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Chapter 1 Purpose and Need for Action

Changes from Draft to Final

Changes in Chapter I of this Final EIS (from the Draft EIS) include expanding the Purpose and Need for Change section, bringing forward into the FEIS information from a 1996 document prepared by the Forest and Grassland Supervisors on the Purpose and Need for Change (located in the administrative record).

Introduction

The Northern Great Plains Management Plans Revision is a combined planning effort by the Dakota Prairie Grasslands and the Medicine Bow-Routt and Nebraska National Forests. This revision process affects the following national grassland and national forest units:

Dakota Prairie Grasslands Units

- Cedar River National Grassland
- Grand River National Grassland
- Little Missouri National Grassland
- Sheyenne National Grassland

Medicine Bow-Routt National Forest Unit

- Thunder Basin National Grassland

Nebraska National Forest Units

- Buffalo Gap National Grassland
- Fort Pierre National Grassland
- Oglala National Grassland
- Samuel R. McKelvie National Forest
- Nebraska National Forest

Land and resource management plans (management plans) currently direct management of the national forest and national grassland units. Issuance of these plans occurred June 10, 1987, for the Custer National Forest (which includes the Dakota Prairie Grasslands); November 20, 1985, for the Medicine Bow National Forest; and December 14, 1984, for the Nebraska National Forest. Other National Forest System units under the administration of the Medicine Bow-Routt National Forests that are not listed above are addressed in other planning efforts.

Revision of management plans is directed by the National Forest Management Act (NFMA), regulations 36 Code Federal Regulations (CFR) 219 and the Forest Service Directives System (*Forest Service Handbook* 1909.12). The instructions for revising management plans found in the *Code of Federal Regulations* (36 CFR 219.10[g]) state:

> A forest [and grassland] plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the plan have changed significantly or when changes in RPA [Forest and Rangeland Renewable Resources Planning Act] policies, goals or objectives would have a significant effect on forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the forest plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a forest [or grassland] plan. The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.

The existing management plans are all more than 10 years old. After study and consultation with the Forest Service interdisciplinary planning team (ID team) and the public, the three forest supervisors determined that extensive changes had taken place since implementation of the existing management plans. Therefore, these plans are being revised. Three proposed revised management plans (one for each participating administrative unit) and one Draft Environmental Impact Statement (DEIS) describing environmental effects for all three management plans have been prepared and are available for public review.

The Planning Units

The planning units under study lie quite distant from each other (see map on inside cover), from eastern North Dakota to eastern Wyoming and from northwestern North Dakota to northwestern and central Nebraska. The table below lists the names of the units and the states and counties in which they are located.

Table 1-1. Units Under Review, Affected Counties, and Approximate Federal Surface Acres of Each Unit.

Unit	Affected Counties	Acres
Dakota Prairie Grasslands Administrative Unit		
Planning Units		
Cedar River National Grassland	Grant and Sioux Counties, North Dakota	6,800
Grand River National Grassland	Corson, Ziebach and Perkins Counties, South Dakota	154,200
Little Missouri National Grassland	Billings, Dunn, Golden Valley, McKenzie and Slope Counties, North Dakota	1,026,000
Sheyenne National Grassland	Ransom and Richland Counties, North Dakota	70,300
Medicine Bow-Routt National Forest Administrative Unit		
Planning Unit		
Thunder Basin National Grassland	Campbell, Converse, Crook, Niobrara, Weston Counties, Wyoming	553,300

Unit	Affected Counties	Acres
Nebraska National Forest Administrative Unit		
Planning Units		
Bessey Ranger District	Blaine and Thomas Counties, Nebraska	90,200
Buffalo Gap National Grassland	Custer, Fall River, Jackson and Pennington Counties, South Dakota	589,200
Fort Pierre National Grassland	Jones, Lyman and Stanley Counties, South Dakota	116,100
Samuel R. McKelvie National Forest	Cherry County, Nebraska	116,100
Oglala National Grassland	Dawes and Sioux Counties, Nebraska	94,200
Pine Ridge Ranger District	Dawes and Sioux Counties, Nebraska	50,500

Dakota Prairie Grasslands:

Cedar and Grand River National Grasslands

Located in Grant and Sioux Counties of North Dakota, the Cedar River National Grassland is a 6,800-acre tract of mixed-grass prairie on rolling hills, intersected by streams and dry gullies. Most of this unit lies within the boundaries of the Standing Rock Indian Reservation. The Grassland is administered by the Grand River / Cedar River Ranger District, Lemmon, South Dakota. The Cedar River National Grassland is managed for multiple purposes, including livestock grazing. The last significant buffalo hunt occurred near the grassland in 1883, when a group of Sioux and whites harvested about 10,000 head.

Located in Perkins, Ziebach, and Corson Counties of South Dakota, the Grand River National Grassland contains more than 154,200 acres and is administered by the Grand River / Cedar River Ranger District, Lemmon, South Dakota. Mixed-grass vegetation rises from its rolling landscape. The unit is home to pronghorn and mule and white-tailed deer. Nearby Shadehill Reservoir provides good fishing, camping and boating recreation.

Little Missouri National Grassland

The Little Missouri National Grassland, at more than a million acres, is the largest national grassland in the nation. This mixed-grass prairie found in badlands topography is located in McKenzie, Billings, Slope, and Golden Valley Counties in western North Dakota. The Grassland is administered by the McKenzie Ranger District, Watford City, North Dakota, and the Medora Ranger District, Dickinson, North Dakota.

The Little Missouri is home to a great variety of wildlife, including bighorn sheep, eagles and falcons, prairie dogs, and pronghorn antelope. Oil and gas production and livestock grazing are important on this unit, as are opportunities for remote roadless experiences.

Sheyenne National Grassland

The more than 70,300 acres of the Sheyenne National Grassland consists of tallgrass prairie, oak savanna, and river woodlands in southeastern North Dakota, including parts of Ransom and Richland Counties. This unit is administered by the Sheyenne Ranger District in Lisbon, North Dakota.

The Sheyenne National Grassland is home to occasional moose, white-tailed deer, sharp-tailed grouse, prairie chickens and a wide variety of other plants and animals, many of them rare. The western prairie fringed orchid is listed as a threatened plant. Several butterflies that find home on this unit are also of concern. There are many natural sandy blow-outs on this grassland, which is surrounded by intensive cultivation. This large contiguous tallgrass prairie unit is particularly significant since tallgrass is so rare on the Great Plains.

Medicine Bow-Routt National Forest Unit:

Thunder Basin National Grassland

The Thunder Basin National Grassland is located in northeastern Wyoming and occupies about 553,300 acres of land among a mosaic of state, federal, and private lands. These lands generally lie between Douglas on the south, Newcastle on the east, to the Montana border on the north, and Wright on the west. This unit is administered by the Douglas Ranger District, Douglas, Wyoming.

The Thunder Basin National Grassland is a blend of mixed-grass grassland, sagebrush grassland, cottonwood, greasewood, and ponderosa pine/juniper vegetation, within rolling plains, escarpment, dissected plains, and shale upland landscapes. The grassland is home to pronghorn, prairie elk, and prairie dogs. A great deal of coal is also mined on the grassland, including the largest coal strip-mine operation in the nation, located near Gillette.

Nebraska National Forest Units:

Nebraska National Forest (Bessey Ranger District) and Samuel R. McKelvie National Forest

About 90,200 acres of Sandhills country make up the Halsey unit of the Bessey Ranger District, located in central Nebraska in Thomas and Blaine Counties. This area is named after Dr. Charles E. Bessey. Bessey convinced the federal government to plant pine and other tree species in the treeless Sandhills. Beginning in 1902, work began in establishing a nursery and hand-planting a forest across the shifting dunes and grasslands of central Nebraska. The Bessey Tree Nursery is located within the unit and is administered separately from the Bessey Ranger District, Halsey, Nebraska.

Named for former Nebraska governor and cattleman S.R. McKelvie, the 116,100-acre Samuel R. McKelvie National Forest, administered by the Bessey Ranger District, lies in the Sandhills of north central Nebraska in Cherry County. Elevation rises to about 3,200 feet, and the topography consists of low rolling hills, ridges, and grass-covered dunes. The unit is administered by the Bessey Ranger District. Located in the Nebraska Sandhills, the unit historically contained mixed-grass prairie. Significant tree planting after the turn of the century provided a blend of grasslands and plantation forests of mainly ponderosa pine. The unit is home to sharp-tailed grouse and raptors.

Buffalo Gap National Grassland

The Buffalo Gap National Grassland is located in southwestern South Dakota and includes more than 589,000 acres of land that borders and is intermingled with private, state, Indian reservation, and national park lands. The eastern half of this unit extends from near Kadoka, South Dakota on the east, to the Cheyenne River on the west, north to U.S. Highway 14, and south to the Pine Ridge Indian Reservation. The Wall Ranger District, Wall, South Dakota, administers the eastern half. The western half extends from the Cheyenne River on the east to the Wyoming and Nebraska borders on the west and south, respectively. The Fall River Ranger District, Hot Springs, South Dakota, administers the western half.

The Buffalo Gap National Grassland contains mixed-grass vegetation. The landscape includes rolling prairie and badlands topography. The unit is home to many wildlife species, such as pronghorn antelope, both mule and white-tailed deer, and prairie dogs. Currently, black-footed ferrets are being reintroduced into Conata Basin. Sizable beds of agates and vertebrate and invertebrate fossils can be found on the grassland.

In addition, the National Grassland Visitor Center is located in Wall, South Dakota. The center is administered by the Wall Ranger District. It focuses on interpretation of the Great Plains and offers information on the country's national grasslands. The Center features more than 20 exhibits.

Fort Pierre National Grassland

The Fort Pierre National Grassland includes more than 116,000 acres of federal land. It lies south of Pierre, South Dakota, north of Interstate 90, and west of the Lower Brule Indian Reservation. This unit is administered by the Fort Pierre National Grassland, Pierre, South Dakota.

The Fort Pierre National Grassland consists of mixed-grass vegetation on a rolling hill landscape just west of the Missouri River. The grassland is home to many species of wildlife including prairie chicken, sharp-tailed grouse, antelope, mule and white-tailed deer, and waterfowl.

Nebraska National Forest (Pine Ridge Ranger District)

These lands are in Dawes and Sioux Counties of northwestern Nebraska. Included are the Pine Ridge Ranger District at about 50,500 acres, with the Soldier Creek Wilderness at about 7,800 acres. The Pine Ridge Job Corps Center is also located in this district, although it is administered separately. Elevations rise to 5,000 feet along ridges of ponderosa pine. The unit is administered by the Pine Ridge Ranger District, Chadron, Nebraska.

The Pine Ridge Ranger District area is a popular outdoor destination. Its pine forests and rugged sandstone terrain, rising from the surrounding plains, provide a scenic backdrop for a number of recreational activities.

Oglala National Grassland

The 94,200-acre Oglala National Grassland lies in Dawes and Sioux Counties of northwestern Nebraska. Topography consists of rolling hills and badlands country. The grassland is administered by the Pine Ridge Ranger District, Chadron, Nebraska. The grassland contains mixed-grass vegetation and is home to prairie dogs, pronghorn, mule deer, raptors, and a variety of ground-nesting birds and reptiles.

Purpose of and Need for the Decision

This section describes the purpose and need to revise the Management Plans for these National Forest and Grassland units and establishes the need for change.

The purpose of revising the Management Plans is to develop and implement a science-based, ecosystem-management strategy for these National Forest System lands. The strategy will enable these lands to move where needed from current conditions to more ecologically sustainable and socially desirable future conditions, leaving options available to future generations.

The decisions to be made will provide an ecological context to the Management Plans and will help clarify the relationship of management activities to the capability of ecosystems, develop realistic expectations for the production of goods and services, sustain ecosystems by ensuring their health, diversity, and productivity, and integrate ecological, economic, and social factors in order to maintain and enhance the quality of the environment to meet current and future needs.

Basis and Reasons for Planning

Long-range planning is a prudent management action and also required by law. The following sections discuss the regulatory basis and managerial reasons for the need to revise the Management Plans.

Regulatory Basis for Planning

Congress recognized that public desires and demands for products and services, and physical, biological and social environments change through time. The National Forest Management Act, passed by Congress in 1976, requires that the Management Plans be reviewed and, in most cases, revised every 10-15 years to respond to changed conditions. The current Management Plans for these National Forest System lands were approved on June 10, 1987 for the Custer National Forest which included the grassland units of the Dakota Prairie Grasslands, November 20, 1985 for the Medicine Bow National Forest which included the Thunder Basin National Grassland, and December 14, 1984 for the Nebraska National Forest.

Managerial Reasons for Revising Existing Plans

What We Have Learned in the Last Decade

Over a decade has lapsed since the current Management Plans were approved. Implementation of these Plans has shown us the need for changes in management direction for some resources or programs on these ten grassland units. Several sources have led us to believe we have a need to change our current Management Plans through revision. New issues and changing public values have been identified through public interaction. New information and knowledge has been gained through scientific research and effectiveness monitoring. Management concerns have been derived through implementation experience of the current plans. And, a decade of experience in implementing current Management Plans has provided insight into relationships between prairie vegetation and other resources and better ways of accomplishing desired outcomes.

Sources of Information for the Need for Change

The need for revision of current Management Plans comes out more than a decade of experience in implementing the current Plans. Monitoring and evaluation of implementation has helped us identify management concerns, new issues, new information, and better ways to achieve goals and objectives to meet public desires. The need for revision also comes from our understanding of new public issues, desires, and expectations for public land and resource management. Revision will help us better address the issues and demands of people today. Finally, some parts of the need for revision are based on updated ecological and socio-economic inventories and assessments and on new research.

To summarize, the major sources used to identify the need for change were:

- Experiences in implementing the Management Plans and working with the public;
- Public involvement in implementing projects;
- Need for Management Plan amendments as a result of implementing projects;
- Monitoring the effects of implementation;
- Understanding cumulative effects from implementing projects;
- Issues raised in routine communication with the public and in appeals and litigation;
- Knowledge gained from research on prairie ecosystems;
- Discussions with employees;
- Coordination and input from other federal agencies, state agencies, and partners;
- Public feedback on values for these National Forest and Grassland units;
- Results of assessments.

Some of this information is a product of research, other information has resulted from changes in technology which allow us to look at larger areas and understand the context and importance of the lands we manage. Scientific understanding of grassland / prairie ecosystems has also seen marked changes during the last decades. Early research frequently reflected a commodity production emphasis. Ecosystem-based research produced over the last decade is changing our understanding of these ecosystems and the importance of public lands in the Northern Great Plains.

Over a decade of experience in implementing these plans has identified some areas that should be changed in our Plans and others that need reinforcement. We have identified new management concerns that come from gaining new information. We have identified better ways of accomplishing desired conditions. Monitoring reports for each of the National Forests administering Grassland units all identify changes that should be made in the Management Plans.

Since the early to mid-1980s, the prairie ecosystem has developed some new constituencies who are requesting a different focus for management of these public lands within the Great Plains. They are asking that we address some different issues and uses in revising our Management Plans. Appeals and litigation of resource decisions implementing the Plans are also an important source of information. While the overall number of appeals in proportion to resource decisions is low, there has been a marked increase in appeal and litigation activity. This increase, in some part, reflects a change in constituencies that are interested in grassland and forest management and the resources of the National Grasslands and Forests.

General Purpose of Revision

We are undertaking Management Plan revision to provide direction that will:

- Provide goods and services to people,
- Involve people and communities, and
- Sustain ecosystem functions.

Congress understood that resource conditions and human values change over time—public issues, demand for products and services, and our understanding of physical, biological and social environments change through time. Congress believed that planning helps us define desired conditions and set a course to achieve those conditions.

We must adjust our long-term direction in response to new information, technology, and demands. We revise and update Management Plans to restore and sustain ecosystems, and to identify stable, long-term resource outputs to benefit people.

Based on the information sources identified earlier, we have determined that the combined effect of the needed changes demand immediate attention through Management Plan revision. The following discussion articulates the identified need for change--need for management plan revisions—on these national grasslands and forests.

Decisions Made with a Management Plan

Management plans establish key decisions for the long-term management of affected National Forest System lands. These decisions include:

- Establishment of grassland-wide and forest-wide multiple use goals and objectives (36 CFR 219.11).
- Establishment of grassland-wide and forest-wide management requirements (standards and guidelines) to fulfill the requirements of 16 USC 1604 (The National Forest Management Act) applying to the future activities (resource integration requirements 36 CFR 219.13 to 219.27).
- Establishment of management areas and direction applying to future activities in that management area [resource integration and minimum, specific, management requirements [36 CFR 219.11 (c)].
- Determination of the capability and potential suitability of lands for producing forage for grazing animals and for providing habitat for management indicator species (36 CFR 219.20), designation of lands not suitable for timber production and, where applicable, establishment of allowable timber sale quantity (36 CFR 219.14, 219.15, and 219.21).
- Establishment of monitoring and evaluation requirements [36 CFR 219.11 (d)].
- Recommendation to Congress for Wilderness classification where 36 CFR 219.17 applies.
- Establishment of rivers eligible for Wild and Scenic River consideration and recommendation to Congress of suitable rivers for inclusion into the Wild and Scenic River System (16 USC 1271-1287, 36 CFR 297, and 47 FR 39454, Sept. 7, 1982), in cooperation with the National Park Service.

Plan Versus Project Decision-making

Forest Plans set out management area prescriptions with standards and guidelines for future decision-making and are adjustable through monitoring and evaluation, amendment and revision. The Land and Resource Management Plan management area prescriptions and forest and grassland wide direction are the “zoning ordinances” under which future decisions are made. Forest Plans establish multiple-use goals and objectives for the planning unit. Plan level actions are approval (16 USC 1604(d) and (j), amendment (16 USC 1604(f)(4)) and revision (16 USC 1604(f)(5)). Project decisions are not authorized, carried out or funded by Forest Plan approval, amendments or revisions except as specifically authorized in the Record of Decision or Decision Notice.

Staged Decision-making

The Land and Resource Management Plans' Records of Decision, signed by the Regional Foresters, will set a course of action for management of the Dakota Prairie Grasslands, Thunder Basin National Grassland, and the Nebraska National Forest units for the next 10 to 15 years. The adoption of Land and Resource Management Plans makes key decisions for the long-term management of the National Forest and National Grassland units.

The Forest Service Planning Handbook (FSH 1909.12) provide for systematic stepping down from the overall direction provided in the Land and Resource Management Plan when making project-level decisions:

> "Planning for units of the National Forest System involves two levels of decisions. The first is the development of a Forest Plan that provides direction for all resource management programs, practices, uses, and protection measures. The second level of planning involves the analysis and implementation of management practices designed to achieve the goals and objectives of the Forest Plan. This level involves site-specific analysis to meet NEPA requirements for decision-making. FSM 1922, 53 Fed. Reg. 26807, 26809 (July 15, 1988)."

However, environmental analysis will still need to occur for specific project-level activities that carry out the direction in the Plan. A good example of this is travel management. The Land and Resource Management Plan contains direction to restrict travel to existing roads and trails, but a site-specific analysis and decision will have to be made for each area to determine which travelways should be closed or left open. This process is called "staged decision-making" because a series of decisions will be necessary to carry out projects as specific details, locations, and conditions become more apparent. For example, a proposed wildlife habitat project using prescribed fire would require additional environmental analysis to discuss the site-specific effects of the proposals.

The authorization of project-level activities within the planning area occurs through project decision-making, the second stage of forest and grassland planning. Project-level decisions must comply with National Environmental Policy Act (NEPA) procedures and must include a determination that the project is consistent with a management plan.

In addition to the management plan decisions listed above, oil and gas leasing decisions will be made, where applicable. These decisions include determination of lands administratively available for leasing under specified conditions (lease stipulations) and the leasing decision for specific lands [36 CFR 228.102 (d) and (e)]. Where applicable, the Bureau of Land Management (BLM) will issue a decision document on leasing for federal minerals, both under Forest Service administered surface and under private surface.

In regard to oil and gas leasing, BLM is responsible for advertising, selling, and issuing leases on NFS lands. The BLM, acting for the Secretary of the Interior, may issue leases on National Forest System lands determined to be available with specified conditions (lease stipulations) and authorized for leasing in the applicable Forest Service and BLM decision documents. Leases issued in authorized areas after the effective date of the plan will include the standard terms placed on all federal oil and gas leases, will include standard Forest Service notices attached to all leases on Forest Service administered lands, and may include special stipulations designed to protect surface resources. The BLM will decide whether or not to offer for lease the

specific lands made available and authorized by the Forest Service and whether or not to lease split-estate lands (non-federal lands with federal mineral ownership) within the National Forest System unit boundaries being reviewed for oil and gas leasing. The BLM will also make a decision on attaching stipulations recommended by the Forest Service on split-estate lands.

Major Revision Topics

Major revision topics are those for which changes in resource conditions, technical knowledge, data improvement, or public opinion of national forest and national grassland resource management have created a need for change in the management plans. Changes generally are important enough to affect large areas, change the mix of goods and services produced, and involve choices in management direction where there is no public consensus on the best course of action.

Regulations found at 36 CFR 219.12 (b) require forest supervisors to determine the major public issues, management concerns, and resource use and development opportunities to be addressed in the planning process. The combined effect of the needed changes demand attention through plan revision. The seven major revision topics described below influenced the decision to revise the plans and represent the major issues addressed in this document.

- Community and Lifestyle Relationships
- Livestock Grazing
- Oil and Gas Leasing
- Plant and Animal Damage Control
- Rangeland and Forest Health
- Recreation and Travel Management
- Special Area Designations

All seven revision topics are described below and addressed in this FEIS. Key indicators are identified for each revision topic. These indicators help the reader compare the five alternatives by describing the effects of implementing each alternative.

Community and Lifestyle Relationships

People who live in the Northern Great Plains attach a great deal of value to lands administered by the Forest Service. Commodity and amenity benefits contribute to the social fabric and the economic base of many neighbors and communities near these public lands.

Management decisions determine the use and availability of these lands and resources to the public. In resource-based communities, especially small communities without a diversified economy, these decisions can perpetuate or disrupt the local economy and lifestyles. More diversified communities can often cope with change, although some sectors may be more or less affected. The capacity to handle change without major hardships to social groups or institutions is an important component of community and lifestyle relationships.

Economic effects can include changes in local employment and income, payments to state and local government, and consequences associated with local government services and community infrastructure. National forests and national grasslands have a role in sustaining or diversifying area economies and providing amenity values.

American Indians make up the largest minority group in the planning area and include such tribal affiliations as the Lakota, Hidatsa, Arikara, Cheyenne, Lower Brule, Crow, and Pawnee. American Indian culture, religion, and social conventions add complexity, diversity, and context to the fabric of life on the Northern Great Plains, both historically and contemporaneously. Several Indian reservations either lie within or near the administrative boundaries of several of the planning units. American Indians visit the National Forest System lands in the area to collect medicinal and sacred plants, practice religious ceremonies, recreate, or work. For instance, some American Indians in the planning area hold livestock grazing permits and others work for energy-extraction industries.

Key indicators for the community and lifestyle relationships topic are listed below:

Indicator	**Units of measure**
Jobs and income related to:	
Range-fed livestock grazing	Number and dollars
Oil and gas leasing	Number and dollars
Recreation and tourism	Narrative summary
Social group effects	Narrative summary in Chapter 3

Livestock Grazing

Livestock grazing on National Forest System lands is a permitted and traditional use on public lands and plays a part in maintaining and improving ecosystem health, when managed appropriately. However, this use must be balanced with multiple-use objectives, such as flora and fauna diversity, soil and water protection, wildlife food and habitat, outdoor recreation, and other resource values dependent on rangeland vegetation. The public continues to have interest in what levels of permitted grazing and other uses are appropriate for these publicly owned grassland areas.

Management Plan direction can be developed to describe the desired condition of ecological units. In accordance with CFR 219.20, the capability and potential suitability of National Forests and Grasslands to produce forage for grazing animals and habitat for management indicator species will be determined. While management plans will determine desired vegetation conditions for these grasslands and forests, the plans will not determine the allowable number of livestock to be grazed. That decision will be made in subsequent site-specific allotment management plans.

The planning area has been inventoried to describe the current mix of vegetation to determine ecological units based on land types and geographic areas. Management direction relating to livestock grazing has been tied to desired vegetative conditions. Key descriptors of desired grassland and shrubland vegetation are composition, structure, and woody vegetation regeneration in draws and riparian areas. Grazing use may fluctuate annually, depending on moisture and the desired vegetative conditions.

Allocation of Animal Unit Months (AUMs) is currently based on 1,000 lb. cows. Genetic improvements in cattle have increased cattle size as large as 1,600 lbs. The larger cows require more forage to sustain them. Utilization appears to have increased, while the methodology used to determine AUMs has not changed. Appropriate methods for calculating grazing allocations are examined in this revision process.

Few of the planning units now have secondary range. This type of range, which occurs in larger pastures with few water developments and low utilization, is desirable for upland habitat and for diversity of native plant and animal species and for recreationists who desire large unfenced areas of grassland.

Forest Service managers have expressed concern on the reduced flexibility of sustaining grazing when disturbances such as drought, hail, and fire occur. Concepts such as swing pastures, rest areas, and use of yearlings give managers flexibility to sustain grazing when drought or fire reduces forage. Requiring that some areas be rested each year will give managers increased flexibility in meeting desired conditions.

Key indicators for livestock grazing topic are listed below:

Indicator	**Units of measure**
Suitable rangeland	acres
Estimated grazing levels	AUMs (animal unit months)
Estimated available forage production	thousand of pounds
Average pasture size	acres
Water developments	number per section

Oil and Gas Leasing

Oil and gas are important resources for the people of the United States, and the Grasslands contain valuable oil and gas deposits. In 1987, Congress passed the Federal Onshore Oil and Gas Leasing Reform Act, which expanded the Secretary of Agriculture's role in managing oil and gas resources on National Forest System lands. Within the National Forest System, the Secretary of Agriculture has the responsibility to identify lands available for leasing and to authorize leasing for specific lands. In performing analyses for these decisions, the Forest Service must identify on maps the nature and extent of stipulations that will be applied to leases for the purpose of protecting surface resources.

Previously completed leasing analyses are currently in effect for about 2.4 million acres of federal minerals (1.7 million acres federal surface estate) in the planning area, including the Little Missouri, Cedar River, Thunder Basin and Oglala National Grasslands and the western half of the Buffalo Gap National Grassland. These decisions have been implemented continuously since their signing.

Since the current leasing decisions and associated analyses were completed, several changes have occurred. There have been improvements in the technology of oil and gas exploration and development, changes in the scientific understanding of how ecosystems function, and changes in management requirements necessary to meet the laws governing the national grasslands and forests. For example, the requirements to manage habitat for threatened or endangered plant and animal species are constantly changing. With this analysis, the existing leasing decisions are being reviewed in light of new information generated since the current decisions were made

(e.g., newly listed threatened and endangered species, rare ecosystem elements or habitats). In addition, good management and the law require oil and gas leasing to be consistent with the approved Management Plans. The new information and resulting changes in the Management Plans may result in changes to past leasing decisions or in the conditions of surface occupancy (stipulations) attached to new leases that will be issued under new decisions made based on this analysis. New leasing decisions, however, cannot force changes of terms on leases in existence as of the date of those new decisions. Such leases will continue as issued for the full extent of their terms. If such leases are not extended by conditions as specified in 43 CFR 3107 (such as establishment of production), and become available for lease under new leasing decisions, those lands will then be leased with stipulations as specified in this analysis and the resulting new leasing decisions. Future operations on pre-existing leases will be administered under new plan direction as much as possible without violating pre-existing lease rights.

Key indicators for the oil and gas leasing topic are listed below:

Indicator	**Units of measure**
Available for leasing	acres
Available for leasing but currently not authorized	acres
Available with stipulations	acres
No Surface Occupancy (NSO)	acres
Controlled Surface Use (CSU)	acres
Timing	acres
Standard Lease Terms	acres

Plant and Animal Damage Control

Under certain conditions, some plant and animal species can cause unacceptable economic and/or environmental effects. Sometimes management activities on National Forest System lands include control of noxious or exotic plants, insects, predators, and rodents. Damage control is a cooperative effort involving the Forest Service, local and state government, and other federal regulatory agencies.

Prairie dog management on National Forests and Grasslands continues to generate public interest. Although prairie dog communities are major contributors to biological diversity on National Grasslands, adjoining landowners often view prairie dogs as potentially damaging to private land values and the land's agricultural production. Many livestock grazing permittees are also concerned about the loss of forage on National Grasslands to prairie dogs. Other people interested in prairie dogs include recreational shooters, watchable wildlife enthusiasts, and wildlife interests. This plan revision process addresses management direction for prairie dog poisoning and shooting.

Invasions of noxious and non-native plants are reducing or eliminating the integrity of native plant communities. Existing Management Plans direct managers to treat noxious and non-native species on a priority basis. Control is emphasized on newly infested areas, priority areas, and minor infestations. Research results have given us an integrated pest management menu of options to control undesirable vegetation. Management direction must be changed to help us implement more effective control methods.

The Animal and Plant Health Inspection Service (APHIS) has primary responsibility for providing technical assistance and coordinating programs directed at predator control, control of range insect pests (such as grasshoppers), biocontrol of noxious weeds, and animal damage control. State wildlife agencies and county weed and pest boards assist with damage control in some Northern Great Plains states. The Forest Health Protection group provides technical assistance and coordinates suppression programs for forest insect and disease pests.

A recently issued policy on animal damage, primarily targeting predators, outlines a cooperative approach between the Forest Service and APHIS. The Forest Service has revised its manual direction (FSM 2650 Animal Damage Management) to elaborate on the Master Memorandum of Understanding signed by both agencies.

Key indicators for the plant and animal damage control topic are listed below:

Indicator	Units of measure
Prairie dog poisoning	acres
Noxious plants	percent change in total acres

Rangeland and Forest Health

The health of the national grasslands and forests is important to many people. Northern Great Plains ecosystems evolved under several major environmental forces, including grazing, fire, floods, and drought. The plants and animals that adapted and persisted are those best suited to the disturbance regimes of this region.

Human use and manipulation of these lands and waters have changed the natural disturbance regimes that originally shaped this region, affecting native plants and animals. Native animals play important ecological roles as pollinators, decomposers, soil builders, nutrient cyclers, and vital links in the food chain. Non-native or invasive plant species have replaced many native plant communities. The diversity of native plants and animals on national grasslands and forests is largely determined by the ability of the Forest Service and other cooperators to manage vegetation for a variety of successional and structural stages.

Biological diversity is defined as the full variety of life in an area, including the ecosystems, plant and animal communities, species and genes, and the processes through which individual organisms interact with one another and with their environments. We are directed by law and regulation to provide for the viability of all native and selected non-native plants and animal species. Maintaining biological diversity, or "keeping all the pieces," will help us to ensure we meet our legal mandates.

Public interest for maintaining the biological integrity and diversity of these public lands has grown substantially over the last decade. Biodiversity has surfaced as an issue in preliminary discussions and environmental analyses conducted in recent years. The scientific community, supported by published research, has emphasized the importance of biodiversity conservation. The Council on Environmental Quality recommends incorporation of the issue of biodiversity conservation in environmental analyses.

The existing Management Plans do not fully address all biological diversity elements, especially for the National Grasslands. New and revised management guidance and direction are needed that address conservation of biological diversity and ecological processes (structure, function and pattern).

New information on species and their habitats found on or near national grasslands and forests in the planning area has also been gathered. Eight species are federally listed or proposed for listing and three are candidates for federal listing as threatened or endangered under the new proposed rules of the US Fish and Wildlife Service. Species listed or proposed for listing include: Black-footed ferret, Whooping crane, American burying beetle, Bald eagle, Blowout penstemon, Western prairie-fringed orchid, Topeka shiner, and mountain plover. Five of these species were listed or proposed for listing after existing plans were developed. South Dakota and Nebraska list another 20 species under state laws. The Nature Conservancy maintains a list of 50 to 60 species of concern in the Northern Great Plains. Many of these same species are among the 86 listed by the USDA Forest Service as sensitive species in Forest Service Regions 1 and 2.

Prairie dogs are a keystone grassland herbivore, and are a sensitive species in some areas of the Great Plains. They now exist in about 2 percent of their historic range. Many associate species (e.g., ferret, swift fox, ferruginous hawk, burrowing owls, mountain plover) are endangered, threatened, or experiencing significant declines.

In 1998, black-tailed prairie dogs were petitioned for listing as a threatened species. In 1999, the FWS completed their status review of this species and determined that its listing was warranted but precluded due to higher priority of listing needs for other species. Black-tailed prairie dogs have been classified as a candidate species for protection under the Endangered Species Act. The status of this species will now be reviewed annually.

The largest remaining prairie dog complexes exist on Indian reservations and national grasslands. The opportunity to conserve this declining species within the planning area lies heavily on the ability to increase prairie dog complexes on national grasslands. This will require changes in direction (affecting livestock grazing intensities, poisoning, shooting, etc.) from current management plans in order to conserve the species.

During 2000, states within the planning area have been working to develop statewide prairie dog conservation strategies. The Forest Service has been involved in these statewide planning efforts and realizes that states are relying heavily on national grassland prairie dog populations to play a role in conservation efforts. These statewide plans are not completed as this FEIS goes to print. The management plans for these units will be updated as needed as cooperative agreements are developed or if the species is listed. A change in management direction for protection of this species from the direction described in existing management plans is warranted.

The status of breeding birds in the United States is gaining interest. Of the 435 bird species breeding in the U.S., 330 have been documented to breed on the Great Plains. Great declines in some species from 14-91 percent result from habitat loss, degradation, and fragmentation. Since the plan revision process began, the mountain plover has been proposed for listing as a threatened species. It is also expected that the northern sage grouse will be petitioned for listing. Existing management plans did not address specific management direction to maintain the viability of these species on national grasslands. Failure to address the management needs of these species could result in legal vulnerability that could affect future management activities on these public lands.

Biodiversity conservation encompasses management for threatened, endangered and sensitive species, and management indicator species, as well as many additional considerations, including habitat for game species. Current and potential habitat conditions for these species

must be assessed and desired habitat conditions defined. The information contained in state Fish and Wildlife plans will be considered in defining desired habitat conditions. Additionally, agency biologists and members of the public have questioned the biological appropriateness of Management Indicator Species (MIS) identified in the existing land and resource management plans, suggesting other species in place of those currently used as MIS. Monitoring and research have indicated that some different and additional species are more appropriate to use as indicators of our management on the variety of species that have habitats in the planning units.

Native diversity has undergone changes from land-use and agricultural practices. Also, invasions of noxious and invasive plants are reducing or eliminating native plant species.

Some authorized activities and land uses, such as livestock grazing have major influences on watershed health and soil stability. The quantity and type of vegetation maintained on uplands and along drainages, streams and rivers largely determine water and soil conditions.

The health of forest ecosystems is closely tied to the ability of riparian and other prairie woodlands to regenerate and sustain themselves. Fire, insects and disease in coniferous forests are significant influences on forest health.

Key indicators for the plant and animal damage control topic are listed below:

Indicator	**Units of measure**
Prairie dog colonies	acres
Black-footed ferret reintroduction areas	number and acres
Habitat suitability for management indicator species (by species)	
low	percent
moderate	percent
high	percent
Endangered Species Act species, candidate species, other species of concern	
Grass / shrub structure	
low	percent
moderate	percent
high	percent
Grass / shrub composition	
early	percent
early intermediate	percent
late intermediate	percent
late	percent
Forest structure	
late successional	percent
Riparian / woody draw regeneration	percent
Area being rested	percent
Suitable rangeland bison-only grazing	percent
Tree plantations (Nebraska NF – Bessey RD)	acres / decade
Restoration (prescribed burning, mechanical treatment, etc.)	acres

Recreation and Travel Management

Recreation on public lands in the prairie ecosystem is increasing dramatically. Contributing factors are: 1) national grasslands have been recognized for hunting opportunities; 2) the public has increased appreciation for the beauty of the prairie; 3) more people are taking short vacations to the closest public lands; and 4) there has been a loss of solitude in mountain areas. Current recreation use exceeds the levels anticipated in the existing Management Plans. Some leisure activities, such as mountain biking and use of all-terrain vehicles, have greatly increased in popularity since the existing Management Plans were written. The public is demanding recreational uses and values on our Great Plains grassland areas be addressed more fully.

Monitoring indicates that recreation users are generally satisfied with their recreation experiences, but also some people want more developed facilities, improved roads, more site and area information, and better signing. Plan revision is needed to improve developed recreation site direction.

Hunting opportunities, such as upland bird hunting, is a major dispersed recreational activity on many of these public lands. Big game hunting is also popular. The amount of hiding and holding cover for game species depends on sufficient vegetative cover following livestock grazing season. The Management Plans need to more fully address the need for wildlife cover.

While there are few designated "roads" in some areas, portions of the grasslands are well traveled. Topography and vegetation make it possible for all terrain vehicles to drive just about anywhere. Some people are asking us to address road or area restrictions to address resource impacts and recreational desires for solitude. Revision is needed to provide improved direction on access and travel management.

User preferences vary widely over available recreational opportunities. Some users desire primitive recreation experiences with restricted motorized travel, while others, such as all-terrain vehicle users, prefer motorized access. Because recreation use on these public lands has increased over the last decade, the conflicts have also increased. There is a need for improved plan direction on providing a range of recreation opportunities to meet a variety of user expectations.

Key indicators for the recreation and travel management topic are listed below:

Indicators	**Units of measure**
Scenic Integrity Levels	acres
Recreation Opportunity Spectrum allocations	acres
Use levels at developed sites / clusters of dispersed sites	PAOTs
Trails	miles
Dispersed Recreation	
Fishing emphasis	ponds added
Big game hunting emphasis	change in opportunity
Upland game hunting cover	change in opportunity
Prairie dog colonies closed to shooting	areas
Prairie dog colonies for viewing / educational studies	acres
Travel restricted	acres
Expected designated routes	miles and miles per square mile

Special Area Designations

The Northern Great Plains National Forest and Grassland units include many unique and outstanding combinations of physical and biological resources, and areas of social interest. These are collectively referred to as "special areas."

Special area designations may include wildernesses, wild and scenic rivers, cultural and historic sites, research natural areas, geologic and paleontology sites, rare habitats, botanical areas, prairie dog colonies, black-footed ferret habitat, wetland conservation areas, unique ecological communities, and areas of biodiversity richness. Special areas already designated in the planning area include three research natural areas, one wilderness, one national recreation area, one experimental forest, one purchase unit, and one prairie dog management area.

Special area designation has received a great deal of interest from many. Maintaining grassland roadless areas and developing grassland wilderness areas has become important to many people. Roadless areas must be evaluated for potential wilderness designation during the Management Plan revision process (36 CFR 219.17). Likewise, interest in Research Natural Areas in the grassland ecosystem has increased. Forest planning must make provisions for the establishment of Research Natural Areas (36 CFR 219.25).

There is also interest in maintaining wild and scenic rivers. Consideration of potential wild and scenic rivers is an inherent part of the land and resource management planning process (FSH 1924). Other special areas may be desired for their contributions to furthering knowledge about natural systems, interpretive / educational opportunities, or other objectives. There is a need to periodically review the need for special area designations as demonstrated by public interest, law and regulation.

The purpose and authority for study of Wild and Scenic Rivers are in the Wild and Scenic Rivers Act of October 1, 1968, as amended. The process for valuation and recommendation for designation can be found in Chapter 8, FSH 1909.12, and Department of Interior and Department of Agriculture National Wild and Scenic Rivers System: Final Revised Guidelines for Eligibility, Classification and Management of River Areas. All rivers recommended by Congress for study, identified in the National Park Service / Nationwide River Inventory, or identified as a potential Wild and Scenic River as part of this revision process have been analyzed.

Key indicators for the special area designations topic are listed below:

Indicators	**Units of measure**
Recommended for Wilderness	number and acres
Recommended Wild / Scenic rivers	
wild classification	miles
scenic classification	miles
recreation classification	miles
Special Interest Areas	number and acres
Research Natural Areas	number and acres

From the above information, the Forest Service developed the Purpose and Need for Change and defined the major revision topics. In February 1997, the Forest Service published (in the *Federal Register*) a Notice of Intent to Prepare an Environmental Impact Statement to revise the

management plans. The federal notice initiated the formal public involvement process. In response to the federal notice and many other public outreach efforts, the Forest Service received public comments to help further define the major revision topics. In December 1998, a revised Notice of Intent was published in the *Federal Register* to describe some changes that had occurred.

Other Topics

Other topics identified as important to the public, such as fossils, land adjustments, heritage resources, forest management, minerals (other than oil and gas), and water resource management, are addressed through this revision process but were not considered major revision topics.

Other Topics Raised But Not Addressed

The public and other agencies raised a number of additional topics and issues that are not addressed in detail in these revision documents. Such topics require departmental or legislative actions or come under the authority of other governmental agencies and are outside the scope of land management planning decisions. These topics include but are not limited to the following:

- Departmental and Legislative Topics:

  Grazing fee levels.

  Recreation user fees.

  Sale or transfer of administration of the national grasslands.

  Transfer of the Cedar River and Grand River National Grasslands to the Standing Rock Sioux Tribe.

  Transfer of the Buffalo Gap National Grassland to the Oglala Sioux Tribe.

  Transfer of the Fort Pierre National Grassland to the Lower Brule Sioux Tribe.

  Primacy of livestock grazing on national grasslands.

- Topics for Other Governmental Agencies:

  Predator control.

  Grasshopper control.

  Transfer of Shadehill Reservoir to another federal agency.

- Topics to be Addressed by the Forest Service at the Project Level:

  DM&E railroad expansion.

  Establishment of livestock stocking rates.

  Numbers of AUMs (to be established through the allotment management planning process).