TABLE OF CONTENTS

CHAPTER 3 MANAGEMENT AREA DIRECTION

INTRODUCTION

A Management Area (MA) is defined as a parcel of land, a point, or a linear path, within the Grasslands, that is managed for a particular emphasis. Management areas may comprise very small points, linear paths, or large or small parcels. Each management area has a prescription that outlines the desired conditions and the standards and guidelines that apply to it (in addition to the Grassland-wide standards and guidelines).

For this revision, linear, point, and small management areas were combined into other management areas, or are handled through discrete standards and guidelines. This includes campgrounds and picnic grounds (developed recreation sites), utility corridors, woody draws, and riparian areas. Management areas devoted to a particular wildlife species were consolidated into "special wildlife areas."

Except for Congressionally established boundaries or special administrative boundaries, management area boundaries are not firm lines and do not always follow topographic features, such as ridges or drainages, or administrative boundaries. The boundaries represent a transition from one set of opportunities and constraints to another with management directions established for each. The boundaries are flexible to assure that the values identified are protected and to incorporate additional information gained from further on-the-ground reconnaissance and project level planning. Boundaries can be adjusted up to ¼ mile (with Grasslands Supervisor approval) to facilitate management.

Prescriptions have been broken into six major categories which range from least evidence of disturbance to most evidence of disturbance: For example, Suitable Wilderness (MA 1.2a) would have the least amount of facilities and Rangeland with Broad Resource Emphasis (MA 6.1) would show the greatest evidence of facilities, including things like roads, oil wells, pipelines, and water developments.

Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Least facilities----------> Most facilities					
More land use restrictions<----------Fewer land use restrictions					

The six categories of management prescriptions are described below:

Prescription Category 1

Category 1 includes Wilderness areas and the various prescriptions used within them, and the backcountry recreation settings. Ecological processes, such as fire, insects, and disease, are essentially allowed to operate relatively free from the influence of humans. Diversity resulting from natural succession and disturbances predominates, and non-native vegetation is rare. Users must be self-reliant and should expect little contact with other people. Few, if any, human-made facilities are present. With rare exceptions, travel is nonmotorized.

Prescription Category 2

Category 2 areas are intended to conserve representative (or particularly rare and narrowly distributed) ecological settings or components. They help protect ecosystems or ecosystem components that may have important functions, ensuring the overall sustainability of larger landscapes. Human influences on ecological processes are limited as much as possible, but are sometimes evident. Types of human use vary but generally are not intensive. Travel is generally nonmotorized. They help play an important role under an adaptive-management philosophy by serving as a "natural" reference for areas that are intensively managed for a particular objective. These areas are formally designated Research Natural Areas (RNAs).

Prescription Category 3

Ecological values in Category 3 areas are in balance with human occupancy, and consideration is given to both. Resource management activities may occur, but natural ecological processes and resulting patterns normally predominate. Although these areas are characterized by predominately natural-appearing landscapes, an array of management tools may be used to restore or maintain relatively natural patterns of ecological process. This results in some evidence of human activities. Users expect to experience some isolation from the sights and sounds of people, in a setting that offers some challenge and risk.

Prescription Category 4

The ecological values in Category 4 areas are managed to be compatible with recreation use, but are maintained well within the levels necessary to maintain overall ecological systems. Resource use for other values is not emphasized and has little impact on ecological structure, function, or composition. Sights and sounds of people are expected and may even be desired. Motorized transportation is common.

Prescription Category 5

Category 5 areas are forested areas managed for a mix of forest products, forage, and wildlife habitat, while protecting scenery and offering recreation opportunities. Ecological sustainability is protected, while selected biological structures and compositions that consider the range of natural variability, are emphasized. These lands often display high levels of investment, use, and activity; density of facilities; and evidence of vegetative treatment. Users expect to see other people and evidence of human activities. Facilities supporting the various resource uses are common. Motorized transportation is common.

Prescription Category 6

Category 6 areas are primarily non-forested ecosystems that are managed to meet a variety of ecological and human needs. Ecological conditions will be maintained while emphasizing selected biological (grasses and other vegetation) structures and compositions which consider the range of natural variability. These lands often display high levels of investment, use, and activity; density of facilities; and evidence of vegetative manipulation. Users expect to see other people and evidence of human activities. Facilities supporting the various resource uses are common. Motorized transportation is common.

1.2A - SUITABLE FOR WILDERNESS

The Forest Service has identified these areas as being suitable for wilderness recommendations to Congress for inclusion in the National Wilderness Preservation System. The Forest Service is not recommending these areas for wilderness at this time because of a lack of current Congressional and Gubernatorial support for wilderness. This delay is intended to allow time for consensus on this issue to develop. Although these areas will not be recommended to Congress for wilderness designation at this time, their wilderness character will be protected. In the event these areas are threatened by future development that would degrade the wilderness character, the Forest Service would then officially recommend them to Congress for wilderness designation. Livestock grazing will be continued, however, management activities, which do not protect wilderness characteristics, will be prohibited or restricted. If consensus is not reached within the life of this plan, a wilderness recommendation will be reconsidered in the next round of plan revision.

Desired Conditions

These areas are managed to protect wilderness characteristics. Vegetation is managed within the range of natural variability. Natural processes, such as fire, insects, disease, rest, and grazing control vegetation composition and structure. Large pasture size and unobtrusive structural developments promote an open, natural-appearing landscape. Generally, opportunities for primitive recreation are provided, with a moderate degree of solitude available.

There is some evidence of past and present human use, such as fences, trails, water developments and primitive roads. Existing two-track roads and old roads are evident but will diminish through lack of use. Some of these may become designated trails. Bridges or other structures may exist to protect resources or provide safe stream crossings during normal water flow.

Use of mechanized equipment for administrative purposes will continue. Opportunities to remove or relocate structural range improvements (fences and water developments), to achieve resource management goals and objectives, will be pursued. Both directional and resource protection signs may be present.

Standards and Guidelines

General

1. Allow uses and activities only if they do not degrade wilderness characteristics. **Standard**

2. Reclaim disturbed lands to a near natural resource condition. **Standard**

3. Limit all motorized use to administrative purposes (e.g., grazing administration, invasive plant control, and fire suppression) and that deemed necessary to provide public trailhead facilities on public land within these areas. **Standard**

4. Control natural insect and disease outbreaks only when they threaten resource values outside of the management area boundary. **Guideline**

5. Do not allow new road construction. **Standard**

Mineral and Energy Resources

1. Honor all valid existing oil and gas leases *(Refer to Preface).* **Standard**

2. Prohibit mineral material removal. **Standard**.

3. Prohibit ground disturbing oil and gas activities following expiration of the current leases. **Standard**

4. These areas are not administratively available for oil and gas leasing. **Standard**

5. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Prohibit use of heavy ground-disturbing equipment for fire suppression unless authorized by the Grasslands Supervisor. **Standard**

2. Minimum Impact Management Actions (MIMA) will be used to control fire within suitable wilderness. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Allow livestock facilities that do not detract from the character of the area. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Prohibit snowmobile use in this management area. **Standard**

2. Allow development of necessary trailhead facilities on public land to provide public parking in these areas. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of High. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Do not permit new utility corridors or additional development within existing corridors. Existing corridors may be maintained until abandoned. **Standard**

2. Prohibit new, permanent, and/or long-term special-use facilities. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Allow construction of facilities and structures that are subordinate to the landscape or in keeping with the semi-primitive/primitive character of the area. **Standard**

2. Utilize natural materials in the construction or reconstruction of livestock facilities. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section Q, and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

1.31 NONMOTORIZED BACKCOUNTRY RECREATION

These areas are managed to provide nonmotorized, semi-primitive recreation opportunities in a natural-appearing landscape. Where they occur, valid existing rights will be honored when development is proposed *(refer to Preface for details on existing rights).*

Desired Conditions

A variety of un-crowded, nonmotorized, recreation opportunities are provided in a natural or natural-appearing setting. There will usually be less than 15 encounters with other parties per day. These areas may offer unique hunting opportunities away from motorized vehicles.

Improvements such as trailheads, trails, signs, bridges, fences, primitive shelters, and water developments, may be present. Existing two-track roads and old roads may be evident but will diminish over time or may become designated trails.

The number of structures and facilities to support management activities is limited. Large pasture size and unobtrusive developments promote an open, natural-appearing landscape.

Vegetation is moving toward the range of desired conditions. Natural processes, such as fire, insects, diseases, rest, and grazing, control vegetative composition and structure.

Standards and Guidelines

General

1. Allow uses and activities only if they do not degrade semi-primitive character of the area. **Standard**

2. Reclaim disturbed lands to a condition suitable for the purposes for which the area was identified. **Standard**

3. Limit all motorized use (including snowmobiles) to administrative, law enforcement, search and rescue, and other emergency purposes. **Standard**

4. Prohibit road construction or reconstruction. **Standard**

Mineral and Energy Resources

1. Prohibit road construction or terrain modification for geophysical seismic projects. **Standard**

2. Allow oil and gas leasing; however, no surface disturbance and/or surface occupancy is permitted. **Standard**

3. Prohibit removal of mineral material. **Standard**

4. Honor all valid existing oil and gas leases *(Refer to Preface).* **Standard**

5. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Prohibit use of heavy ground-disturbing equipment for fire suppression unless authorized by the District Ranger. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section I, and Chapter 2 (Geographic Area Direction) for additional livestock grazing direction

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Allow development of necessary trailhead facilities on public land to provide adequate public parking in these areas. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of High. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Existing utility corridors may be maintained until they are abandoned. New utility corridors or additional development within existing corridors will be permitted only where associated with valid existing rights *(Refer to Preface).* **Standard**

2. Prohibit new special-use facilities except for valid existing rights *(Refer to Preface).* **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Allow construction of facilities and structures that are subordinate to the landscape or in keeping with the semi-primitive/primitive character of the area. **Standard**

2. Utilize natural materials in the construction/reconstruction of facilities. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section Q, and Chapter 2 (Geographic Area Direction) for additional infrastructure direction

2.1 SPECIAL INTEREST AREAS

Special Interest Areas (SIA) are managed to protect sites with important physical, biological, and/or cultural characteristics for the purpose of public use and enjoyment. Where applicable, areas are managed to maintain or enhance plant and wildlife population viability.

Desired Conditions

Vegetation, terrestrial, and aquatic habitats will usually appear natural. Vegetation manipulation may be used to maintain or restore natural conditions; to protect threatened, endangered, and sensitive species; or enhance other values for which the SIA was designated.

Evidence of human activities may be consistent with the characteristics for which each SIA was established. Encounters between individuals or parties depend on the objectives for each SIA. Interpretive services or materials may be provided to enhance visitor's understanding and appreciation of the area's special features.

Standards and Guidelines

General

1. Allow uses and activities that maintain and enhance the characteristics for which the SIA was designated. **Standard**

2. Complete site-specific plans for managing the area prior to promoting public visits to a Special Interest Area or making significant changes to its land management. **Standard**

3. Restore natural ecological processes when needed to maintain or enhance the habitats or features for which the SIA was designated. **Guideline**

4. Reclaim disturbed lands to a condition suitable for the purposes for which the SIA was identified. **Standard**

5. Develop and initiate implementation of management plans for Pretty Butte, Black Butte, and Round Top Butte. **Guideline**

Mineral and Energy Resources

1. No ground-disturbing activities are permitted except in Bullion Creek Type Formation, Cannonball/Slope Contact, and Slope Type Formation. In these three SIA's allow ground-disturbing activities only if they do not degrade the characteristics for which the area was designated *(Refer to Preface).* **Standard**

2. Prohibit removal of mineral material. **Standard**

3. Honor all valid existing rights. **Standard**

4. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock grazing direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Prohibit OHV trail construction. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1, Grassland-wide Direction, Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of High. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Use

1. Existing utility corridors may be maintained until they are abandoned. New utility corridors or additional development within existing corridors will be permitted only where associated with valid existing rights *(Refer to Preface).* **Standard**

2. Prohibit new special-use facilities except for valid existing rights *(Refer to Preface).* **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Refer to Chapter 1 (Grassland-wide Direction), Section Q, and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

SIA Descriptions and Additional Direction

Number	SIA Name	Additional Direction	
		Standards	**Guidelines**
2.1a	Aspen Stand		Manage area to meet Scenic Integrity Objective of Moderate(see Appendix G)
2.1b	The Bog	Prohibit motorized use. Livestock grazing is not permitted.	
2.1c	Grand River Sand Dunes	Livestock grazing is not permitted.	
2.1d	White Butte	Livestock grazing is not permitted.	
2.1g	Black Cottonwood	Livestock grazing is not permitted.	
2.1h	Bullion Creek Type Formation	Only allow ground-disturbing activities if geologists determine that there is no potential to damage or destroy the type section.	
2.1i	Cannonball/Slope Contact	Only allow ground-disturbing activities if geologists determine that there is no potential to damage or destroy the type section.	Manage area to meet Scenic Integrity Objective of Moderate (see Appendix G)
2.1j	Burning Coal Vein/Columnar Junipers	Livestock grazing is not permitted.	
2.1n	Riparian Pools		Manage area to meet Scenic Integrity Objective of Low (see Appendix G)
2.1p	Slope Type Formation	Only allow ground-disturbing activities if geologists determine that there is no potential to damage or destroy the type section.	

Grand River/Cedar River National Grasslands

2.1a - Aspen Stand SIA: This site in Sections 27, 28 T22N R13E lies within the Humphrey Draw Wildlife Area and is the only aspen stand known to occur on the Grand River/Cedar River National Grasslands. The stand is located near the head of a green ash wooded draw and, while small; the aspen stand is healthy and is reproducing. The largest trees are between eight and ten inches in diameter at breast height. Management emphasis is on protecting the unique botanical community.

2.1b - The Bog SIA: This site in the NE¼of NW¼ of Section 15 T18N R18E consisting of several bog-like patches within a grassland matrix. Plants from the *Carex* genus dominate the patches. Dry ground is peppered across wet, mucky areas, providing a patchwork of vegetation. The mucky areas feature bentonite-like suspended clays that have a paste-like texture. Livestock have fallen in and have disappeared; the depth of the bog has not been determined. This area could be a danger to people walking in the area.

2.1c - Grand River Sand Dunes SIA: Two areas make up this 100-acre potential SIA in Section 15 T 19N R15E and Section 7 T19N R14E. The sites contain unique geological and ecological features called sandy blowout areas. The west blowout is the larger of the two and supports a prairie sandreed/Indian ricegrass community. Smooth goosefoot, a Forest Service sensitive plant species, was discovered here in 1999. Several other uncommon plant species occur associated with the actively moving sand dunes. Management emphasis is on protecting the unique botanical community and the ecological processes associated with an active sand dune.

2.1d - White Butte SIA: This site is located in sections 21 and 28 T22N R13E is of archaeological interest and is of potential significance to the Lakota tribes. Several Forest Service sensitive plant species are suspected to occur on the butte escarpment.. Geologic interest is high in the area given its landform and the petrified rock found in the area. White Butte is the highest point in the area and provides excellent vista views of the surrounding plains. Management emphasis is on geologic interpretation and education and scenic viewing.

Little Missouri National Grassland (Medora Ranger District)

2.1e - Battle of the Badlands SIA: This site is located in sections 28, 29, 32, 33 T140N R103W and sections 3 and 4 T139N R103W has high value for its archeological, resources. The SIA includes a portion of General Sully's 1864 Battle of Badlands with the Sioux Indians, portions of the 1864 and 1876 military trails, and the 1876 Snow Camp of the Custer Expedition to the Little Bighorn Battle. It is contiguous with the Square Buttes SIA. Management emphasis is on education, interpretation, research, and protection of the natural and historic landscape and heritage sites.

2.1f - Black Butte SIA: This site is located in the N½ of section 24, N½ of section 25 T134N R102W, W½NE¼ section 19 T134N R101W may be one of the Earth-naming Buttes of the Hidatsa. Several Forest Service sensitive plant species and State of North Dakota rare plant species are found on the butte escarpment including blue lips, paper birch, mountain brome, squaw currant and Douglas knotweed. The area contains several nesting sites for raptors, and the top of the butte offers a very scenic view of the badlands, rolling prairie and adjacent buttes. Management emphasis is on protecting the unique botanical community, wildlife and heritage resources, and the traditional landscape.

2.1g - Black Cottonwood SIA: This site is located in Section 12 and 13 T138N R102W contains the only known population of black cottonwood on the Little Missouri National Grassland. The site contains other uncommon plant species, including several listed as rare by the State of North Dakota. Several archeological sites are also found in the area. Management emphasis is on protecting the unique botanical community as well as the ecological functioning of the springs and seeps on Moody Plateau.

2.1h - Bullion Creek Type Formation SIA: This 560-acre site is located in SW¼ 27, SE¼ 28, NE¼ 33, S½NW¼ 34 T137N R103W is the type section of the Bullion Creek Geologic Formation Type. As a type section, this site would be the standard of this formation for geological research and analysis. This formation contains large numbers of fossils of considerable value to science. Management emphasis is on geologic research, interpretation and education.

2.1i - Burning Coal Vein/Columnar Junipers SIA: This site is located in Section 13 T136N R102W and contains a large coal vein that at one time smoldered underground for many years and is only recently becoming dormant. It is considered a significant geologic feature for the Grasslands.. The junipers in the area have grown in an atypical "columnar" shape, that may be attributable to gaseous vapors escaping from the earth when the burning coal vein was active. Several other plant species uncommon in North Dakota are found in the area. Apopulation of *Belfragi's chlorochroan* bug occurs at this site. This bug is a U.S. Fish and Wildlife Service candidate for the federal Threatened and Endangered Species list. This site also contains fossilized leaves and shells. Management emphasis is on geologic interpretation and education and protection for the botanical, wildlife, and paleontological resources.

2.1j - Cannonball/Slope Contact SIA: This site is located in section 14 T135N R105W contains geologic outcropping features from the Paleocene-era Fort Union Group. The site uniquely illustrates the westernmost extension of marine Paleocene seas. The Cannonball formation at this site extends as tongues within the surrounding Slope formation. This is the only known location in the Williston Basin where this relationship occurs. Management emphasis is on geologic interpretation and education.

2.1k - Custer Trail/Davis Creek SIA: This site is located in Sections 27, 28, 33,34,35 T139N R101W and Sections 1, 2, 3 T138N R101W and recognizes the historic significance of General Alfred Terry and Lt. Colonel George Custer's 1876 expedition across the badlands to the Battle of the Little Bighorn. It includes segments of trail ruts, the May 28, 1876, campsite, and Initial Rock, which is inscribed with the names of two Seventh Calvary soldiers. The site also contains golden eagle nest sites, pronghorn antelope winter range, and the only known population of sand lily on the Little Missouri National Grassland. Management emphasis is on education, interpretation, research, and the protection of the wildlife and botanical resources, heritage sites, historic landscape and historic setting.

2.1l - Ice Caves SIA: This site is located in the SW¼, SW¼SE¼ Section 6 T144N R100W, SE¼SE¼ Section 1 T144N R101W and is one of only two known natural caves in North Dakota. Rare plants and uncommon plant communities are found in the jumble of rocks and associated geologic strata, Large blocks of sandstone cap rock have broken loose from the ridge and have tumbled down the steep slope to create this unusual geological site. Settlers historically used this siteto store perishable foods. Prairie falcon and golden eagle nests have been found below the sandstone cliffs.. The ice cave and associated scenic area make this a popular day-trip destination for visitors. Management emphasis is on education and interpretationand protection for the botanical, wildlife, and geologic resources.

2.1m - Pretty Butte SIA: This site is located in the W½ section 26 T134N R106W features Forest Service sensitive plant species and North Dakotarare plant species. The top of the butte provides scenic vista points to view the surrounding badlands and rolling plains. The SIA also features numerous prehistoric sites. This butte may be one of the Baby Hills or Baby Buttes known from legend and held sacred by the Hidatsa, Mandan, and Sioux tribes. Management emphasis is on education, interpretation, research, and protection of the botanical, wildlife and heirtage resources.

2.1n – Talkington Riparian Pools SIA: This site is located in section 11 T140N R100W and features a high-quality meandering upland riparian zone with wetland communities of high botanical diversity. Numerous waterfowl nesting sites are found in early summer along the intermittent creek. The Baird's sparrow, listed as a Forest Service sensitive species, is known from adjacent upland habitat.. Several prehistoric sites have been located along the creek in this area. Management emphasis is on protecting the unique botanical community.

2.1o - Roundtop Butte SIA: This site is located in W½ NW¼NW¼ section 19 T134N R102W and features a crumbling sandstone formation that provides habitat conditions for several uncommon plant species including listed Forest Service sensitive plants and North Dakota rare plant species. Management emphasis is on protecting the unique botanical community.

2.1p - Slope Type Formation SIA: This site is located in Sections 10 and 15 T135N R105W and is the type section for the Slope Geologic Formation. As a type section, this site defines this formation for geologic research and analysis.. Management emphasis is on protection of the geologic formation in this area and geologic research.

2.1q - Square Buttes SIA: This SIA in is located in Sections 4, 8, 9, 10 and 15 T139N R103W and is dominated by the large Square Butte excarpment that rises up from the surrounding rolling grasslands. On the butte escarpment are found numerous uncommon plant species and rare plant communities. Mammalian paleontological remains are found on the escarpment as well. This SIA contains the 1864 Sully expedition "waterhole" campsite. It is also the site of a major battle from the early stages of the Battle of the Badlands. Trail ruts from this expedition and the later Custer 1876 military expedition are found along the base of the butte within this area. Numerous raptor nests occur on the steep cliff faces of the butte. Uncommon geologic strata are found in conjunction with the butte caprock. This SIA is contiguous with the Battle of the Badlands SIA. Management emphasis is on protection of the botanical, widlfie, and paleontological resources and preservation of the historic landscape.

2.2 RESEARCH NATURAL AREAS

Research Natural Areas (RNA) form a network of ecological reserves designated for non-manipulative research, education, and maintenance of plant biodiversity. Proposed RNAs are managed as if they were officially designated RNAs until the regional forester makes a final decision.

Within RNAs human influences on ecological processes are limited as much as possible, but are sometimes evident. Types of human use vary, but generally are not intensive. RNAs play an important role under an adaptive-management philosophy by serving as a "natural" reference for areas that are intensively managed for a particular objective.

Desired Conditions

Maintain natural (relatively pristine/pre-European settlement) conditions by maintaining or restoring natural ecological processes. Vegetation, habitat, soil productivity, water quality, and ecological processes are in a natural condition (within the range of natural variability). Vegetation manipulation may be used to maintain the ecosystem or unique features for which the Research Natural Area was established or to reestablish natural ecological processes, such as fire and herbivory.

Standards and Guidelines

General

1. Until formal establishment, manage candidate and proposed RNAs to maintain and enhance the pristine character and ecological values for which the areas have been identified. **Standard**

2. Reclaim disturbed lands to a condition suitable for the purposes for which the RNA was identified. **Standard**

3. Limit all motorized use (including snowmobiles) to administrative, law enforcement, search and rescue, and other emergency -and scientific purposes. **Standard**

4. Close or obliterate existing roads, except where they provide necessary access for administrative or scientific purposes or valid private access, as funding allows. **Guideline**

5. Allow uses that maintain or improve the ecological characteristics for which the RNA was designated. *(Refer to Chapter 2, Badlands Geographic Area, Vegetation for additional management direction).* **Standard**

6. Require a permit for collection of all products. **Standard**

Mineral and Energy Resources

1. When withdrawal is necessary to protect the values, for which the area was designated, request withdrawal from mineral entry in conformance with Section 204 of the Federal Land Policy and Management Act of 1976 (PL 94-576). **Standard**

2. Allow oil and gas leasing; however, prohibit ground-disturbing oil and gas activities. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Do not increase animal unit months (AUMs) or developments unless determined necessary in the Research Natural Area management plan. Grazing suitability and desired vegetative conditions will be determined by the Research Natural Area management plan. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Restrict recreational use if it hinders achievement of the desired condition for the Research Natural Area. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of High. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms..

Special Uses

1. Existing utility corridors may be maintained until they are abandoned. New utility corridors or additional development within existing corridors will be permitted only where associated with valid existing rights *(Refer to Preface)*. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction

Infrastructure

1. Prohibit the construction of new roads except when necessary to correct resource damage occurring from existing roads. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

Research Natural Area Descriptions

Little Missouri National Grassland (McKenzie Ranger District)

Bear Den/Bur Oak RNA (Proposed): The Bear Den/Bur Oak area is located in Sections 21, 22, 23, 24, 25, 26 and 27 T149N R96W located approximately 27 miles north of Killdeer, North Dakota. Bear Den/Bur Oak lies within the Missouri Plateau physiographic region, which includes badlands and unglaciated areas. Two major landform features characterize the area: an intermittent creek and its tributary ephemeral drainages that drain the steep badlands terrain, and rugged badlands. Elevation ranges between 2,000 and 2,535 feet above sea level.

Bear Den/Bur Oak contains representative bur oak habitat intermixed with salt desert shrub and mixed-grass prairie. The area provides excellent representation of the bur oak/chokecherry habitat type. The bur oak communities generally exhibit high-quality condition. Some of the most dense and extensive bur oak communities on the Little Missouri National Grassland are found in Bear Den/Bur Oak. Other vegetation includes paper birch (uncommon in the Little Missouri Badlands), aspen, Rocky Mountain juniper, green ash, silver sage and western wheatgrass. Elk and bighorn sheep utilize the area, as do raptors andamphibians, such as the Northern leopard frog.

Cottonwood Creek Badlands RNA (Proposed): The Cottonwood Creek Badlands is located in sections 7, 18, 19 and 30 T146N R99W and sections 1, 5, 8, 9, 14, 23 and 24 T146N R100W approximately 22 miles south and eight miles west of Watford City, North Dakota. The area consists of a rugged and deeply dissected landscape formed within an actively eroding drainage, Cottonwood Creek, which empties into the Little Missouri River. The Cottonwood Creek Badlands lie within the Missouri Plateau section of the Great Plains Province, and is just south of the limit of glaciation. Elevation ranges between 2,020 to 2,520 feet above sea level.

This area contains one of the largest contiguous areas of high-quality habitats on the Little Missouri National Grassland. This area captures at least 11 plant communities, providing a mosaic of shrub lands, woodlands and grasslands intermingled across a rugged badlands terrain. Habitat types include: green ash/chokecherry woody draw, shadscale saltbrush/big sagebrush badlands, big sagebrush/western wheatgrass, aspen woody draw, plains cottonwood riparian woodland, Rocky Mountain juniper/little ricegrass woodland and silver sagebrush/western wheatgrass riparian. Bighorn sheep and the tawny crescent butterfly, two sensitive species, likely utilize the area.

No oil and gas facilities are found within the boundary of the area, although a good deal of oil and gas activity has occurred historically around the area. Livestock grazing occurs. The Cottonwood Creek Badlands have important recreational value. The Maah-Daah-Hey Trail swings through a portion of the area, but does not permit motorized traffic. Hiking, hunting and horseback riding occurs in the area

Little Missouri National Grassland (Medora Ranger District)

Limber Pines RNA (Existing): The 681-acre Limber Pines area is located about 12 miles north of Marmarth, in Slope County, North Dakota. The Limber Pines area contains the only population of Limber pines to occur in North Dakota. This pine community is disjunct from the natural distribution range for this species. Consequently, the population and site have been of interest to researchers for studies involving genetics, historical evolution, and physiological adaptation of the species. The pines area is located within the Missouri Plateau physiographic

region characterized by badlands and unglaciated uplands. Elevation ranges from 2,620 feet to 2,940 feet, which is considerably lower than the 5,000 to 9,000 foot elevation zone usually preferred by Limber pine within its range of the western U.S.

The Limber pine community occurs in conjunction with the needlegrass/wheatgrass and salt desert shrub habitat types more commonly found in the Little Missouri National Grasslands. The pines were first identified as a unique community in 1949 and have been a continualsource of considerable research interest. This RNA was proposed in 1986 and established in 1991. The RNA contains several Forest Service sensitive plant and animal species as well as numerous state rare plant and animal species. In addition, the area receives considerable use by wildlife, such as deer, eagles, , snakes, Clark's nutcracker, and rodents. Culturally, many pre-historic sites are documented in the area.

Although oil and gas development occurs on the adjacent grasslands, no oil and gas activities occur in or immediately adjacent to the Limber Pines area. Livestock grazing occurs within the RNA at low to moderate utilization levels. Although there is high interest from the public in the Limber pines, recreational use is affected by the remotenessof the area. Local schools conduct educational trips to the site for school children. Hiking and hunting occur in the area.

Little Missouri River RNA (Proposed): The Little Missouri River area is located in sections 13, 14, 23, 24, 25and 26 T137N R102W approximately 20 miles south of Medora, North Dakota. Unique landforms created by the meandering Little Missouri River as found in the area include: alluvial floodplains, river terraces, steep river bluffs and riverside badlands. Theriver's hydrologic processes are visible and include side cutting, depositional and erosion. Elevation ranges from 2,387 to 2,400 feet above sea level.

This area provides an excellent representation of the Little Missouri River corridor. The health of vegetative communities is rated between good and excellent. High-quality vegetative types include plains cottonwood/Rocky Mountain juniper, green ash/snowberry, green ash/chokecherry, and silver sagebrush/western wheatgrass. The healthy gallery cottonwood bottoms are significant; especially since cottonwood bottoms seem to be trending downward elsewhere across the Northern Great Plains. A number of wildlife species associated with cottonwood bottoms are found in the area, including the black-billed cuckoo and the gray catbird. Neotropical migrant passerines are also abundant.

Oil and gas exploration has occurred in the area. Some private leases exist. Livestock grazing is allowed. The Little Missouri River corridor is locally a popular hunting area. Some camping and hiking occurs.

Mike's Creek RNA (Proposed): The Mike's Creek area is located in sections 3,4,5,6,9 and 10 T142N R101W and sections 31,32,33and 34 T143N R101W approximately 35 miles northwest of Belfield, North Dakota. It lies within the Missouri Plateau physiographic region and includes badlands and unglaciated areas. Generally, two major landform features characterize Mike's Creek, an intermittent creek with ephemeral drainages, and steep badlands spine landforms. Elevation ranges between 2,200 to 2,700 feet above sea level.

Landforms in Mike's Creek contribute to a mosaic of habitats, including some of the most dense and extensive Rocky Mountain juniper woodlands on the Little Missouri National Grassland. These juniper woodlands occur on north-facing slopes created by rugged badlands. Other vegetation includes big sagebrush, shadscale saltbrush, greasewood, silver sage and western wheatgrass. Ecologically, vegetative health in Mike's Creek is considered good to excellent.

Historical use of the area has been low, due to its remote and rugged characteristics. Livestock grazing occurs, but is generally light. Oil development is limited and is currently declining in the area due to past development and extraction. Recreational use is limited, but does including hunting and hiking.

Ponderosa Pines RNA (Proposed): The Ponderosa Pines is located in Sections 10, 15, 22, 27, 28, 29, 33 and 34 T136N R102W approximately 30 miles south of Medora, North Dakota. The Ponderosa Pines site lies within the Missouri Plateau physiographic region, including badlands and unglaciated areas. The area is generally characterized by gently rolling uplands interrupted by scattered buttes, knolls and ridges capped by resistant rocks. Dendritic drainage patterns are well developed. Elevation ranges between 2,471 to 2,620 feet.

Ponderosa Pines provides excellent representations of ponderosa pine and western wheatgrass/green needlegrass habitat types in good condition. Upland rolling grasslands have a strong buffaloberry component. The ponderosa pine stands of the area are the most northeasterly colonies of native ponderosa pine in North America. The bluebunch/wheatgrass community found in this area is on the edge of the easternmost extent of this species in the United States. Several sensitive species are found in the area.

This unique occurrence of ponderosa pine inspired the creation of the only national forest ever conceived in North Dakota, the Dakota National Forest (1908-1917). Prior to its establishment, the stands on this now-decommissioned national forest were harvested. No appreciable volume of timber has been harvested since. Livestock are currently grazed in the area. Hunting is popular, especially for wild turkey. A privately owned ranch provides nearby lodging along with outfitting and guiding services into the area. Any future oil and gas leasing will carry no-surface-occupancy stipulations.

Two Top/Big Top RNA (Existing): The 39-acre Two Top/Big Top buttes are located about 37 miles north of Belfield, in Billings County, North Dakota. Also called the “Twin Buttes”, these flat-topped buttes lie within the Missouri Plateau physiographic region of the Great Plains Province, which includes badlands and unglaciated uplands. The RNA consists of two steep-sided buttes rising almost 400 feet above the surrounding landscape and is covered with mixed grass prairie vegetation typical for the Little Missouri National Grassland. The steep side slopes of these badland buttes have restricted access over the years and have protected the natural features of the butte tops and sides. Livestock grazing has not affected the native vegetation, and fire disturbances have occurred sporadically.

Unique because of the lack of disturbance processes on the butte tops, the area is noted for its wheatgrass/needlegrass and little bluestem/juniper vegetation, high abundance of butterflies and skippers, rodent activity, snakes, and grassland communities trending towards a high seral stage. In addition, the butte sides contain undisturbed communities of big sagebrush, longleaf sagebrush, rabbitbrush, and shadscale saltbush.

Established in 1972, Two Top/Big Top was the first natural area proposed and established on the Little Missouri National Grassland. In addition, the area has been registered in the national Registry of Natural Landmarks, administered by the National Park Service. Research interest in the area has been steady, beginning with a study published in 1958 in the Ecology Journal by Quinnild and Cosby entitled “Relicts of climax vegetation on two mesas in western North Dakota”. Researchers, naturalists, and an occasional hiker are the primary users of the area. No oil and gas exploration or livestock grazing occurs on the buttes.

Sheyenne National Grassland

Fritillary Prairie RNA (Proposed): The Fritillary Prairie is located in N1/2of SW1/4 and NW1/4 South of FDR 1227C in section 35 T135N R54W approximately 11 miles east and two miles north of Lisbon, North Dakota. The Fritillary Prairie is found on the Sheyenne Delta, an area of fine sand and silt deposited at the mouth of the Sheyenne River where it flowed into the ancient glacial Lake Agassiz late in the Wisconsin glaciation. Some areas are nearly level, while other areas display low dunes and shallow blowouts, providing a hummocky appearance to the landscape. The Sheyenne River drains the area. Elevation ranges between 1,060 and 1,070 feet above sea level.

Fritillary Prairie contains very good to excellent examples of the tall grass prairie types. These types include sedge meadow wetlands, wet-mesic prairie types with tall, warm-season grasses, and dry-mesic types with a variety of mid- to tall, warm- and cool-season grasses. Nationally, up to 98 percent of the tall grass prairie has given way to agricultural or other land conversions. In North Dakota, up to 49 percent of wetlands have been converted to other uses. Rare species found in the area include: the western prairie-fringed orchid, regal fritillary and Dakota skipper butterflies, silky aster and greater prairie chicken. Overall, the area remains in very good ecological condition, although encroachment by Kentucky bluegrass and leafy spurge is a concern. Approximately 63 acres of this proposed RNA was cultivated and some cottonwood trees planted prior to the creation of the Sheyenne National Grasslands.

Activities occurring in this area include livestock grazing, haying, and limited recreation, mostly in the form of hiking. Two-track trails are found in the area.

Oak Hills RNA (Proposed): The Oak Hills area is located in section 9 T135N R52W approximately 23 miles east and six miles north of Lisbon, North Dakota. Oak Hills is found on the Sheyenne Delta, an area of fine sand and silt deposited at the mouth of the Sheyenne River where it flowed into the ancient glacial Lake Agassiz late in the Wisconsin glaciation. This delta is characterized by rough and choppy dune topography with relief ranging from five to fifty feet, although variation is usually ten to twenty feet. The Sheyenne River drains this area. Elevation ranges between 1,040 to 1,105 feet above sea level.

Vegetation is strongly influenced by the sandy substrate and variability in soil moisture. Vegetation includes a complex of grassland openings intermixed with bur oak woodland and sand savanna, along with scattered thickets of smooth sumac, plum and chokecherry. Common grasses include needle-and-thread, prairie sand reed, blue grama, sand bluestem, sideoats grama and sand dropseed. The oak savanna is considered critically endangered, estimated to have declined 98 percent over its historic occurrence in the Midwest. Oak Hills is vegetatively one of the best remaining sites within the Choppy Sandhills on the Sheyenne National Grassland. Leafy spurge, an exotic noxious weed, may pose serious management concerns without effective treatment. Approximately 83 acres of the proposed site was cultivated prior to the establishment of the Sheyenne National Grasslands.

Platanthera Prairie RNA (Proposed): The Platanthera Prairie is located in section 35 and 36 T135N R53W and section 1 T134N R53W approximately 18 miles east of Lisbon, North Dakota. The site is found within the Hummocky Sandhills habitat association of the Sheyenne Delta, a geologic landform with vegetation strongly influenced by a sandy substrate and a high water table. The water table is generally about 10 feet below the surface. The site is characterized by rolling and undulating hummocks with variation in relief from five to ten feet. Elevation ranges between 1,065 to 1,070 feet above sea level.

The site is in good ecological condition. The wetland swales and depressions are in excellent condition, with no evidence of draining or filling. The primary vegetation types include: sandhills mixed-grass prairie, wet-mesic tall grass prairie and sedge meadow wetlands. Two undesirable species, Kentucky bluegrass and leafy spurge, are found in the area. A significant and thriving population of the threatened western prairie-fringed orchid occurs on the site. Platanthera Prairie also is home to the greater prairie chicken and the regal fritillary butterfly. Approximately 21 acres of this proposed RNA was cultivated prior to the creation of the Sheyenne National Grasslands.

Sheyenne Springs RNA (Existing): The 57-acre Sheyenne Springs RNA is located about 16 miles west and 8 miles north of Lisbon, North Dakota. Consisting of a peatland stream complex interrupted by beaver dams and surrounded by woodlands, this RNA lies in a small valley above the Sheyenne River. Sheyenne Springs lies in the physiographic setting of the Sheyenne Sandhills, part of the enormous deltaic plain created by glacial meltwater carried by the Sheyenne River into ancient glacial Lake Agassiz. This glacial deposit is the largest on the continent and is characterized by multiple layers of sand deposited as the glacial lake advanced and retreated. In the RNA, elevations range from 984 feet at the stream on the lower end of the site to 1,099 feet at the highest sandhill.

The spring-fed wetland complex has been protected from livestock grazing since 1974 and is noted for its abundant wildlife and rare species. The wetland complex is characterized by a number of undisturbed, highly restricted, specialized aquatic habitats and their characteristic flora and fauna, including fens. Sheyenne Springs hosts a high number of state rare plant species that are considered relicts with a boreal affinity more closely resembling the paleoflora immediately after the lowering of glacial Lake Agassiz. Beaver are very active in the RNA and significantly shape the ecosystem with ponds and dams.

No trails exist within the RNA. The area has received high interest from naturalists and researchers, including those interested in birds, butterflies, and plants.

2.4 IDENTIFIED AMERICAN INDIAN TRADITIONAL USE AREAS

Identified American Indian traditional use areas are managed to protect sites associated with the traditional beliefs of federally recognized American Indian tribes concerning their origins, spiritual beliefs, and cultural history. They are important for maintaining the tribal and cultural identity of the Native American Indian community.

Desired Conditions

Areas are managed to protect the traditional cultural landscape, including the scenic, cultural, botanical, and wildlife characteristics, and maintain or restore the natural ecological processes. Cultural resources are protected.

Standards and Guidelines

General

1. Resolve conflicts that cannot be mitigated in favor of preserving the traditional use area. **Standard**

2. Restore disturbed lands to protect cultural resources. **Standard**

3. Consult with traditional religious practitioners annually to review timing before approving projects. **Standard**

Mineral and Energy Resources

1. Discourage geophysical operations from May 15 to October 15. **Guideline**

2. This area is not administratively available for oil and gas leasing. When current leases expire or terminate, do not issue new leases. **Standard**

3. For areas currently leased, negotiate, where possible, the following changes in standards:

- Prohibit oil and gas well drilling from May 15 to October 15.
- Limit noise from producing oil and gas wells to 80 decibels at 220 yards. **Standard**

4. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire Management

1. Allow prescribed fire for the enhancement of traditional cultural landscapes. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Do not construct developed recreation sites or trails. **Standard**

2. Allow, but do not encourage, dispersed recreation, with seasonal restrictions as needed to protect other values. **Guideline**

3. Snowmobile use is prohibited in the management area. **Standard**

4. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of High. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Existing utility corridors may be maintained until they are abandoned. New utility corridors or additional development within existing corridors will be permitted only where associated with valid existing rights *(Refer to Preface).* **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Prohibit electronic towers. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.51 BIGHORN SHEEP HABITAT

These areas are managed to provide quality forage, cover, escape terrain, and solitude for bighorn sheep.

Desired Conditions

Bighorn sheep habitat is robust and provides 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. To achieve population objectives, the integrity of lambing, breeding and other important habitat features (e.g. escape cover) in occupied and unoccupied habitat will be protected.

Coordinate with other federal and state agencies and private landowners to manage habitat and monitor herd size of existing bands of bighorn sheep. In conjunction with North Dakota Department of Game and Fish, consider augmenting existing populations with additional sheep introductions.

Standards and Guidelines

General

1. Resolve conflicts in favor of maintaining bighorn sheep habitat. **Standard**

2. Implement habitat enhancement projects that improve sheep foraging habitat and provide connectivity of foraging areas with escape terrain. **Guideline**

Minerals and Energy Resources

1. Allow new oil and gas leasing; however, no ground-disturbing activities are permitted. **Standard**

2. Honor all valid existing oil and gas leases *(Refer to Preface).* **Standard**

3. As funding allows, identify and implement surface and minerals estate land exchanges that contribute to bighorn sheep management objectives. **Guideline**

4. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Do not convert existing livestock allotments to domestic sheep allotments in or adjoining this management area**. Standard**

2. Limit livestock forage allocation based on bighorn sheep needs. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock grazing direction.

Invasive Species

1. Domestic sheep may be permitted as part of an integrated pest management (IPM) control program if they do not conflict with bighorn sheep management objectives. The North Dakota Game and Fish Department will be consulted if such a program is considered. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Snowmobile use is prohibited in the management area. **Standard**

2. Restrict travel to protect sheep concentrations during lambing, breeding, and winter use. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to encompass the spectrum of Scenic Integrity Objectives. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Allow construction of new utility corridors only if they do not degrade the characteristics for which the area was designated. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction

Infrastructure

1. Prohibit construction of new travel routes across bighorn sheep habitat, however, honor valid existing rights such as oil and gas leases. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.51A BIGHORN SHEEP HABITAT WITH NON-FEDERAL MINERAL OWNERSHIP

The following bighorn sheep habitat areas have non-federal mineral ownership within them: Icebox Canyon, Buckhorn Creek, Hank's Gully, Dry Creek, and Wannagan. These areas are managed to provide quality forage, cover, escape terrain, and solitude for bighorn sheep while accounting for the possible development of the non-federal mineral ownership (see Preface for an explanation of existing mineral rights). These areas would also possibly allow petroleum resource development on federal minerals once non-federal production has been established.

Desired Conditions

Bighorn sheep habitat provides 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. To achieve population objectives, the integrity of lambing, breeding and other important habitat features (e.g. escape terrain) in occupied and unoccupied habitat will be protected.

Coordinate with other federal and state agencies and private landowners to manage habitat and monitor herd size of existing bands of bighorn sheep. In conjunction with North Dakota Department of Game and Fish, consider augmenting existing populations with additional sheep introductions.

Minerals operations, if established, occur in a manner that minimizes effects on bighorn sheep and their habitat.

Standards and Guidelines

General

1. Resolve conflicts in favor of maintaining bighorn sheep habitat. **Standard**

2. Implement habitat enhancement projects that improve sheep foraging habitat and provide connectivity of foraging areas with escape terrain. **Guideline**

Minerals and Energy Resources

1. Leasing of federal minerals parcels will not occur until there is development of a well on an adjacent spacing unit or an access road is built across the management area to access existing rights. Once development on an adjacent spacing unit or adjacent non-federal mineral estate occurs, the adjacent federal minerals may be leased using Controlled Surface Use stipulations if no additional significant adverse impact to bighorn sheep would occur. If the adjacent federal minerals parcel is leased, subsequent surface operations may be modified or moved to minimize the additional impacts on bighorn sheep habitat. **Standard**

2. Identify and implement surface and minerals estate land exchanges that contribute to bighorn sheep management objectives. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Do not convert existing livestock allotments to domestic sheep or goat allotments in or adjoining this management area**. Standard**

2. Limit livestock forage allocation based on bighorn sheep needs. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Domestic sheep may be permitted as part of an integrated pest management (IPM) control program if they do not conflict with bighorn sheep management objectives. The North Dakota Game and Fish Department will be consulted if such a program is considered. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Snowmobile use is prohibited in the management area. **Standard**

2. Restrict travel to protect sheep concentrations during lambing, breeding, and winter use, except for administrative use. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to encompass the spectrum of Scenic Integrity Objectives. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Allow construction of new utility corridors only if they do not degrade the characteristics for which the area was designated. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Restrict construction of new travel routes across bighorn sheep habitat, however, allow for valid existing rights such as oil and gas leases. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.63 BLACK-FOOTED FERRET REINTRODUCTION HABITAT

The Forest Service, in cooperation with the U.S. Fish and Wildlife Service, actively and intensively manage black-tailed prairie dog colony complexes and intermingled public grasslands for reintroductions of black-footed ferrets.

Desired Conditions

Prairie dog colony complexes and compatible land uses are established and/or maintained for black-footed ferret reintroductions. Prairie dog populations are maintained or increased through vegetation management and/or relocation of prairie dogs with consultation with State Game and Fish agencies into suitable habitat.

Plant and animal species and communities associated with black-footed ferrets and black-tailed prairie dogs are actively restored.

The Forest Service works with other agencies and organizations to pursue conservation agreements or easements with adjoining land jurisdictions to achieve black-footed ferret recovery objectives.

In areas where landownership patterns are not conducive to effective prairie dog management, landownership adjustments to achieve more favorable landownership patterns are pursued. Unwanted impacts to adjoining lands are minimized.

Standards and Guidelines

General

1. Allow uses and activities only if they do not degrade the characteristics for which the area was allocated. **Standard**

Mineral and Energy Resources

1. Allow oil and gas leasing with surface occupancy; however, no ground-disturbing oil and gas activities are permitted if they adversely affect black-footed ferret reintroduction objectives. **Standard**

2. Exploration, development, operation and reclamation activities will be designed to avoid any un-permitted take of black-footed ferrets. **Standard**

3. Once initial ferret releases have occurred, require pre-project ferret surveys prior to development of construction projects. Activities in or near prairie dog colonies occupied or thought to be occupied by black-footed ferrets should occur outside the period March 1 to August 31. If this period cannot be avoided, conduct activities during midday when ferrets are least active. **Guideline**

4. Limit travel for exploration, petroleum operations and service work to daylight hours, except for emergencies or as provided for in the Surface Use Plan of Operations (SUPO). Use the maximum acceptable wellhead servicing interval. **Guideline**

5. Develop an emergency spill prevention containment plan that addresses risks to black-footed ferrets. Design and construct pits with berms to contain leachates, wastes and spills. **Standard**

Mineral and Energy Resources, cont.

6. Use pressure detectors to control equipment failures in prairie dog colonies, especially those likely to support female ferrets and litters. **Guideline**

7. Require closed system drilling for all new oil and gas wells within 220 yards of prairie dog colonies thought to have black-footed ferrets. **Standard**

8. Do not allow wastewater discharges in or near prairie dog colonies unless the discharges are treated to remove waste products and verified with testing. **Standard**

9. Vibration seismic exploration is preferred over explosive charge technique for geophysical exploration. If explosive charges are used, maintain a 1/8-mile buffer from prairie dog colonies occupied or thought to be occupied by black-footed ferrets. **Guideline**

10. To extent possible, limit travel to existing roads and align new access roads to avoid prairie dog colonies and colony expansion areas. **Guideline**

11. Based upon pre-project surveys, locate well sites outside prairie dog colonies and immediate colony expansion zones, and consider use of directional drilling if necessary. **Guideline**

12. In areas designated as "no road construction", do not allow surface occupancy of oil and gas facilities. **Standard**

13. Do not establish pipelines, pump stations, treatment, storage and other support facilities on prairie dog colonies and the immediate expansion zone whenever possible. **Guideline**

14. Bury new power lines that occur within 0.25 mile of prairie dog colonies to avoid creating new raptor hunting perches. **Guideline**

15. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Livestock Grazing

1. Use livestock grazing strategies and stocking rates to help achieve desired rates of prairie dog colony establishment and growth. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Fish and Wildlife

1. Use rodenticides to reduce prairie dog populations only in response to public health and safety risks. Mutual concurrence by the Forest Service and US Fish and Wildlife Service is required on a colony-by-colony basis before authorizing any poisoning. **Standard**

2. Allow relocation of prairie dogs only after consultation with appropriate state and Federal wildlife agencies. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section F, for additional wildlife direction.

Recreation

1. Restrict shooting in prairie dog colonies unless needed to help reduce unwanted colonization of adjoining lands. Authorize shooting in selected areas only through mutual concurrence by the Forest Service and U.S. Fish and Wildlife Service. Coordinate and consult with the appropriate state wildlife agency prior to implementation of authorized shooting. **Guideline**

2. Work with Animal and Plant Health Inspection Service and state agencies to prohibit the use of leg-hold traps without pan-tension devices for government predator control programs and for determining appropriate fur harvest on National Forest System lands in this management area. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), and Section N for additional heritage resource direction.

Scenery Management

1. Manage area to meet scenic integrity objectives of Moderate and Low. **Guideline**

2. See Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map and Appendix G (Glossary) for definition of terms.

Special Uses

1. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Do not allow road construction in areas designated for "no road construction" on the MA map. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.64 SPECIAL PLANT AND WILDLIFE HABITAT

These areas are managed to maintain and enhance specific plant and wildlife communities and species at risk. Habitat enhancement through improved management and close coordination with other resource uses is encouraged.

Desired Conditions

Suitable habitat will be maintained or enhanced for the full spectrum of plant and wildlife species, guilds, and communities. Riparian areas (streams, seeps, springs, fens) are managed so they maintain their hydrologic regimes. Broadleaf deciduous trees characterize woodlands and hardwood draws. Prairie landscapes will have a diversity of warm season and cool season grasses and forbs. Plant communities of high species diversity will act as a seed source for other areas within the landscape where diversity may be reduced.

Standards and Guidelines

General

1. Limit all motorized use to administrative use. **Standard**

2. Protect wetlands habitat to maintain their hydrologic regimes. **Standard**

3. Maintain disturbance processes (fire, grazing) if required for habitat enhancement, restoration or species viability. **Standard**

4. Restrict new road or trail construction except when necessary to correct resource damage occurring from existing sites. **Guideline**

5. Conflicts that cannot be mitigated are resolved in favor of specific plant and wildlife species and communities. **Standard**

6. On the Sheyenne National Grassland, Bluestem Meadow would be used as a seed collection area. The site integrity would be maintained for seed collecting. **Standard**

Mineral and Energy Resources

1. Prohibit removal of mineral material. **Standard**

2. On the Cedar River National Grasslands allow oil and gas leasing, however, no ground disturbing activities are permitted.

3. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. For the Sheyenne Ranger District, do not include this management area in any grazing allotment. However, livestock grazing may be used as a tool to achieve desired conditions. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to encompass the spectrum of Scenic Integrity Objectives. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. No new utility corridors or additional development within existing corridors will be permitted. Existing corridors may be maintained until they are abandoned. Valid existing rights will be honored *(Refer to Preface).* **Standard**

2. Prohibit new special-use facilities except for valid existing rights *(Refer to Preface).* **Guideline**

3. For direction on plant collecting, refer to Chapter 1 (Grassland-wide Direction), Section O.

4. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.65 RANGELANDS WITH DIVERSE NATURAL-APPEARING LANDSCAPES

This management area emphasizes maintaining or restoring a diversity of desired plants and animals and ecological processes and functions. It also provides a mix of other rangeland values and uses with limits on facilities to maintain a natural appearing landscape.

Desired Conditions

These areas have relatively few livestock grazing developments, such as fences and water tanks, resulting in a mosaic of livestock grazing patterns and diverse vegetation composition and structure. Livestock graze most areas annually, but some areas receive little or no grazing due to topography.

Riparian areas and streams will move toward properly functioning condition and have few human-caused alterations. Restored riparian areas and or streams will be evident.

Prescribed fire is used as a management tool. Wildfires are aggressively controlled. Natural outbreaks of native insects and diseases are allowed to proceed without intervention unless there is a substantial threat to high-value resources. Natural-appearing landscapes predominate; however, oil and gas development may occur and are visually subordinate to the landscape.

Standards and Guidelines

Minerals and Energy Resources

1. Honor all valid existing oil and gas leases *(Refer to Preface).* **Standard**

2. Allow oil and gas leasing and development. **Guideline**

3. Allow removal of mineral materials. **Guideline**

4. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to encompass the spectrum of scenery integrity objectives. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Locate new utilities along road corridors or within other areas already disturbed. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

3.66 ECOSYSTEM RESTORATION (SHEYENNE TALL GRASS PRAIRIE)

These areas are managed to restore and maintain native plant and animal species and communities and ecological processes and functions for tall-grass prairie and oak savanna.

Desired Conditions

Tall grass prairie communities will have a high degree of biodiversity. Sensitive plants and animal populations are maintained or restored. Habitat is provided for the Greater Prairie Chicken in the tall-grass prairie and habitat for the sharp-tailed grouse is provided in the choppy sand hills. Habitat for the federally listed western prairie fringed orchid is provided in the wet meadows. Invasive species and other exotic plant species are reduced to levels where non-chemical control methods are effective at containing their spread. Riparian areas, including seeps and springs, are properly functioning.

Standards and Guidelines

General

1. Initiate intensive restoration efforts to meet desired conditions that include active and passive methods. Native reseeding projects may be initiated with local seed sources. **Guideline**

2. Prevent new introductions of non-native plant species into known areas of sensitive plant species or guilds. **Guideline**

Minerals and Energy Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Prescribed fire is the preferred tool for vegetation manipulation. Mowing may be used when prescribed burning is not practical or desired for TES concerns. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet scenic integrity objectives of Moderate and Low. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Locate new utility corridors along road corridors or within other areas already disturbed. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Plug abandoned flow (artesian) wells, as funding allows. **Guideline**

2. Prohibit development of new flow (artesian) wells. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

4.22 RIVER AND TRAVEL CORRIDORS

This area is managed to protect or preserve the scenic values and recreation uses of the Little Missouri River Corridor and the Grand River Scenic Travel Route.

The Little Missouri River Corridor is defined as National Grasslands contained within a ¼ mile zone on each side of the river. The Grand River Scenic Travel Route is an eleven-mile driving route through a central portion of the Grand River National Grassland.

Desired Conditions

Generally, the Little Missouri River Corridor areas are a natural-appearing landscape, but modifications on a small scale that blend with the area's natural features are acceptable. Existing facilities such as power lines and roads may be obvious to the casual observer, but scenic vistas are emphasized. Transportation corridors may be present, including interstate highways. Vegetation management activities will be visually subordinate to the surrounding landscape.

The Grand River Scenic Travel Route traverses a natural-appearing landscape, but modifications on a small scale that blend with the area's natural features are acceptable. Existing facilities, such as power lines and roads, may be obvious to the casual observer, but vistas are scenic. Transportation corridors may be present, including a state highway. Vegetation management activities complement the surrounding landscape. For example, fences and corrals associated with livestock management are desired landscape features for traveler's viewing along this corridor.

Standards and Guidelines

General

1. Allow developments that complement natural features in the foreground. Developments in the middle- and background must be subordinate to the landscape and not obvious to the casual observer. **Guideline**

2. Install signs in appropriate locations to identify intermingled ownership along the river and/or travel corridor. **Guideline**

3. Prohibit water diversion structures except for those accompanying valid state water rights. **Standard**

Mineral and Energy Resources

1. For the Little Missouri River corridor, allow geophysical operations; however, timing, seasonal, or location restrictions may be appropriate to avoid conflicts with recreationists and wildlife and to maintain the scenic values of the area. **Standard**

2. No ground-disturbing activities are permitted within the Little Missouri River corridor. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Use livestock grazing strategies that maintain or improve the vegetative composition and structure associated with the scenic qualities of the area. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Constructed public launch sites will be visually subordinate to the river and river corridor. (Little Missouri River only) **Standard**

2. Prohibit OHV trail construction. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet Scenic Integrity Objective of high. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Locate any new utility construction involving river crossings in existing corridors**.** (Little Missouri River only) **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Allow construction of fords, bridges, and roads only if no suitable alternative exists. (Little Missouri River only) **Standard**

2. Fences crossing the Little Missouri River channel will be visible for at least 100 yards. **Guideline**

3. Gates on fences constructed across river channels must be at least eight feet wide or be located immediately adjacent to the river channel. (Little Missouri River only) **Guideline**

4. Encourage use of breakaway fence and/or temporary fencing across the river channel. When not needed for livestock management, remove the structure. **Guideline**

5. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

4.32 DISPERSED RECREATION: HIGH USE

These areas are managed for recreational opportunities and scenic qualities and are usually adjacent to high use developed recreation sites and bodies of water.

Desired Conditions

Visitors recreate in a relatively natural environment, while pursuing a variety of activities, such as camping, picnicking, hiking, fishing, and motorized vehicle use where allowed. Because of the amount and types of use, these areas offer a more social type of recreational experience. Management activities are evaluated in terms of their impact on the recreational opportunities of the area. Motorized travel may be restricted during certain times of the year.

The areas offer few conveniences for users but may have picnic tables, toilets, trash cans, fire grills, and vehicle barriers if needed to protect resources. Existing improvements, such as roads, trails, bridges, fences, oil and gas wells, and water developments, blend into the landscape where feasible.

The potential for contact with other users is moderate to high. Solitude or isolation is less important than the opportunity to participate in desired recreational activities.

Generally, these areas appear as a natural-appearing landscape over large areas, but modifications on a small scale are acceptable and blend with the area's natural features. Biological communities complement the recreational values.

Standards and Guidelines

General

1. Allow uses and activities only if they do not degrade the recreational characteristics, scenic qualities or the environment. **Guideline**

Minerals and Energy Resources

1. Allow mineral leasing and development. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Plant Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Allow new OHV trail construction where resource values can be protected. **Guideline**

2. Provide developed facilities at areas of concentrated use to protect adjacent resources **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet a Scenic Integrity Objective of moderate or high. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Allow construction of new utility corridors only if they do not degrade the characteristics for which the area is managed or was designated. **Standard**

2. Locate new utilities along road corridors or within other areas already disturbed. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

5.31(A AND B) EXPERIMENTAL FORESTS

These areas are managed to conduct experiments, tests, and other activities to obtain scientific information about managing and using forest and rangeland resources.

Desired Conditions

Denbigh

This area is a research site for developing genetically improved trees for tree planting in the Northern Great Plains. The best methods for site preparation, planting, and care of seedlings are determined. The forest also provides conifer seed to the North Dakota Forest Service nursery at Towner, North Dakota.

Some of the forest is kept in near pristine condition to serve as a reference ecological system for research, while other areas are managed at differing levels for other research objectives. Timber harvest practices may be applied, including untested experimental practices, to meet the needs of designated experiments.

The research staff provides fuel treatment recommendations to reduce the threat of wildfire damage to research projects. Fuel breaks are maintained to prevent damage from wildfire. Firewood cutting of down material following thinning and sanitation cuts is encouraged. Recreational use is compatible with research plans and National Register status. Scenic trails are maintained, and opportunities are provided for environmental education. Signs are improved and maintained to inform the public of the area's identity and management.

Souris

Established pine and juniper provenance studies will be continued. Timber harvesting may be used to meet the objectives of approved research projects and facility maintenance.

The research staff provides fuel treatment recommendations to reduce the threat of wildfire damage to research projects. Fuel breaks are maintained to prevent damage from wildfire. Plantations are protected from insects and disease.

Recreational use is compatible with research plans and National Register status. Signs are improved and maintained to inform the public of the area's identity and management.

Standards and Guidelines

General

1. Allow uses and activities only if they do not degrade the characteristics for which the area was identified. **Standard**

2. The area known as the "natural forty" (at Denbigh) will continue to be administratively set aside and reserved for botanical studies. **Standard**

3. Coordinate with the North Dakota Forest Service on activities which may effect existing tree plantations. **Guideline**

Mineral and Energy Resources

Denbigh

1. Prohibit surface-disturbing use and occupancy for mineral-based operations on areas of federally owned minerals. **Standard**

2. Coordinate with the State of North Dakota on state-owned minerals to minimize adverse impacts. **Standard**

3. Prohibit removal of mineral materials. **Standard**

Souris

4. Prohibit removal of mineral materials. **Standard**

5. Allow oil and gas leasing; however, no surface-disturbing use and occupancy for oil and gas based activities are permitted. **Standard**

6. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Maintain existing fuel breaks (Denbigh). **Standard**

2. Prescribed fire may be used to meet the goals and objectives of the experimental forests and/or maintain ecological processes. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Prescriptive livestock grazing can be used as needed to maintain ecological processes. **Standard**

Invasive Species

1. Sheep and goats may be used as a noxious weed treatment method. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Dispersed recreation is allowed to the extent that it will not interfere with ongoing research or seed collection activities. **Standard**

2. Maintain the existing nonmotorized scenic trail to Region 1 standards for safety and resource damage control (Denbigh). **Standard**

3. Expand the existing nonmotorized trail system when opportunities arise. **Guideline**

4. Do not construct new OHV trails. **Standard**

5. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage areas to meet a scenic integrity objective of low to moderate. **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Restrict new energy/utility corridors. **Guideline**

2. Haying is permitted if necessary to met resource or research objectives. **Standard**

3. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Buildings, signs, and existing roads will be maintained as funding allows. **Standard**

2. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.

Wood Products

1. Firewood permits will be encouraged as a means of clearing downed materials generated by thinning, sanitation cuts or natural disturbances. **Guideline**

2. Harvest of wood products may occur as needed to meet objectives of approved research projects**. Guideline**

6.1 RANGELAND WITH BROAD RESOURCE EMPHASIS

This area is primarily a rangeland ecosystem managed to meet a variety of ecological conditions and human needs. Ecological conditions will be maintained while emphasizing selected biological (grasses and other vegetation) structure and composition that consider the range of natural variability. These lands often display high levels of development, commodity uses, and activity; density of facilities; and evidence of vegetative manipulation. Users expect to see other people and evidence of human activities. Facilities supporting the various resource uses are common. Motorized transportation is common on designated roads and two-tracks.

Desired Conditions

The rolling prairie in this management area will be managed to preserve the ecological integrity across the landscape, especially large blocks of native upland prairie.

This management area will display low to high levels of livestock grazing developments (such as fences and water developments), oil and gas facilities, and roads. Livestock will graze most areas annually, but a spectrum of vegetation structure and a high degree of biodiversity will be present. Livestock grazing intensity will vary; however, moderate use will prevail over most of the MA. Natural disturbance processes, including grazing and fire, will be used to emulate the natural range of variability of vegetation structure and composition (see vegetation structural and compositional objectives in Geographic Area direction). Rest and prescribed fire will be incorporated into the landscape.

Prairie dog colonies will increase in some areas of the MA.

When no substantial threat to high-value resources occurs, natural outbreaks of native insects and disease will be allowed to proceed without intervention.

Standards and Guidelines

General

1. Landscape fragmentation from road construction will be discouraged. However, valid existing rights will be honored when development is proposed. **Guideline**

2. Management activities that contribute to a loss of ecological integrity will be discouraged. **Guideline**

Minerals and Energy Resources

1. Allow oil and gas leasing and development. **Guideline**

2. Allow removal of mineral materials. **Guideline**

3. Refer to Chapter 1 (Grassland-wide Direction), Section D, for additional minerals and energy resources direction.

Fire

1. Refer to Chapter 1 (Grassland-wide Direction), Section G, for additional fire management direction.

Livestock Grazing

1. Design grazing practices to provide landscape diversity for plant composition and structure. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section L, and Chapter 2 (Geographic Area Direction) for additional livestock management direction.

Invasive Species

1. Refer to Chapter 1 (Grassland-wide Direction), Section J, for additional invasive species direction.

Recreation

1. Allow new OHV trail construction where resource values can be protected. **Guideline**

2. Refer to Chapter 1 (Grassland-wide Direction), Section K, for additional recreation direction.

Heritage Resources

1. Refer to Chapter 1 (Grassland-wide Direction), Section N, for additional heritage resource direction.

Scenery Management

1. Manage area to meet scenic integrity objectives of Moderate and Low **Guideline**

2. See Chapter 1 (Grassland-wide Direction), Section L, Chapter 2 (Geographic Area Direction) for Scenic Integrity Objectives map, and Appendix G (Glossary) for definition of terms.

Special Uses

1. Refer to Chapter 1 (Grassland-wide Direction), Section P, for additional special uses direction.

Infrastructure

1. Refer to Chapter 1 (Grassland-wide Direction), Section Q and Chapter 2 (Geographic Area Direction) for additional infrastructure direction.