

Table of Contents

Chapter 1: Purpose and Need	1-1
Introduction	1-1
The Planning Units	1-2
Dakota Prairie Grasslands:	1-3
Cedar and Grand River National Grasslands.....	1-3
Little Missouri National Grassland	1-3
Sheyenne National Grassland.....	1-3
Medicine Bow-Routt National Forest Unit:.....	1-4
Thunder Basin National Grassland	1-4
Nebraska National Forest Units:	1-4
Bessey Ranger District and Samuel R. McKelvie National Forest.....	1-4
Buffalo Gap National Grassland	1-4
Fort Pierre National Grassland	1-5
Pine Ridge Ranger District	1-5
Oglala National Grassland	1-5
Decisions Made with a Management Plan	1-6
Process Used to Identify the Need for Change	1-7
Major Revision Topics	1-7
Community and Lifestyle Relationships	1-8
Livestock Grazing	1-9
Oil and Gas Leasing	1-10
Plant and Animal Damage Control.....	1-11
Rangeland and Forest Health	1-12
Recreation and Travel Management.....	1-13
Special Area Designations	1-14
Other Topics	1-15
Other Topics Raised But Not Adressed	1-16
Chapter 2: Description and Comparison of the Alternatives	2-1
Introduction	2-1
Development of Alternatives	2-1
Important Points Concerning All the Alternatives	2-2
Collaborative Group Results Used in Alternatives	2-3
Dakota Prairie Grasslands	2-3
Grand River Collaborative Group	2-3
Little Missouri Collaborative Group	2-3
Sheyenne Collaborative Group.....	2-4
Nebraska National Forest Units	2-4
Bessey Collaborative Group	2-4
Fall River Collaborative Group.....	2-4

Elements Common to All Action Alternatives	2-4
Description of the Alternatives Considered in Detail	2-5
Alternative 1 - (No Action)	2-5
Alternative 2	2-5
Alternative 3 (Preferred)	2-5
Alternative 3a	2-6
Alternative 4	2-6
Alternative 5	2-6
Forest Service Preferred Alternative	2-6
National Park Service Preferred Alternative	2-6
Bureau of Land Management Preferred Alternative	2-6
Conformance with the Forest and Rangeland	2-6
Alternatives Considered But Eliminated	2-7
Benign Neglect Alternative	2-7
Bison-Restoration/Free-Roaming Bison Alternative	2-7
Conservation Reserve Alternative	2-7
Decisions on Designated Routes	2-8
No Grazing Alternative	2-8
The Major Revision Topics and the Alternatives	2-8
Topic: Community and Lifestyle Relationships	2-8
Topic: Livestock Grazing	2-11
Topic: Oil and Gas Leasing	2-14
Topic: Plant and Animal Damage Control	2-15
Topic: Rangeland and Forest Health	2-17
Topic: Recreation and Travel Management	2-22
Topic: Special Area Designations	2-26
Management Area Allocations by Alternative	2-28
Comparison Tables of Differences in Alternatives	2-39
Dakota Prairie Grasslands	2-39
Nebraska National Forest	2-43
Thunder Basin National Grassland	2-49
Chapter 3: The Affected Environment and Environmental Consequences	3-1
Purpose and Organization of this Chapter	3-1
Resource Protection Measures	3-1
Environmental Consequences	3-2
Relationship Between Programmatic and Site-Specific Effects Analysis	3-3
Budget Levels	3-3
Community and Lifestyle Relationships	3-5
Introduction	3-5
Laws, Policy, and Direction	3-5
Economic Affected Environment	3-7
Introduction	3-7
Economic Dependency	3-7
Economic Diversity	3-13
Federal Payments to Counties	3-15

Conservation Practice Funds	3-18
Economic Effects	3-18
Effects on Income and Employment	3-18
Returns to the U.S. Treasury	3-21
Returns to State	3-23
Payments to County	3-23
Economic and Financial Efficiency.....	3-24
Budget Analysis.....	3-26
Social Affected Environment.....	3-29
Northern Great Plains Human History	3-29
Management Goals of Major User/Interest Segments of the Public.....	3-31
Demographic Changes and Trends	3-33
Social Effects.....	3-39
General Effects.....	3-39
Effects on the Management Goals of Major User/Interest Segments.....	3-40
Cumulative Effects	3-51
Livestock Grazing	3-53
Introduction	3-53
Laws, Policy and Direction.....	3-53
Key Indicators	3-53
Affected Environment.....	3-53
Introduction.....	3-53
Suitable Rangeland Acres	3-54
Capable Rangeland Acres	3-55
Forage Production.....	3-56
Grazing Levels	3-56
Grazing Systems and Season of Use	3-59
Range Developments - Water	3-61
Fences and Pasture Size	3-61
Environmental Consequences.....	3-62
Resource Protection Measures	3-62
Direct and Indirect Effects	3-62
Grazing Levels.....	3-65
Grazing Distribution.....	3-68
Cumulative Effects	3-73
Oil and Gas	3-75
Introduction	3-75
Laws, Policy and Direction.....	3-75
Terms Used in This Section	3-76
Historical Summary	3-76
Oil and Gas Leasing Decisions	3-77
Affected Environment.....	3-77
Dakota Prairie Grasslands Units.....	3-77
Thunder Basin National Grassland	3-80
Nebraska National Forest Units	3-81
Demand Assessment	3-82

Environmental Consequences	3-84
Resource Protection Measures	3-84
Differences in Alternatives Between Previous Analyses and This Analysis	3-84
Difference in Stipulations From Existing Decisions to Revised Direction	3-84
Direct and Indirect Effects	3-85
Plant and Animal Damage Control	3-109
Introduction	3-109
Laws, Policy and Direction	3-109
Key Indicators	3-109
Noxious Weeds and Invasive Plants	3-109
Affected Environment	3-110
Environmental Consequences	3-112
Resource Protection Measures	3-112
Cumulative Effects	3-114
Prairie Dog Damage Control	3-115
Affected Environment	3-115
Environmental Consequences	3-116
Predator Damage Control	3-118
Affected Environment	3-118
Environmental Consequences	3-119
Grasshopper Damage Control	3-120
Affected Environment	3-120
Environmental Consequences	3-120
Rangeland and Forest Health	3-123
I. Introduction	3-123
II. Reader's Guide to this Section	3-123
III. Laws, Policy, and Direction.	3-123
IV. Key Indicators	123
V. Overview of Analysis Area	123
A. Current land cover classes and changes	123
B. Functioning Landscapes	125
C. Aquatic Environment	126
D. Viability.	127
VI. Plants - Affected Environment	128
A. Grasslands	128
B. Shrublands	140
C. Forests	141
D. Rare Plant Community Types.	142
E. Imperiled Plant Species	144
VII. Environmental Consequences - Plants	146
A. Grasslands	146
B. Shrublands	157
C. Forests	158
D. Rare Plant Community Types.	159
E. Imperiled Plant Species.	160
VIII. Affected Environment - Animals	164

A. Imperiled Animal Species	164
B. Management Indicator Species	166
IX. Environmental Consequences - Animals	170
A. Imperiled Animal Species	170
B. Management Indicator Species	172
X. Affected Environment - Soil and Water	177
A. Soils	177
B. Water/Riparian/Wetlands	178
XI. Environmental Consequences - Soil and Water	182
A. Soils	182
B. Water/Riparian/Wetlands	185
XII. Affected Environment - Ecological Processes	186
A. Introduction	186
B. Tallgrass prairie	187
C. Mixed-grass prairie	187
D. Short-grass prairie	187
XIII. Environmental Consequences - Ecological Processes	188
A. Resource Protection Measures	188
B. Direct and Indirect Effects	188
C. Cumulative Effects	191
Recreation and Travel Management	3-193
Introduction	3-193
Laws, Policy and Direction	3-193
Key Indicators	3-193
Recreation Affected Environment	3-193
Developed and Dispersed Recreation Opportunities	3-194
Environmental Consequences	3-206
Travel Management	3-223
Affected Environment	3-223
Environmental Consequences	3-225
Special Area Designations	3-235
Introduction	3-235
Key Indicators	3-235
Research Natural Areas	3-237
Introduction	3-237
Laws, Policy and Direction	3-237
Affected Environment	3-238
Objectives	3-238
Definitions	3-238
Criteria	3-238
Identifiers	3-239
Environmental Consequences	3-240
Roadless Areas	3-251
Introduction	3-251
Laws, Policy and Direction	3-251

Historical Summary	3-251
Affected Environment	3-252
Environmental Consequences	3-255
Direct and Indirect Effects	3-263
Cumulative Effects	3-267
Special Interest Areas	3-269
Introduction	3-269
Laws, Policy and Direction	3-269
Affected Environment	3-269
Environmental Consequences	3-272
Wild and Scenic Rivers	3-279
Introduction	3-279
Laws, Policy, and Direction	3-279
Historical Summary	3-279
Affected Environment	3-280
Environmental Consequences	3-282
Other Topics and Disclosures	3-293
Planning Coordination and Outreach	3-293
Potential Conflicts with Other Agencies' Goals or Objectives	3-293
Resource Commitments	3-294
Unavoidable Adverse Effects	3-294
Hazardous Materials	3-294
Short-term Uses of the Environment in Relation to Long-term Productivity	3-294
Irreversible and Irretrievable Commitments of Resources	3-295
Environmental Justice	3-296
Air	3-298
Introduction	3-298
Laws, Policy and Direction	3-298
Affected Environment	3-299
North Plains Airshed	3-299
South Plains Airshed	3-299
Little Missouri Airshed	3-299
Thunder Basin Airshed	3-300
Wheatland Airshed	3-300
Environmental Consequences	3-300
Resource Protection Measures	3-300
Direct and Indirect Effects	3-301
Cumulative Effects	3-304
Fire and Fuels Management	3-306
Introduction	3-306
Laws, Policy, and Direction	3-306
Affected Environment	3-307
Dakota Prairie Grasslands	3-307
Thunder Basin National Grassland	3-308
Nebraska National Forest Units	3-308
Wildfire Fire Occurrences	3-308

Prescribed Fire Occurrences	3-309
Environmental Consequences	3-309
Resource Protection Measures	3-309
Fossil Resources	3-314
Introduction	3-314
Laws, Policy and Direction	3-314
Affected Environment	3-314
Existing Direction and Conditions	3-314
Environmental Consequences	3-317
Resource Protection Measures	3-317
General Effects	3-317
Heritage Resources	3-322
Introduction	3-322
Laws, Policy and Direction	3-322
Affected Environment	3-323
Historic Native American Tribal Groups	3-323
Environmental Consequences	3-326
Resource Protection Measures	3-326
General Effects	3-326
Minerals Other Than Oil and Gas	3-333
Introduction	3-333
Laws, Policy and Direction	3-333
Affected Environment	3-333
Leasable Minerals	3-334
Locatable Minerals	3-335
Mineral Materials	3-335
Environmental Consequences	3-336
Resource Protection Measures	3-336
Cumulative Effects	3-338
Timber Management	3-339
Introduction	3-339
Laws, Policy and Direction	3-339
Affected Environment	3-339
Tentatively Suitable Forest Land	3-339
Environmental Consequences	3-340
Wildlife	3-344
Introduction	3-344
Laws, Policy and Direction	3-344
Affected Environment	3-344
Big Game	3-344
Small Game	3-346
Migratory Birds	3-346
Furbearers	3-351
Environmental Consequences	3-351
Direct and Indirect Effects	3-351
Cumulative Effects	3-358

Chapter 4: List of Preparers	4-1
Major Contributors	4-1
Other Contributors	4-3
 Chapter 5: Document Recipients	 5-1
Elected Federal Officials	
Elected Federal Officials	5-1
Elected State Officials	5-1
Elected Local Officials	5-2
Tribal Agencies	5-2
Federal Agencies	5-2
State Agencies	5-4
Local Agencies	5-5
Media	5-5
Libraries	5-6
Universities	5-7
Organizations	5-7
Businesses	5-9
Individuals	5-11

Index

Works Cited and Consulted

Appendices-Volume I

Appendix A: Issues, Concerns, and Opportunities

Appendix B: Documentation of Analysis

Appendix C: Roadless Area Evaluation

Appendices-Volume II

Appendix D: Differences Among the Alternatives

Appendix E: Research Natural Areas

Appendix F: Special Interest Areas

Appendix G: Wild and Scenic Rivers

Appendix H: Draft Biological Assessment and Evaluation

Appendix I: Oil and Gas Stipulations

Appendix J: Glossary

Appendix K: Supplemental Tables

Appendix L: Descriptions of Habitat for Management Indicator Species