterized by trees 160 years of age and older.

Structure - See Vegetation Structure.

Submarginal Land - Land that is either physically or economically incapable of indefinitely sustaining a certain use.

Subsection (Ecological) - An ecological unit which is characterized by a combination of climate, geomorphic process, topography, and stratigraphy.

Subspecies - A genetically distinct subunit of a species.

Succession - The progress of vegetational development where different plant communities successively occupy an area.

Successional Stages (Seral Stages) - The relatively transitory communities that replace one another during development toward a potential natural community.

Suitable Lands - Lands that are appropriate for the application of certain resource management practices as determined by an analysis of the economic and environmental consequences and the alternative uses foregone.

Suitable Rangeland - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

Sustainability - Continuation of a desired level of productivity, quality, or variability, generally of organisms.

Sustained Yield - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources on National Forest System lands, including national grasslands, without impairment of the productivity of the land.

Swing Pasture - A pasture that is not used by livestock unless climatic conditions, such as drought, fire, or hail affect other pastures and warrant the use of the pasture

Terrestrial - A land-based ecosystem. (See ecosystem). An interacting system of soil, geology, and topography with plant and animal communities.

Thermal Cover (Wildlife) - Cover used by animals to ameliorate the effects of weather. Optimally, thermal cover is provided by a stand of coniferous trees, 30 to 60 acres in size, at least 40 feet tall, with a canopy cover of at least 70 percent.

Thinning - The practice of removing some of the trees in a stand to meet desired conditions. Two types of thinning may be done:

Pre-commercial/Non-commercial: Removing trees that are too small to make a merchantable product

Commercial: Removing trees that have reached sufficient size to be manufactured into a product and to improve tree spacing and promote more rapid growth.

Threatened Species - Any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of Interior as such.

Tiering - Refers to the elimination of repetitive discussions of the same issue by referencing the general discussion in an environmental impact statement of broader scope. For example, a project environmental assessment could be tiered to the Forest Plan EIS.

Timber - A general term applied to tree stands that provide a wood-fiber product.

Timber Base - The lands within a national forest or national grassland suitable for timber production.

Timber Production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use, except fuel wood.

Topography - The configuration of a land surface including its relief, elevation, and the position of its natural and human-made features.

Trail - The general term denoting a way for purposes of travel by foot, stock, or trail vehicle.

Trailhead - The parking, signing, and other facilities available at the terminus of a trail.

Trampling - Treading underfoot. The damage to plants or soil brought about by movements or congestion of animals.

Transportation Corridor - A strip of land that includes up to a maximum of 1,000 feet for major roads (500 feet either side of the road's centerline) or 500 feet for major trails (250 feet either side of the trail's centerline). Transportation corridors form a passageway that allows travelers to experience and interact with the quality and character of the landscape. Also called travel corridor.

Travel Management - Travel management is the movement of people and products to and through national forests and national grasslands. It connects many different varieties of user and multiple uses on National Forest System lands.

Treated Area - An area on which management, like timber harvesting or prescribed burning, occurs.

Trespass - The act of going on another's land or property unlawfully.

Understory (Vegetation) - The lowest layer of vegetation in a forest or shrub community composed of grass, forbs, shrubs and trees less than 10 feet tall. Vegetation growing under the tree canopy.

Undesirable Species - 1) Species that conflict with or do not contribute to the management objectives. 2) Species that are not readily eaten by animals.

Ungulate - A hoofed animal, including ruminants (cattle, but also horses, tapirs, elephants, rhinoceroses, and swine).

Unpalatable Species (Range Management) - Plant species that are not readily eaten by an ungulate animal.

Utilization Levels (Livestock Grazing) - The portion of the current year's forage production by weight consumed or trampled by livestock. Utilization levels are usually expressed as a percentage.

Vegetation Structure - The vertical characteristics of vegetation.

Vegetation Treatment - Any activities undertaken to modify the existing condition of the vegetation.

Vegetative Buffer Zones - Strips of grass or other erosion-resisting vegetation between areas of ground disturbance and areas needing protection from sedimentation.

Vegetative Management - Any activities undertaken to modify the existing condition of the vegetation.

Vertebrate Fossils - The fossilized remains of animals that had a bony skeleton or backbone.

Viable Population - A group of individuals of a particular species that produces enough offspring for long-term persistence and adaptation of the species or population in a given place. For planning purposes, 36 CFR 219.19 defines a viable population as one that has the estimated numbers and distribution of reproductive individuals to ensure that a

continued viable population is well-distributed in the planning area. A planning area is further defined by 36 CFR 219.3 as the "area of the National Forest System covered by a regional guide or forest plan." Direction estimated numbers and distribution of reproductive individuals to ensure the continued existence of the species throughout its existing range (or range required to meet recovery for listed species) within the planning area.

Visual Obstruction Reading – A measurement of the height that herbaceous vegetation obscures 100% a round pole placed vertically in grassland vegetation.

Warm-Season Plant - A plant that makes most or all its growth during the spring, summer, or fall and is usually dormant in winter. A plant that usually exhibits the C4 photosynthetic pathway.

Warm-water Fishery - Stream and lake waters that support fishes with a maximum summer-temperature tolerance of about 80 degrees Fahrenheit. Bluegills, perch, and largemouth bass are examples of warm-water fish.

Water Development - A facility constructed or placed to hold water for livestock use.

Water Rights - Rights given by state and federal governments for the diversion and use of water.

Water Table - The upper surface of the ground water or that level below which the soil is saturated with water.

Watershed - The area of land, bounded by a divide, that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel (Dunne and Leopold, 1978), or to a lake, reservoir, or other body of water. Also called drainage basin or catchment.

Weed - Any plant growing where unwanted and having a negative value.

Wetland Communities - Plant communities that occur on sites with soils typically saturated with or covered with water most of the growing season.

Wetlands - Those areas that are inundated by surface water or groundwater with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mudflats, and natural ponds.

Wilderness - Areas designated by Congressional action under the 1964 Wilderness Act or subsequent acts. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to be affected primarily by the forces of nature, with the imprint of human activity substantially unnoticeable. Wilderness areas have outstanding opportunities for solitude or for a primitive and confined type of recreation. They include at least 5,000 acres or are of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition; they may contain features of scientific, educational, scenic, or historic value, as well as ecologic and geologic interest.

Wildfire - Any wild land fire not designated and managed as a prescribed fire within an approved prescription. An appropriate suppression action will be applied to all wildfires.

Wildland/Urban Interface - This references those lands that are intermingled private and National Forest System lands where one encounters residential developments.

Wildlife - Collectively the no domesticated vertebrate animals, except fishes. The natural community of animals.

Winter Feeding - Providing supplemental feed for livestock on National Forest System lands during the winter.

Winter Range - Rangeland that is grazed during the winter months.

Wooded Draws - A classification of areas, particularly in grassland settings, where an over story of woody vegetation in small drainages creates habitat for many animal species and shade, wind protection, and forage for livestock and wildlife. The vegetation is a result of higher moisture conditions than in the surrounding area, but surface water, if any, running through the area is generally short term.