

SUMMARY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Purpose and Need for Action

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. The following national grassland and forest units are affected by this revision process:

Dakota Prairie Grasslands

- 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
- Samuel R. McKelvie National Forest
- Nebraska National Forest
- Oglala National Grassland

Land and resource management plans (Management Plans) currently direct management of the national forest and national grassland units. These plans were issued: June 10, 1987, for the

Custer National Forest (which includes the Dakota Prairie Grasslands); November 20, 1985, for the Medicine Bow National Forest (which includes Thunder Basin National Grassland); and December 14, 1984, for the Nebraska National Forest. Other National Forest System units under the administration of the Medicine Bow-Routt National Forests 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).

Purpose and Need

The National Forest Management Act requires that national forests and grasslands review and, in most cases, revise their Management Plans to adapt to changed conditions and emerging issues. These revisions are required every 10 to 15 years.

Conditions have changed since the existing Management Plans were written in the 1980s. Also, the national grassland and forest managers have learned from their experiences as they've implemented these Management Plans. Their experiences, monitoring, and comments from the public have helped identify needed changes. The changed conditions are summarized as Major Revision Topics in this publication.

The planning units included in the revision of Northern Great Plains Management Plans Revision comprise roughly 2.9 million acres, spread over 4 states, with an assessment area covering nearly 250 million acres (see map on inside front cover). These planning units share many physical, biological, and social elements. They are more alike than different.

Because ecosystems cross land ownerships, jurisdictions, and administrative boundaries, the national grassland and forest managers have looked beyond their own administrative boundaries. This big-picture look helped them understand how these public lands fit within the context of the larger area.

Planning has been coordinated with other landowners, other federal agencies, and state, local, and tribal governments in a manner that respects the rights of individuals and the jurisdictions of other government entities.

This combined revision approach enabled the planning units to share ecological assessments, plan-related analyses, and resource expertise. Only one environmental impact statement has been prepared and provides the basis for revising each Management Plan.

Decisions Made in a Management Plan

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

- Grasslandwide and forestwide multiple-use goals and objectives.
- Grasslandwide and forestwide management requirements (standards and guidelines).
- Management areas and direction applying to future activities in management areas.

- Lands administratively available for oil and gas leasing, and leasing decisions for specific lands.
- Lands capable and suitable for producing forage for grazing animals and for providing habitat for management indicator species, and lands not suitable for timber production and, where applicable, establishment of an allowable timber sale quantity.
- Monitoring and evaluation requirements.
- Recommendations to Congress of lands for Wilderness designation and rivers suitable for inclusion into the Wild and Scenic River System.

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, the oil and gas leasing decisions will be made, where applicable. These decisions will determine lands administratively available for leasing and will authorize specific lands for leasing [36 CFR 228.102(4)(d)&(e)]. Where applicable, 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, the Bureau of Land Management (BLM) is responsible for the management of subsurface activities of all federally owned leasable minerals. The BLM, acting for the Secretary of the Interior, may lease National Forest System lands authorized for leasing in the applicable decision document. Authorized leases will include the standard terms placed on federal oil and gas leases and may include special stipulations designed to protect surface resources. The BLM will decide whether or not to offer for lease the specific lands 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.

The Planning Units

The planning units under study often 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 following table lists the names of the units and the states and counties in which they lie.

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

Unit	Affected Counties	Acres
Dakota Prairie Grasslands		
Cedar River National Grassland	Grant and Sioux Counties, North Dakota	6,800
Grand River National Grassland	Corson 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 Unit		
Thunder Basin National Grassland	Campbell, Converse, Crook, Niobrara, Weston Counties, Wyoming	553,300
Nebraska National Forest Units		
Bessey Unit	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 Unit	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 interior 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 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. A good deal of natural sandy blow-outs occur 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, to Newcastle on the east, to Gillette on the north, to 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

Bessey Ranger District and Samuel R. McKelvie National Forest

About 90,200 acres of Sandhills country make up the Halsey unit of the Bessey District, located in central Nebraska in Thomas and Blaine Counties. 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 northcentral 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, raptors and the endangered blow-out penstemon.

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, and 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 Ranger District, 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.

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.

Pine Ridge Ranger District

This unit lies in Dawes and Sioux Counties of northwestern Nebraska. Included are the Pine Ridge area at about 50,500 acres with the Soldier Creek area 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 District is a popular outdoor destination. Its pine-clad forests and rugged sandstone terrain, rising from the surrounding plains, provide a scenic backdrop for a number of recreational activities.

Major Revision Topics

Major revision topics are those for which changes in resource conditions, technical knowledge, data improvement, or public opinion 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.

The combined effect of the needed changes demand attention through plan revision. The major revision topics described below influenced the decision to revise the plans.

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

The seven major revision topics are described below.

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 their local economy and their 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, 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 practices, recreate, or work. For instance, some American Indians in the planning area hold livestock permits and others work for energy-extraction industries.

Livestock Grazing

Livestock grazing is a permitted use on public lands administered by the Forest Service on the Northern Great Plains. Livestock grazing occurs on most National Forest System lands under review on the Northern Great Plains. Strategies for livestock grazing must provide for sustained stewardship of land, resources and communities. Appropriate grazing levels and strategies continue to be debated.

The planning area has been inventoried to describe the current mix of vegetation and 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.

The allocation of animal unit months (AUMs) is currently based on 1,000-pound cows. Genetic improvements in cattle have increased their size to as much as 1,600-pound cows. Methods for adjusting grazing allocations have been examined during this revision process.

Over time, water and fence developments have reduced secondary range. This type of range, which occurs in pastures with few water developments and low forage utilization by livestock, is desirable for upland habitat and for diversity of native plant and animal species.

Furthermore, some recreationists request large unfenced areas in order to experience a vast, open landscape without having to cross a lot of fences. To respond to this request, the average pasture size is examined by alternative.

Another concern is a need to build flexibility into livestock management in order to sustain vegetative resources when disturbances, such as drought, occur. Drought management

guidelines have been developed. Concepts, such as swing pastures, rest areas, and use of yearlings, give managers flexibility to sustain grazing when drought or fire reduces forage. This flexibility usually means that some areas be rested from livestock grazing each year. Currently, only one of the 10 planning units affected by this revision process has a guideline that requires a percentage of acres be rested. Standards to address this concern have been developed and appear in the draft documents.

Finally, many in the public are requesting that bison-friendly policies be developed. Commercial markets for bison products are increasing, and a few permittees graze bison on their allotments on the Northern Great Plains. Direction has been written to amend agreements with livestock associations to allow permittees to graze bison on their allotments if certain stipulations, such as fencing considerations and livestock health, are met.

Oil and Gas Leasing

In 1987, Congress passed the Federal Onshore Oil and Gas Leasing Reform Act, which expanded the Secretary of Agriculture's role in the leasing decision process. Within the National Forest System, the Secretary of Agriculture is authorized to identify lands for which leases can be sold and to determine appropriate stipulations to protect surface resources. Regulations to implement this act were developed by the Forest Service and became effective April 20, 1990 (36 CFR, part 228, 100 et. seq.).

Leasing analyses in accordance with the requirements of 36 CFR 228.102 (c) have been completed or are in progress for about 1.7 million acres of 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. The existing leasing decisions are being reviewed in light of new information gathered as a result of information from the Northern Great Plains assessment and other sources (for instance, newly listed threatened and endangered species, and rare ecosystem elements or habitats). The new information may result in changes to existing leasing decisions.

The remaining 1.2 million acres of the planning area, including the Sheyenne, Grand River, Fort Pierre National Grasslands, and the eastern half of the Buffalo Gap National Grassland, and the Nebraska and Samuel R. McKelvie National Forests, were not examined because of low oil and gas development potential.

Because a lease conveys the right to develop the oil and gas resource, there is an implied right--unless no surface occupancy is required--to allow construction of facilities needed for oil and gas development, such as roads, pipelines, power lines and well pads. The existing leasing decisions may be changed if the management plan establishes new or different areas where oil and gas development or leasing would not be in compliance with the management area goals. However, the amended leasing decision will not change existing leases.

Plant and Animal Damage Control

Under certain conditions, some plant and animal species can cause unacceptable economic and environmental effects. Sometimes management activities include control of noxious or invasive plants, insects, predators and rodents. Control is a cooperative effort involving the Forest Service, local and state governments, other federal regulatory agencies and local livestock grazing associations.

Prairie dog population management continues to generate public debate. Although prairie dog communities provide a good deal of biological diversity, many adjoining landowners view prairie dogs as potentially damaging to private land values and their agricultural production. Many livestock grazing permittees are also concerned about loss of forage to prairie dogs. Other people view prairie dogs differently. Some have an interest in shooting prairie dogs as a recreational activity. Still others enjoy viewing prairie dogs and the many other species that frequent prairie dog colonies. Finally, others highly value prairie dogs for the biological values they add to grassland ecosystems.

Invasions of noxious and non-native or invasive plants, such as leafy spurge, Kentucky bluegrass, cheatgrass, and smooth brome, are reducing or eliminating many native plant species, and reducing plant production. Current management plans direct managers to treat noxious and non-native or invasive species on a priority basis. Control is emphasized on newly infested areas, priority areas, and major infestations. Research is needed to develop additional control methods and resources.

The Animal and Plant Health Inspection Service (APHIS) has primary responsibility for providing technical assistance and coordinating programs directed at predator control, 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. Forest Health Inspection 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 to elaborate on the Master Memorandum of Understanding signed by both agencies.

Rangeland and Forest Health

The health of the rangelands and forests on the national grasslands and forests is important to many people. Northern Great Plains ecosystems evolved under several major environmental forces, including herbivory (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.

Management programs for rare species are designed and carried out to restore or recover individual plant and animal species in serious decline, such as those protected under the Endangered Species Act. Of particular interest is the recovery of species associated with black-tailed prairie dogs, such as black-footed ferret and mountain plover. Management strategies often include conservation of original ecosystem parts.

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.

Recreation and Travel Management

The demand for recreational opportunities on public lands in the prairie ecosystem is increasing dramatically. Contributing factors are listed below:

- Demand for hunting and fishing opportunities on national grasslands and national forests continue to increase.
- The public has an increased appreciation for the beauty of the prairie.
- More people are taking short vacations to the closest public lands.
- There has been a loss of solitude in mountainous areas and some people are seeking that solitude in grassland areas.

Recreation uses and interests do vary quite widely across the planning area. Some recreation activities, such as mountain biking and riding all-terrain vehicles, have become more popular since the current management plans were first implemented. Current recreation use exceeds levels anticipated in the current management plans. The increased recreation use highlights the importance and value the national forests and national grasslands affected by this revision process have in fulfilling recreation, aesthetic and spiritual needs expressed by the public.

The Recreation Opportunity Spectrum (ROS) designations typical in management plans were not determined for all units in the last planning process. Only the Thunder Basin National Grassland has current visual quality objectives. In addition, the present visual quality system is being replaced by the Scenery Management System (SMS). The draft documents address both ROS and SMS.

Hunting is also popular; it is a significant dispersed recreation activity. Many game species depend on sufficient vegetative cover following the livestock grazing season. This concern is not fully addressed in the current management plans.

Recent surveys and trend data suggest that public demand for fishing is increasing on National Forest System lands on the Northern Great Plains. Fishing opportunities are more fully addressed in the revised management plans.

There is a wide variation in user preferences for available recreation opportunities on the lands affected by this revision. Travel management is often an important element in recreation experiences. Some users want primitive experiences with restricted motorized travel. Some rely on motorized access for their experiences. Because recreation use on these public lands has

increased dramatically, the potential for conflicts between users has also increased. The appropriateness of motorized travel as it complements or conflicts with specific recreation settings and associated experiences has been examined and is addressed in the draft revision documents.

Special Area Designations

The planning area includes many unique and outstanding combinations of physical and biological resources and areas of special social interest. These are collectively referred to as "special areas." Interest in protecting special areas has been shown by the public, other agencies, and Forest Service employees.

Four types of special area designations exist: Wilderness areas, Wild and Scenic River designations, Research Natural Areas and Special Interest Areas. Special area designations may include cultural and historic sites, geologic and paleontologic sites, rare habitats, botanical areas, zoological areas, wetland conservation areas, unique ecological communities, and areas of biodiversity richness. These special areas influence land allocation and management.

Maintaining grassland roadless areas and developing grassland Wilderness areas have become important to some people. Within the last few years, two grassland Wilderness bills have been proposed for national grassland areas in North and South Dakota. Likewise, interest for Research Natural Areas in the grassland ecosystem has increased. Some would like to see the Forest Service preserve some of these areas of native grassland vegetation as Research Natural Areas.

Special areas already designated on National Forest System lands associated with this revision process include four Research Natural Areas, two Special Interest Areas, one Wilderness, one national recreation area, one experimental forest, one purchase unit, and one prairie dog management area.

Regarding roadless areas, the Forest Service is required (36 CFR 219.17) to evaluate all roadless areas for potential Wilderness designation during the management plans revision process. This analysis has produced an inventory of roadless areas meeting minimum criteria for Wilderness according to the 1964 Wilderness Act and the 1975 Eastern Wilderness Act. Actual Wilderness designation is a Congressional responsibility. The Forest Service only makes recommendations.

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 evaluation 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 a part of this revision process have been analyzed. Findings can be found in the draft revision documents.

Other special areas have been analyzed for their contributions to furthering knowledge about natural systems, interpretive and educational opportunities, and other objectives.

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. These topics include but are not limited to:

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, and primacy of livestock grazing on national grasslands.

Topics for Other Governmental Agencies: predator control, grasshopper control, and 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, and numbers of AUMs (to be established through the allotment management planning process).

Description and Comparison of the Alternatives

Introduction

After identifying the seven major revision topics, an interdisciplinary team analyzed how well the three current management plans associated with this revision process (the 1987 Custer National Forest Management Plan, the 1985 Medicine Bow National Forest Management Plan, and the 1984 Nebraska National Forest Management Plan) responded to the major revision topics. The team then began to consider potentially necessary changes to those plans based on the revision topics.

Appropriate analytic tools, land-based inventories, and dialogue with the public, other agencies, local, state, tribal and federal governments were used to clarify the development of alternatives. After reviewing more than 3,100 comment documents received in response to public outreach and scoping, forest and district personnel fully developed the five alternatives presented in the Draft Environmental Impact Statement (DEIS) and the three proposed Revised Management Plans that accompany it.

Each alternatives has identical or similar features to the others, and certain portions of the three proposed Revised Management Plans are the same for all alternatives. In many other respects,

the alternatives are distinctly different from each other, especially in how they address the revision topics. Each alternative is, in effect, a stand-alone management plan, which, if chosen, would guide management of the lands under review for the next 10 to 15 years.

It was the intent to make all of the alternatives meet the purpose and need of this revision effort and to be fully implementable and achievable, subject to budgetary allocations. All of the alternatives represent the principles of multiple use and sustained yield, maintain or improve ecosystem health, and attempt to comply with environmental laws, although they may do so in slightly different ways. While all the alternatives provide a wide range of multiple uses, goods and services, some alternatives give more or less emphasis to particular ones. After analyzing the effects of the alternatives on imperiled species, it appears some alternatives may not be fully implementable until some adjustments are made in mitigation measures and allocations. Although information was available on the conservation of some of the imperiled species in the development of alternatives, effects on other imperiled species were not known until after the alternatives were fully developed, mapped, and analyzed. Needed adjustments will be made between the draft EIS and final EIS.

Important Points Common to All the Alternatives

As directed by Forest Service policy and regulations, federal law and guidance as described in the Regional Guides for Regions 1 and 2, all the alternatives will:

- Maintain basic soil, air, water and land resources.
- Provide a variety of life through management of biologically diverse ecosystems, though they may differ in how they emphasize native plant and animal management.
- Provide recreational opportunities and maintain scenic quality in response to the needs of national forest and national grassland users and local communities. All protect heritage resources in accordance with applicable laws and regulations, while also providing recreational and educational opportunities. All protect fossils and antiquity resources.
- Sustain multiple uses, products and services in an environmentally acceptable manner. This includes timber harvests, livestock grazing and locatable and leasable minerals extraction.
- Through cooperation with other landowners, place emphasis on improved landownership and access patterns that benefit both private landowners and the public.
- Improve financial efficiency for all programs and projects by minimizing expenses, recognizing, however, that not all programs and projects produce revenue.
- Emphasis cooperation with individuals, organizations, and other agencies to coordinate the planning and implementation of projects.
- Promote rural development opportunities to enrich rural cultural life, to enhance the environment, to provide employment and to improve rural living conditions.

All alternatives use a consistent numbering and naming scheme, which differs from the schemes shown in the three current management plans.

Collaborative Group Results Used in Alternatives

Recognizing the value of citizen participation in the planning process, Forest Service managers organized five "collaborative groups" across the Northern Great Plains to assist in developing alternatives.

The five collaborative groups were organized on the following units: Bessey Ranger District and Fall River Ranger District (Buffalo Gap National Grassland) of the Nebraska National Forest, Grand River National Grassland, Little Missouri National Grassland, and Sheyenne National Grassland of the Dakota Prairie Grasslands. Each group choose topics most suited to issues surrounding their respective unit. Over a series of meetings, the groups produced options or alternatives to be considered in the analysis process. A summary of each group's contribution is described below.

Dakota Prairie Grasslands

Grand River Collaborative Group

A group of mostly local people, representing a wide range of interests including ranching, wildlife, recreation and the environment, met to discuss prairie dog management on the Grand River National Grassland. Their ideas are represented in the range of alternatives for prairie dog management.

Little Missouri Collaborative Group

A group of about a dozen mostly local people, with interests and residences in Slope County, western North Dakota, have been meeting to discuss numerous issues pertaining to the Little Missouri National Grassland, particularly with respect to Slope County.

Sheyenne Collaborative Group

A group of people representing interests in southeastern North Dakota met to discuss what the desired future conditions for the Sheyenne National Grassland ought to be and how best to achieve those desired conditions. The group provided input on vegetative structure, composition and seral stage, which helped assist Forest Service managers in developing vegetative matrices for the grassland alternatives.

Nebraska National Forest Units

Bessey Collaborative Group

A group met to discuss issues related to forest plantation management for the Bessey Ranger District of the Nebraska National Forest. The two Sandhills units (Bessey and the McKelvie National Forest) contain about 20,000 acres of hand-planted forests on a native grassland landscape. The group devised four alternatives ranging from actively converting the forest plantations to native prairie to maintaining the 20,000 acres of forest plantations that have been incorporated into the alternatives.

Fall River Collaborative Group

A group representing such interests as ranching, wildlife, motorized and non-motorized recreation met to develop a draft alternative to be considered for the Fall River Ranger District (western half of the Buffalo Gap National Grassland). Their proposal is being examined as Alternative 3a in the environmental impact statement.

Alternatives Considered in Detail

The following alternatives were considered in detail:

Alternative 1 (No Action)

Current Land and Resource Management Plan (Management Plan) direction and emphases would continue. Management area titles and numbers have been changed to make this alternative more easily comparable to other alternatives.

Alternative 2

This multiple-use alternative would emphasize production of commodities, such as livestock, minerals, oil, gas, and timber. Plant and animal habitats would be managed to meet viable populations. Recreation opportunities and special area designations would be provided where they would not foreclose commodity production.

Alternative 3 (Preferred)

This multiple-use alternative would modify the current Management Plan direction by adopting additional special area designations, such as Research Natural Areas, Special Interest Areas, and placing added emphasis on native plants and animals, and recreation opportunities.

Alternative 3a

This alternative was proposed by a public working group convened for the Fall River Ranger District of the Buffalo Gap National Grassland (west half). This alternative applies only to this unit. Where anticipated effects or outputs are different for this alternative, those differences are displayed in the comparison tables.

Alternative 4

This multiple-use alternative would feature natural processes and restoration of impaired native ecosystems. It would demonstrate the role that national grasslands and forests have in sustaining rare animal and plant communities within the Northern Great Plains.

Alternative 5

This multiple-use alternative would accentuate recreation opportunities and noncommodity services and also provide commodity outputs that complement or fit within recreation objectives.

The Major Revision Topics and the Alternatives Considered in Detail

The following section discusses and compares how the alternatives would respond to the major revision topics. Select indicators of differences between alternatives are highlighted. Chapter 3 of the DEIS should be reviewed for a complete discussion of the effects expected from implementing the alternatives.

Community and Lifestyle Relationships

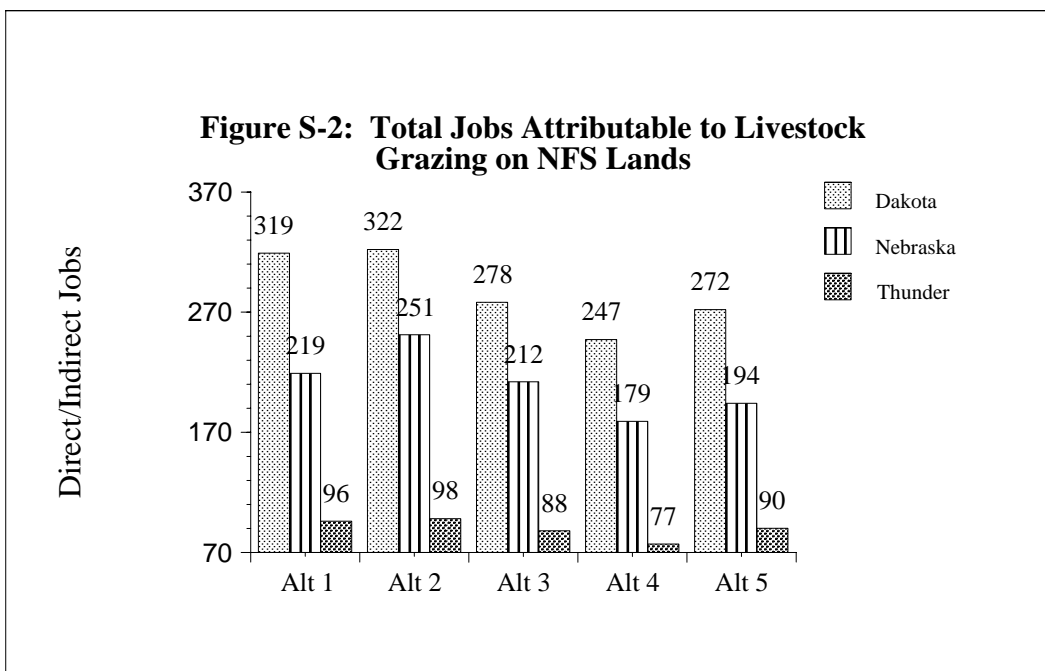
Alternative 1 would rank second of the alternatives in producing direct and indirect jobs (634) and income (\$11.7 million) linked to range-fed livestock grazing attributed to the national grassland and forest units. It would produce the least jobs and income linked to timber management. No increases in jobs and income linked to recreation would be expected. It would be second best (behind Alternative 2) in achieving the principal management goals for the agriculture, oil, gas, minerals user/interest segments. It would be worst in achieving the principal management goals of the wood products user/interest segments. It would be most likely to continue current direction, emphases and levels of natural resource opportunities, causing the least disruption to economic and social institutions and associated lifestyles.

Alternative 2 would produce the most direct and indirect jobs (+6% compared to Alternative 1) and income (+6% compared to Alternative 1) linked to range-fed livestock grazing attributed to the national grassland and forest units. No increases in jobs and income linked to recreation would be expected. It would be best in achieving the principal management goals of the agriculture, oil, gas, minerals, and wood products user/interest segments. It would be worst in achieving the principal management goals of the recreation, wildlife, conservation, American Indian user/interest segments.

Alternative 3 would rank third of the alternatives in producing direct and indirect jobs (-9% compared to Alternative 1) and income (-8% compared to Alternative 1) linked to range-fed livestock grazing and minerals development attributed to the national grassland and forest units. This alternative would rank second in expected increases in jobs and income linked to recreation because of more diverse vegetation conditions, recreation settings and developments, and special area designations. This alternative would place more emphasis on diverse landscapes, plants and animals, and recreation opportunities; however, it would not clearly favor any user/interest segment.

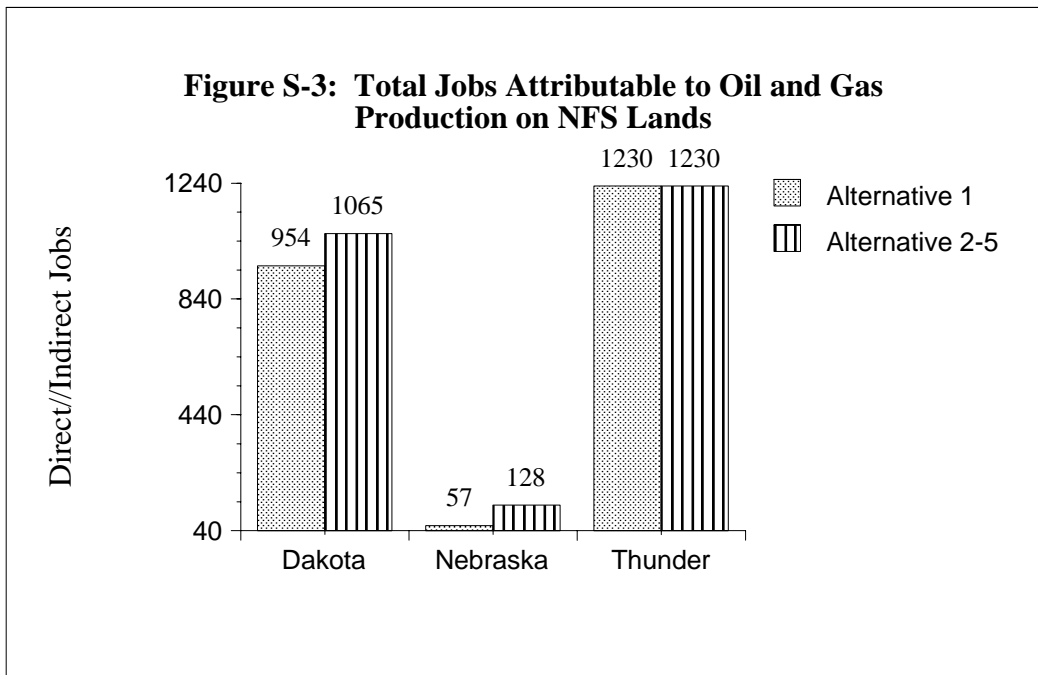
Alternative 4 would rank last of the alternatives in producing direct and indirect jobs and income (-21% compared to Alternative 1) linked to range-fed livestock grazing attributed to the national grassland and forest units. This alternative would rank third in expected increases in jobs and income linked to recreation because of more diverse vegetation conditions and recreation settings, and large increases in special area designations. It would be best in achieving the principal management goals of the conservation, wildlife, and American Indian user/interest segments. It would be worst in achieving the principal management goals of the agriculture, and oil, gas, minerals user/interest segments. Because of the active restoration emphasis, it would be second best in achieving the principal management goals of the wood products segment.

Alternative 5 would rank fourth of the alternatives in producing direct and indirect jobs (-12% compared to Alternative 1) and income (-12% compared to Alternative 1) linked to range-fed livestock grazing attributed to the national grassland and forest units. Alternative 5 would produce the most increases in jobs and income linked to recreation because it would provide the most diverse vegetation conditions, motorized and nonmotorized recreation settings, and recreation developments. It would be best in achieving the principal management goals of the recreation user/interest segments; however, Alternatives 3 and 4 would offer different mixes of motorized and nonmotorized recreation opportunities and favor particular recreation activities.



(The impacts on income and employment may vary, possibly up to 20 percent, due to variations in different grazing systems and intensities that may be used to meet desired conditions.)

Alternatives 2-5 would produce more jobs and income linked to oil and gas production on the Little Missouri, Buffalo Gap and Oglala National Grasslands than predicted for Alternative 1 (current management). Jobs and income linked to oil and gas production could not be predicted by alternative for Thunder Basin National Grassland. The range of jobs and income could vary by about 9 percent. An average of the low and high estimates of jobs is shown in the following figure. Estimated total jobs linked to oil and gas production are shown in the following figure.



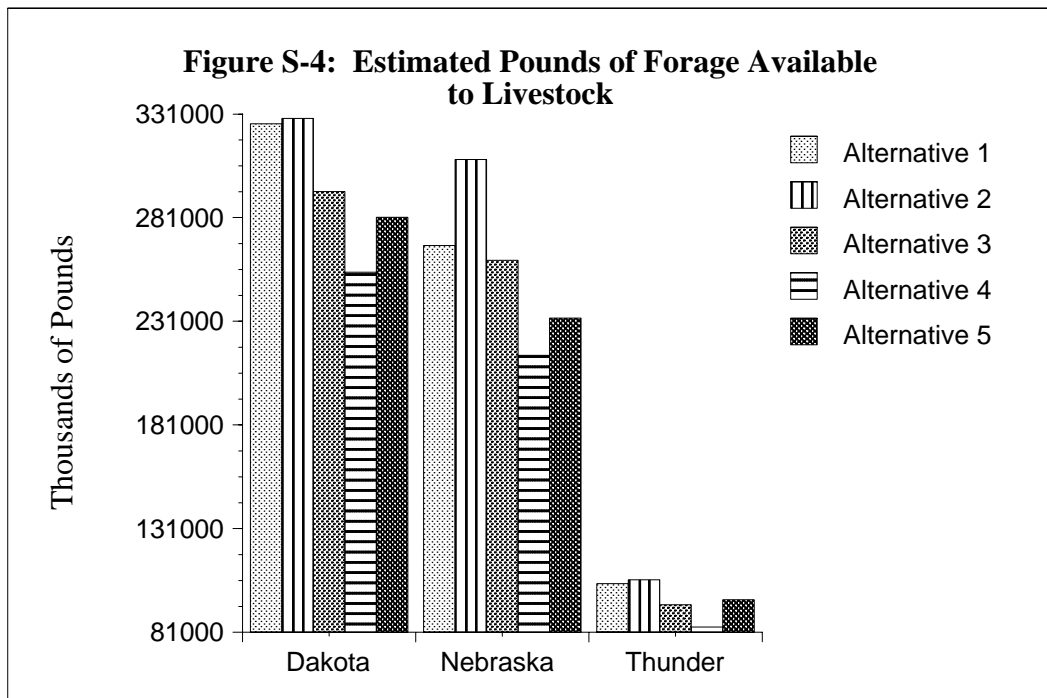
Livestock Grazing

An analysis was completed on all planning units to determine what lands are physically and biologically capable of supporting livestock grazing. For example, areas containing slopes greater than 40 percent or not producing sufficient forage are not considered physically capable. A summary of the percent of each unit found capable of supporting livestock grazing is shown in the following table:

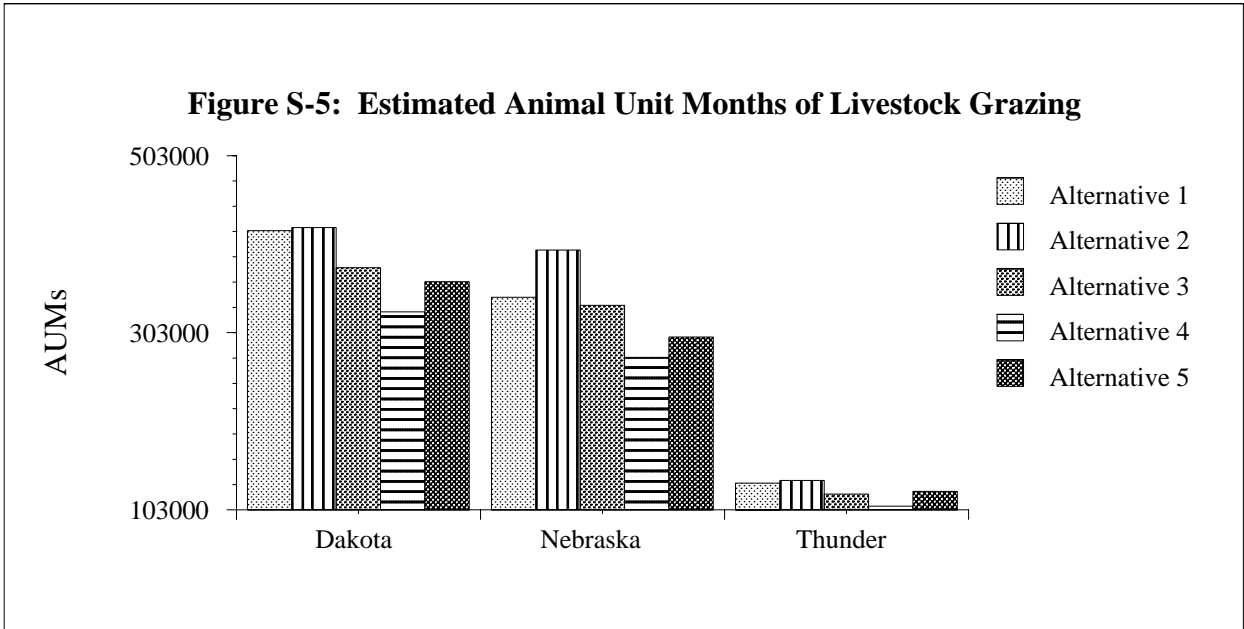
Table S-2: Capable Rangeland for Livestock Grazing

Unit	Total Acres	Capable Rangeland Acres and Percent of Total Acres
Dakota Prairie Grasslands	1,258,260	1,055,650 (84%)
Nebraska National Forest Units	1,056,400	1,010,085 (96%)
Thunder Basin National Grassland	552,490	532,100 (96%)

Next, a suitability analysis was conducted to determine the areas where grazing is appropriate, which included such factors as environmental and economic consequences and trade-offs. Regardless of the alternative, most areas found capable of supporting livestock grazing were also considered suitable. The alternatives do differ in the amount of estimated forage produced on the suitable acres that would be available to livestock. Because of its commodity emphasis, Alternative 2 would make the most estimated forage available to livestock followed by Alternatives 1, 3, 5 and 4, respectively. Alternative 3, 4, and 5 vary in the amount of estimated forage available to livestock because of other resource objectives, such as wildlife, recreation, and ecological restoration. The following figure displays the differences in the alternatives.



Animal units months (AUMs) of livestock grazing that may be expected with the alternatives are shown in the following figure. These are estimates and are used only for an effects analysis and would not be used to set stocking levels. Estimated AUMs for Alternative 1 may differ from actual use based on the implementation of the current Management Plans. It is expected that Alternative 2 would produce the most animal units months of grazing, followed by Alternatives 1, 3, 5, and 4.



Other factors that could affect livestock grazing include limits on grazing developments. Alternatives 1 and 2 would have no limits on water developments and would allow the highest density of water developments to support livestock grazing. Alternative 3 for the Dakota Prairie Grasslands would allow the next highest density of water developments, followed by Alternatives 4 and 5. For the Nebraska National Forest units, Alternative 3 would also allow for the next highest density, followed by Alternatives 5 and 4. For Thunder Basin National Grassland, Alternatives 3 and 4 would allow slightly higher densities than Alternative 5.

The ability to manipulate pasture size would not be limited in Alternative 1 or 2. Alternatives 3, 4, and 5 would maintain or increase pasture size. Alternative 4 would require that 5 percent of suitable rangeland acres be available for bison grazing only.

Oil and Gas Leasing

A decision regarding oil and gas leasing is actually two decisions; first, what lands should be made available for leasing; and second, authorization of specific lands for leasing with appropriate stipulations applied. Previous decisions concerning leasing must be considered and incorporated in the management plan revision process. Existing leasing decisions have been reviewed for new information and changed circumstances. Where appropriate, decisions for the Revised Management Plans may change existing availability and leasing decisions. These decisions are limited to areas with previous leasing decisions or undergoing leasing analysis.

The DEIS alternatives vary in the acres of land allocated to management areas, which can affect acres available for oil and gas leasing to some degree. In total, Alternative 2 would make the most acres available for oil and gas leasing. The acres available for leasing include the entire federal mineral estate, whether or not the federal government owns the surface.

For the Dakota Prairie Grasslands, Alternatives 1, 3, 4 and 5 would make about 977,000 acres available for leasing; while, Alternative 2 would make about 25,000 more acres available.

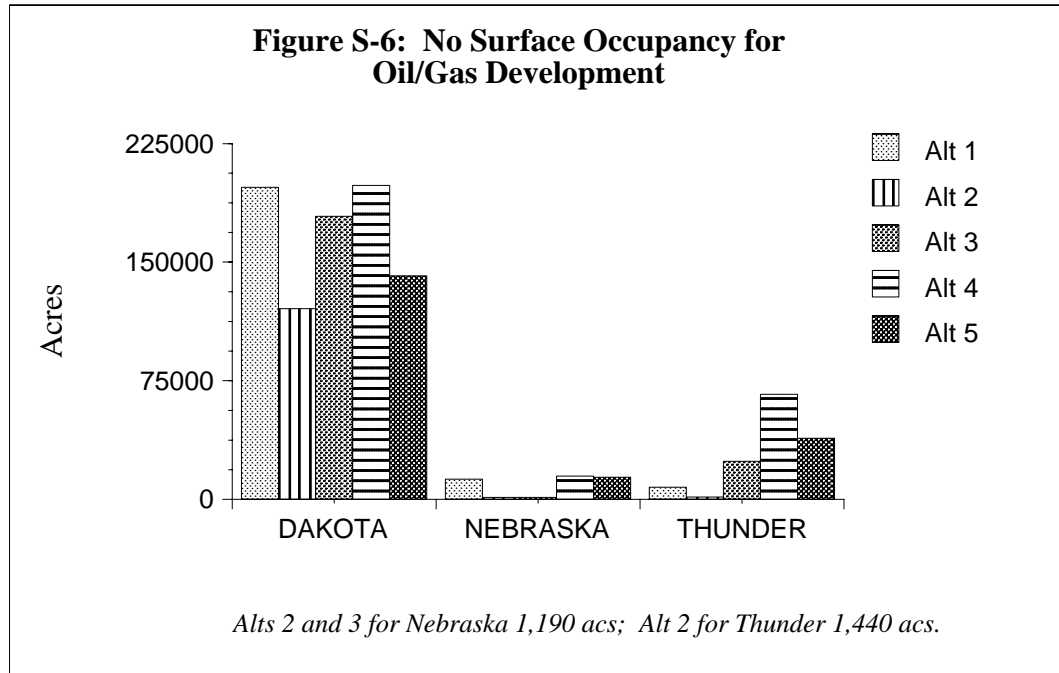
For the Nebraska National Forest units and Thunder Basin National Grassland, all alternatives contain the same number of acres available for leasing. The Nebraska National Forest units contain about 247,000 acres that are available for leasing. Thunder Basin National Grassland contains about 1.16 million acres that are available for leasing.

All leases are subject to Standard Lease Terms. Generally, Standard Lease Terms allow year-round occupancy of the leased lands, with some exceptions for timing and well location. However, certain resource concerns and conditions may put limits on exploration and development beyond the limitations allowed in the Standard Lease Terms.

These additional limits are defined in leasing stipulations and may include timing limits to reduce effects to wildlife that could be negatively affected by development activities during certain times of the year. Controlled Surface Use stipulations are sometimes imposed to avoid potential adverse effects to surface resources, such as scenery, soil, water, fossils, and wildlife habitat.

The most restrictive stipulation is No Surface Occupancy, which prohibits occupation of the surface for exploration or development of oil and gas resources; however, subsurface minerals may be removed if legally available and can be accessed from adjacent areas using directional drilling. Directional drilling increases both drilling and production costs.

The following figure displays the acres with No Surface Occupancy stipulations of those acres available for leasing.



Alternative 4 would contain the most available leasing acres with No Surface Occupancy stipulations. For the Dakota Prairie Grasslands, Alternatives 1 and 3 would follow closely behind Alternative 4. Alternative 2 would have fewest acres with No Surface Occupancy stipulations.

For Nebraska National Forest units, Alternatives 2 and 3 have the fewest acres with No Surface Occupancy stipulations; the other alternatives are similar in the acres available for leasing with No Surface Occupancy stipulations. For Thunder Basin National Grassland, Alternatives 1 and 2 would have the fewest acres with No Surface Occupancy stipulations.

Plant and Animal Damage Control

Noxious Weed Control

Alternatives 2 and 4 would be expected to do the most in treating noxious and undesirable plant species by reducing affected acres by 15 percent within 15 years. Alternatives 1 and 2 would pose more risk of spreading noxious and undesirable plant species because of higher livestock grazing levels and more motorized access than the other alternatives. Alternative 4 would pose the least risk of spread. Alternatives 1, 3, and 5 would contain current acres of noxious weeds and undesirable plants or limit their rate of spread.

Prairie Dog Damage Control

Current poisoning levels to control prairie dog damage would be expected to continue under Alternative 1. Poisoning to control prairie dog damage under Alternative 2 would be similar to or less than levels under Alternative 1. Poisoning levels under Alternatives 3 and 4 would be less than expected under Alternatives 1 and 2 over the next 10 years; however, poisoning levels beyond 10 years could exceed levels expected under Alternatives 1 and 2 if prairie dog colonies expand and unwanted colonization occurs on adjacent landownerships. No poisoning would occur under Alternative 4. Non-chemical control methods would be used under Alternatives 3, 4, and 5 to slow prairie dog colony expansion as needed.

Predator Damage Control

Under a Memorandum of Understanding, the Agricultural Plant Health Inspection Service (APHIS) is responsible for the animal damage control program on National Forest System lands. This includes responsibilities for ensuring compliance with the National Environmental Policy Act and the Endangered Species Act. To date, APHIS has completed and issued a Record of Decision and Final Environmental Impact Statement for their national animal damage control program and have also issued several statewide Decision Notices and Environmental Assessments for predator damage control. Forest Service responsibilities in predator damage control on National Forest System lands are primarily limited to ensuring that APHIS programs comply with direction in Land and Resource Management Plans for visitor and user safety, mitigation for sensitive wildlife species, and pesticide use. Because the APHIS documents evaluate a range of alternatives for predator damage control, direction for predator damage control in this planning effort does not vary by alternative.

Grasshopper Damage Control

A 1987 Memorandum of Understanding between the Forest Service and APHIS identifies each agency's responsibilities regarding grasshopper damage control. APHIS is the lead agency for completion of the programmatic environmental analyses in accordance with the National Environmental Policy Act and is also responsible for consultation with the U.S. Fish and Wildlife Service on the effects of insecticides on plant and animal species that are protected under the Endangered Species Act. Forest Service officials are responsible for approval of pesticides for use on National Forest System lands and for ensuring compliance and compatibility with direction in Land and Resource Management Plans. This includes considering the effects of insecticides on plant and animal species identified as sensitive by the Forest Service.

Resource protection alternatives are evaluated and described in environmental analyses and decision documents issued by APHIS. Therefore, management direction for grasshopper damage does not vary by alternative.

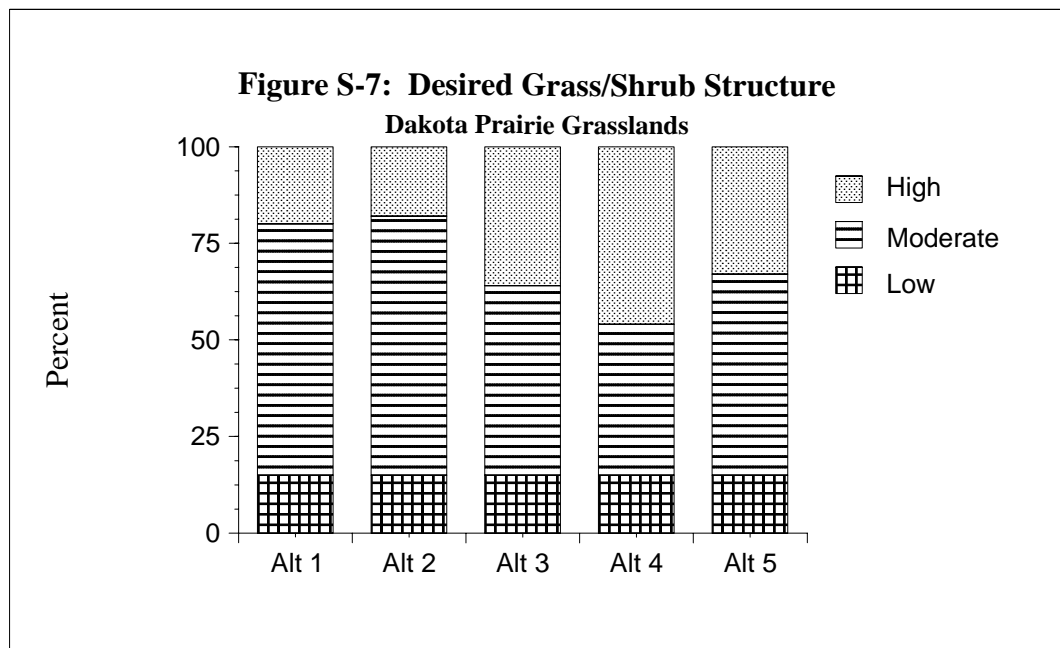
Rangeland and Forest Health

Rangeland and forest health is defined as the degree to which the integrity of the soil and ecological processes of rangeland and forest ecosystems are sustained. The diversity and abundance of native plants and animals are also addressed in this topic.

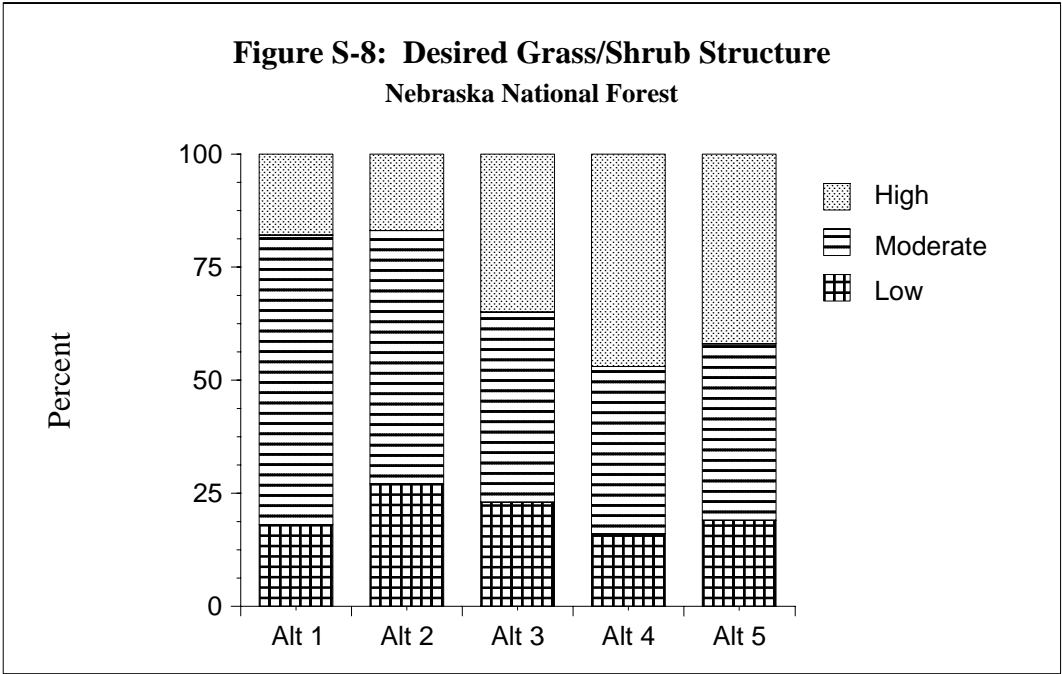
Plants

Vegetation on the planning units has been classified by whether the major species on a site are grass, shrubs or trees. Vegetation composition and structure on the planning units will continue to be influenced by natural succession and disturbance processes that determined them. However, the alternatives differ in the levels of human-caused disturbances, such as logging and grazing.

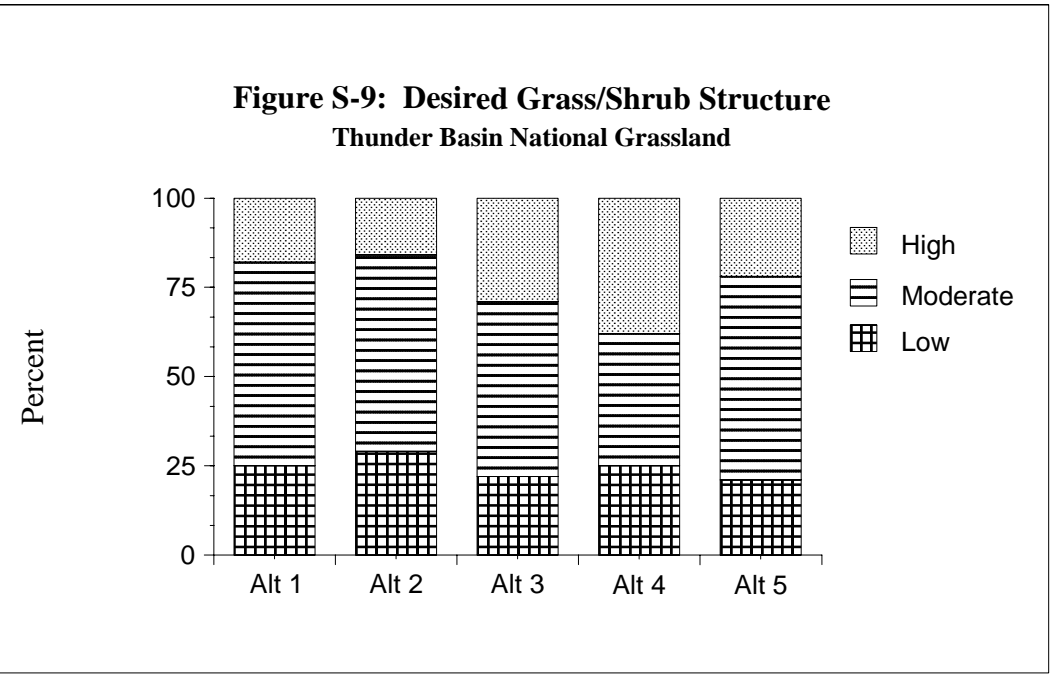
Desired conditions for the structure and composition of vegetation have been identified by alternative, based on the theme of the alternative. Structure is described in terms of low, moderate and high for suitable livestock grazing acres. The desired vegetation structure is considered the grass and shrubs left after the grazing and growing season. The following figures display the midpoints of acceptable ranges in the percentage of low, moderate and high structure desired for each alternative.



**Figure S-8: Desired Grass/Shrub Structure
Nebraska National Forest**



**Figure S-9: Desired Grass/Shrub Structure
Thunder Basin National Grassland**



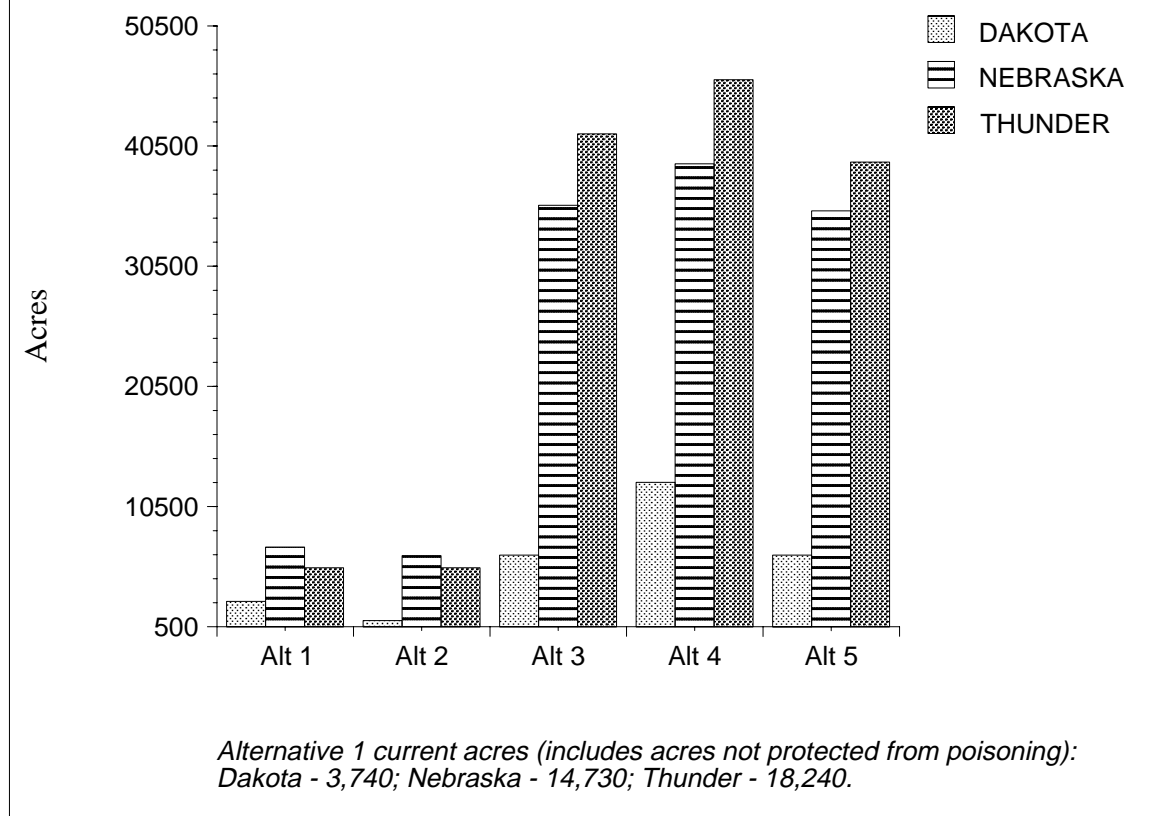
Alternative 4 would provide the most acres of high grassland structure. Alternative 3 would provide the second most high grassland structure, followed by Alternative 5, on the Dakota Prairie Grasslands and Thunder Basin National Grassland. On the Nebraska National Forest units, Alternative 5 would be second in providing high grassland structure over Alternative 3. Shifts in structure can change plant composition and seral stages of plant communities.

Animals

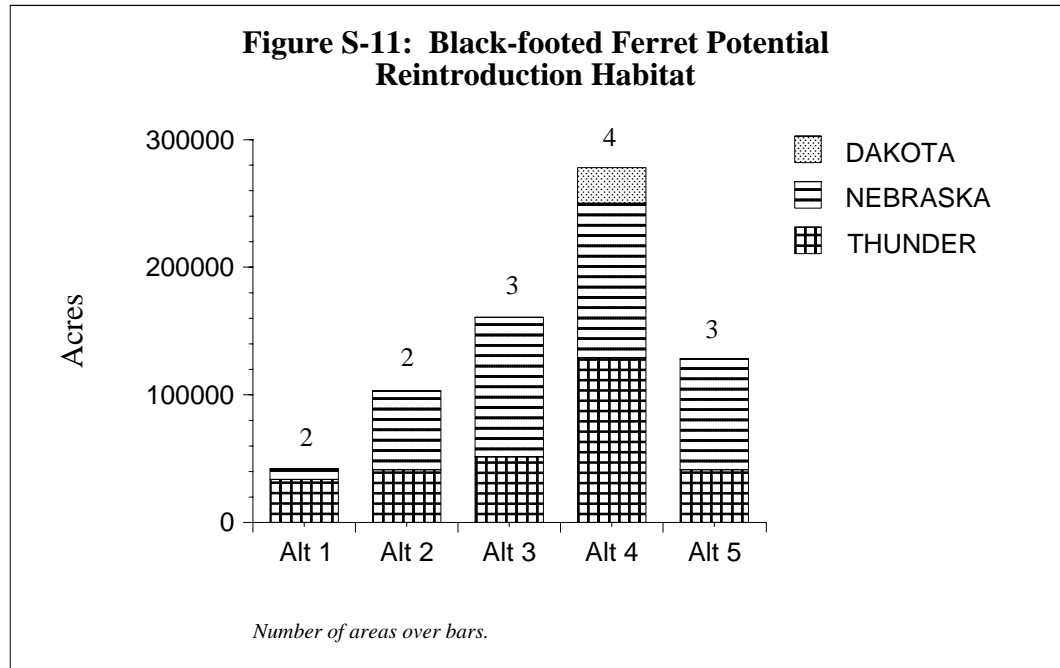
The effects of each alternative on species that are at risk of rangewide, regional or more local imperilment have been evaluated. In many cases, conservation measures have been incorporated into Alternatives 2 through 5 to reduce possible negative effects to individual species and to enhance the probability of maintaining viable populations of these species. Additional conservation measures for several other species were recently identified and will be considered for inclusion in the final management plans.

Considerable public interest has been expressed in the management of black-tailed prairie dogs and several wildlife species that are commonly found on prairie dog colonies. Black-tailed prairie dogs and several associated species including the black-footed ferret and burrowing owl are considered imperiled species. Prairie dogs were once one of the primary herbivores in this region and added considerably to the diversity of plant and animal life that occurred on grasslands. Although much reduced today, prairie dog populations still occur on several of the National Grasslands and Forests. Proposed direction for the management of these prairie dog populations varies by alternative, with the largest increase in prairie dog populations occurring under Alternative 4 followed by Alternatives 3 and 5. The smallest prairie dog colony acreages would occur under Alternatives 1 and 2.

Figure S-10: Estimated Acres of Active Protected (from poisoning) Prairie Dog Colonies in 10 Years



Black-footed ferret, one of the most endangered mammals in North America, is a species directly linked to black-tailed prairie dogs. Reintroduction of this endangered species is already underway on the Northern Great Plains planning units, with a successful program on the Wall Ranger District of the Buffalo Gap National Grassland. A suitability analysis for black-footed ferret reintroduction sites was conducted as part of the revision process. The following figure shows the number of areas and acres identified as potential reintroduction habitat by alternative.



Alternative 4 would provide the most potential black-footed ferret reintroduction areas and acres. By administrative unit, Dakota Prairie Grasslands would offer one reintroduction site in Alternative 4. Nebraska National Forest would offer one reintroduction site in Alternatives 1 and 3, and two reintroduction sites in Alternatives 3, 4, and 5. Thunder Basin National Grassland would provide one reintroduction in all alternatives; however, the acres of that site vary between alternatives, with Alternative 4 providing the most acres, followed by Alternative 3. Alternatives 2 and 5 would provide the same number of acres, and Alternative 1 would provide the least acres for potential reintroduction.

Recreation and Travel Management

Recreation

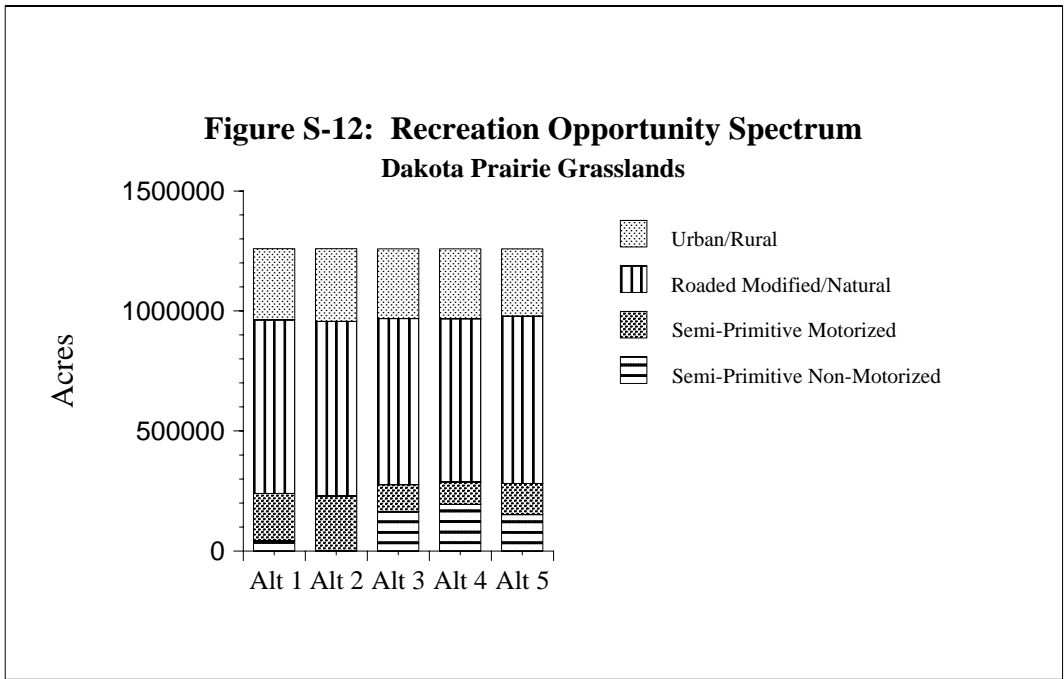
Alternative 5 would show the largest increase in the capacity to accommodate developed recreation activities because of it would provide the most developed recreation facilities (campgrounds, information/interpretive materials, trails, etc.) Alternative 3 would provide the second highest capacity. Alternatives 2 and 4 would have the same developed recreation capacities as Alternative 1.

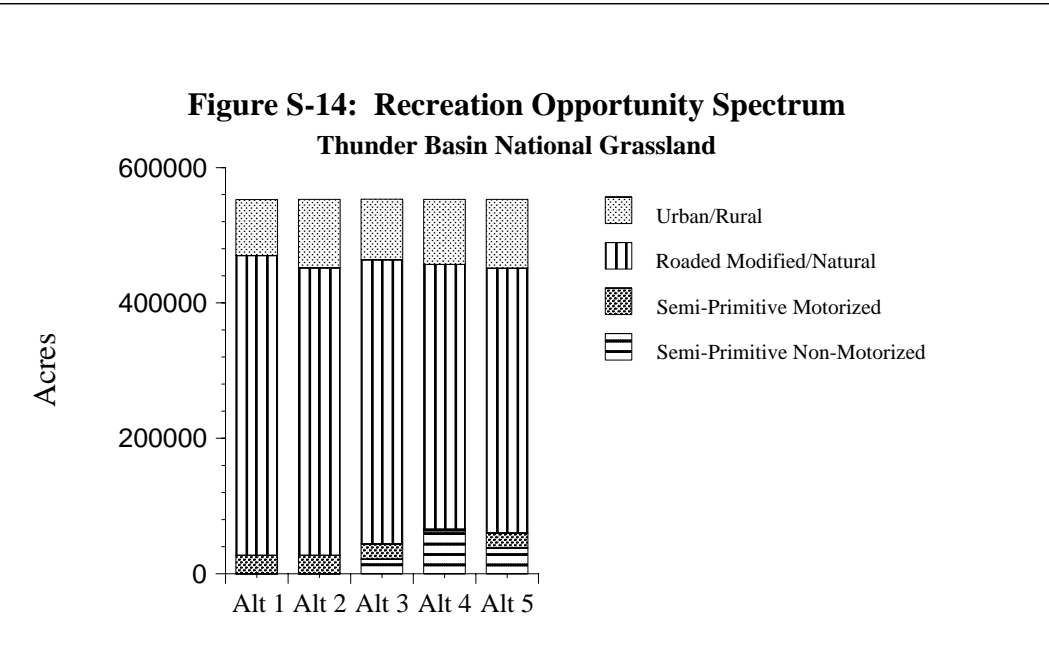
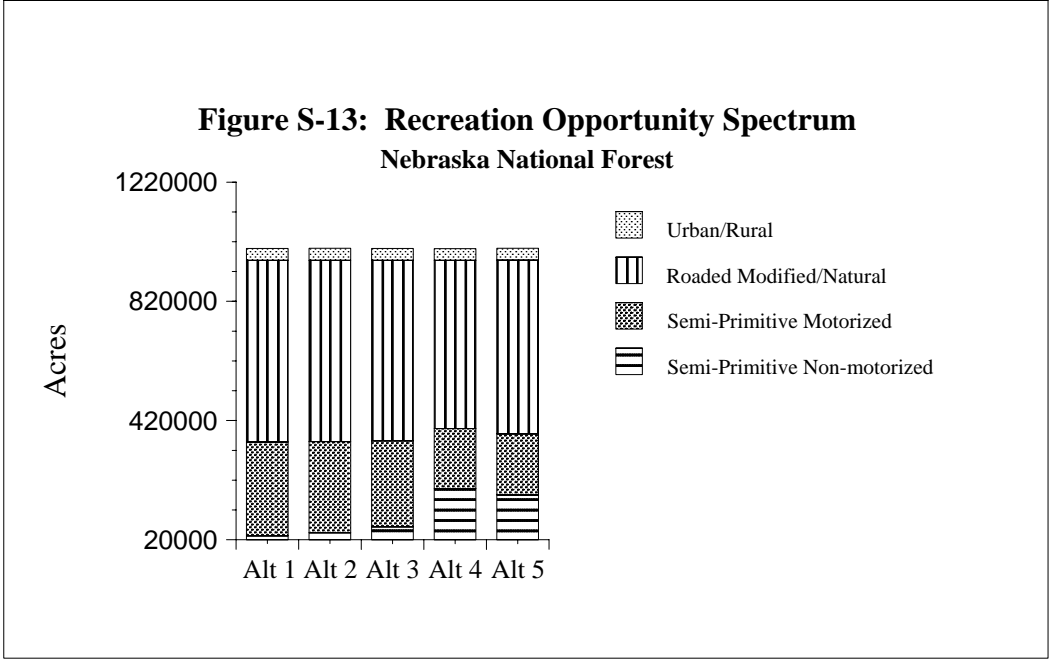
As part of the planning process, Scenic Integrity Levels were identified for the planning units by alternative. Alternative 5 would have the most acres with moderate or high Scenic Integrity Levels, followed by Alternatives 4, 3, 1 and 2, respectively.

Alternatives 3, 4, and 5 would result in more diverse landscapes than Alternatives 1 and 2. Alternative 4 would provide the most variety of recreation settings because of its ecosystem restoration emphasis and many acres of special area designations, followed by Alternatives 3, 5, 2 and 1. All alternatives require installation of easier-opening fence gates and more fence openings, resulting in easier recreation access. For most planning units, Alternatives 3, 4, and 5

would increase the size of fenced pastures, which could reduce the number of fences encountered. Limits on facilities to support livestock grazing included under Alternatives 3, 4 and 5 could promote a sense of vastness and provide a more natural-appearing landscape.

Alternatives 3, 4, and 5 are similar in the number of acres offering semi-primitive recreation opportunities, with Alternative 4 offering the most, followed by Alternatives 5 and 3, respectively. However, the alternatives do differ in the amount of semi-primitive non-motorized recreation settings, with Alternative 4 offering the most of that type of setting, followed by Alternatives 5 and 3 on the Nebraska National Forest Units and Thunder Basin National Grassland. On the Dakota Prairie National Grassland, Alternative 3 exceeds Alternative 5 slightly in semi-primitive non-motorized opportunities.





Alternative 5 would provide more fishing opportunities than the other alternatives because of the construction and renovation of more ponds. Alternatives 2, 3, 4 and 5 would improve deer habitat over existing conditions (Alternative 1). Alternatives 3, 4, and 5 would improve upland bird habitat over Alternatives 1 and 2, with Alternative 4 improving upland bird habitat the most of the alternatives. Alternative 4 would have the most acres of active prairie dog colonies

in 10 years, followed by Alternatives 3 and 5. However, Alternatives 3 and 4 could reduce opportunities for prairie dog recreational shooting because of possible seasonal and yearlong restrictions.

Travel Management

Alternatives 1 and 2 would continue current travel management direction, which allows motorized travel in most areas on the planning units. Alternatives 3, 4, and 5 would restrict motorized travel to designated routes, which could reduce access for some recreation-related activities, such as driving for pleasure, rock collecting, game retrieval. (Motorized travelways would be designated within 5 years after management plan implementation.) Overall, Alternative 5 would have the most miles of designated motorized travelways, followed closely by Alternative 3. Alternative 4 would have the most acres where no motorized use is allowed, which would benefit recreation users seeking solitude and more primitive experiences.

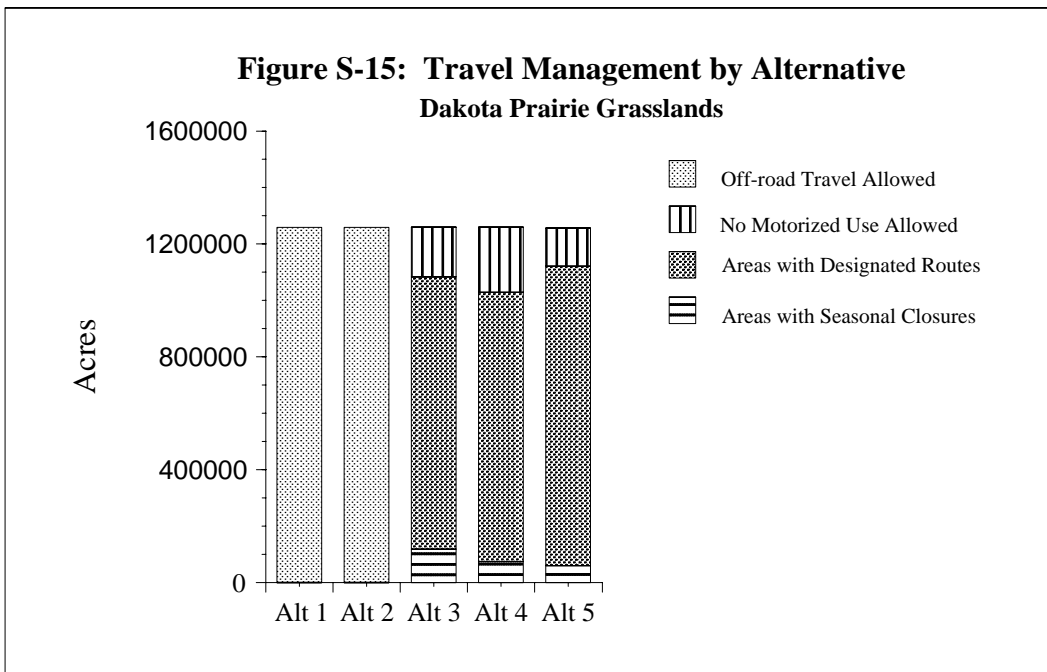


Figure S-16: Travel Management by Alternative

Nebraska National Forest Units

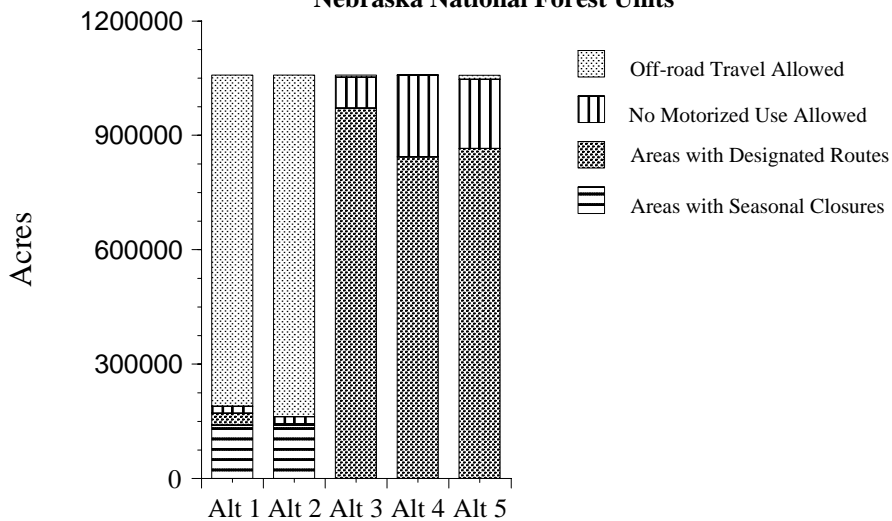
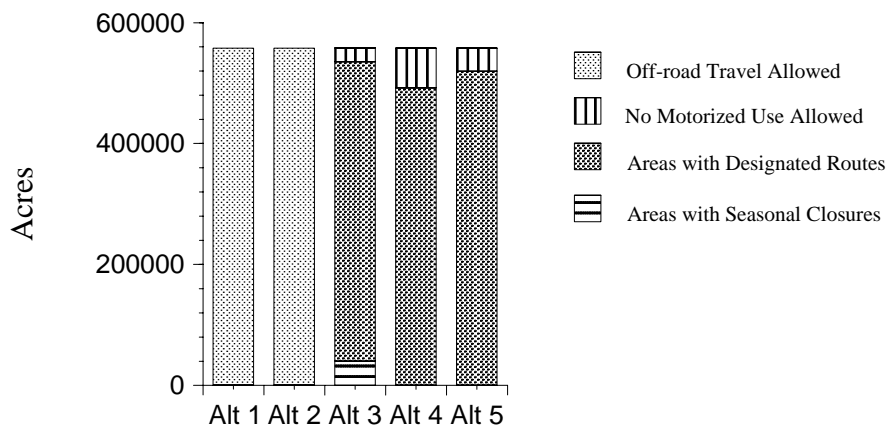


Figure S-17: Travel Management by Alternative

Thunder Basin National Grassland

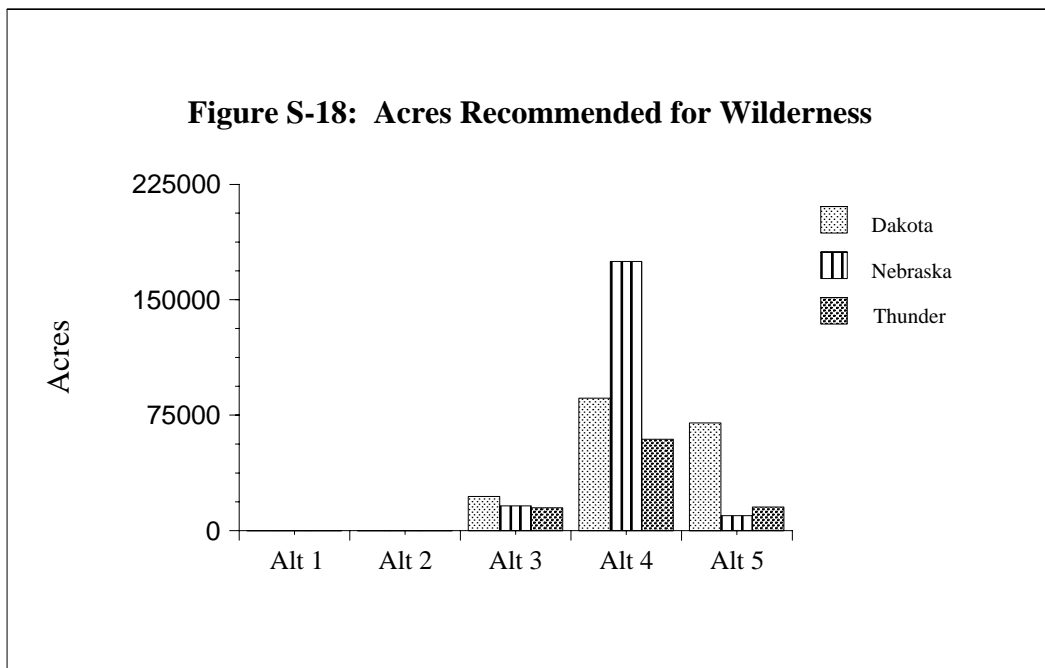


Special Area Designations

Alternative 4 would allocate more acres to Research Natural Areas, Special Interest Areas, and recommended Wilderness than the other alternatives (about 371,600 acres compared to 170,100 acres in Alternative 5, 154,800 acres in Alternative 3, 13,300 acres in Alternative 2).

Roadless Areas/Wilderness

Alternative 4 would recommend the most acres for Wilderness, with 25 areas containing about 320,000 acres. Alternative 5 would recommend the second most acres for Wilderness, with 11 areas containing about 97,600 acres. Alternative 3 would recommend 5 areas for Wilderness containing about 53,000 acres. Alternatives 1 and 2 would not recommend any additional areas or acres for Wilderness.



Wild and Scenic Rivers

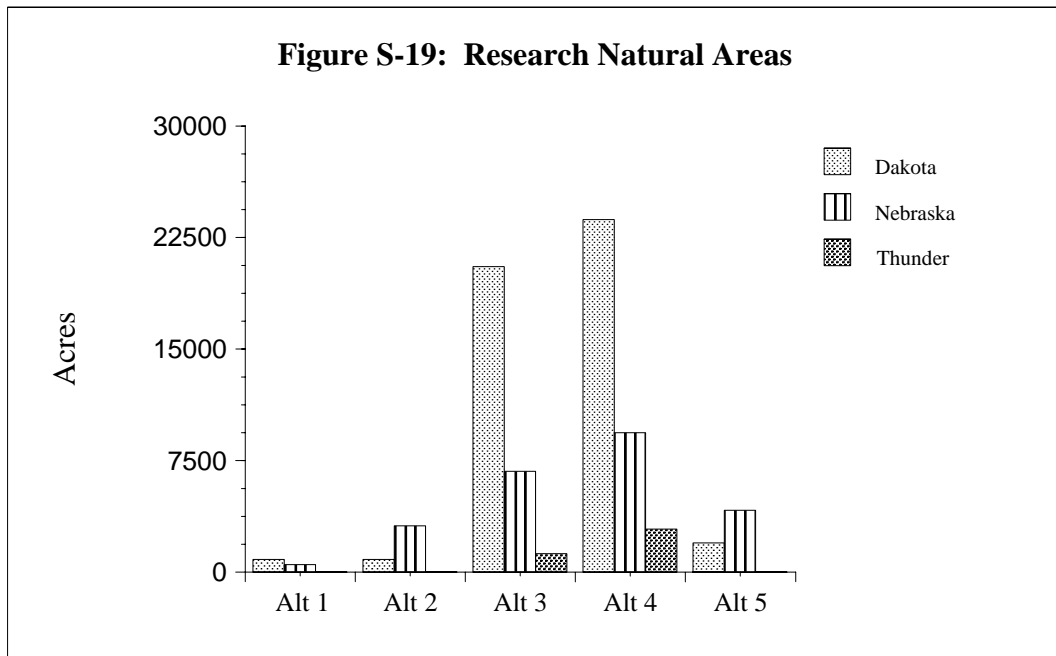
Alternative 5 would recommend slightly more river miles (about 126 miles) on National Forest System lands as additions to the Wild and Scenic River system than Alternative 4 (about 117 miles). Alternatives 1, 2 and 3 would not recommend any river miles for federal designation on National Forest System lands.

For the National Park Service portion of the Little Missouri River, Alternative 4 would recommend the most miles (about 27 miles) for federal designation, followed by Alternatives 3 and 5 (about 22 miles). Alternatives 1 and 2 would not propose any river miles for federal designation. Alternatives 3 and 4 would propose that nearly 15 miles be designated as "wild,"

the most restrictive designation. Alternative 5 would propose that all 22 miles be designated as "scenic," a less restrictive designation than "wild."

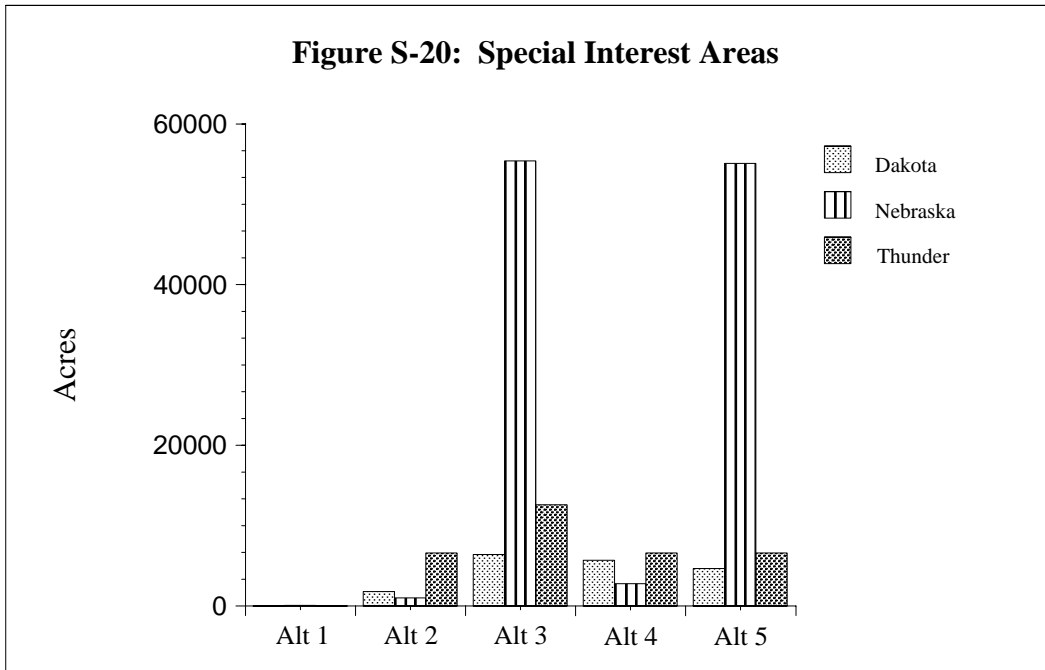
Research Natural Areas

Alternative 4 would establish the most Research Natural Areas, with 22 additional Research Natural Areas (about 34,600 acres). Alternative 3 would establish the second most, with 16 additional Research Natural Areas (about 27,200 acres). Alternative 5 would establish 7 additional Research Natural Areas (about 4,800 acres). Alternative 2 would establish 2 additional Research Natural Areas (about 2,600 acres). Alternative 1 would not establish any additional Research Natural Areas.



Special Interest Areas

Alternative 3 would establish the most Special Interest Areas, with 33 Special Interest Areas (about 73,300 acres). Alternative 5 would establish the second most, with 32 additional Special Interest Areas (about 66,300 acres). Alternative 4 would establish 27 Special Interest Areas (about 15,000 acres). Alternative 2 would establish 18 Special Interest Areas (about 9,300 acres). Alternative 1 would not establish any Special Interest Areas.



Management Area Allocations by Alternative

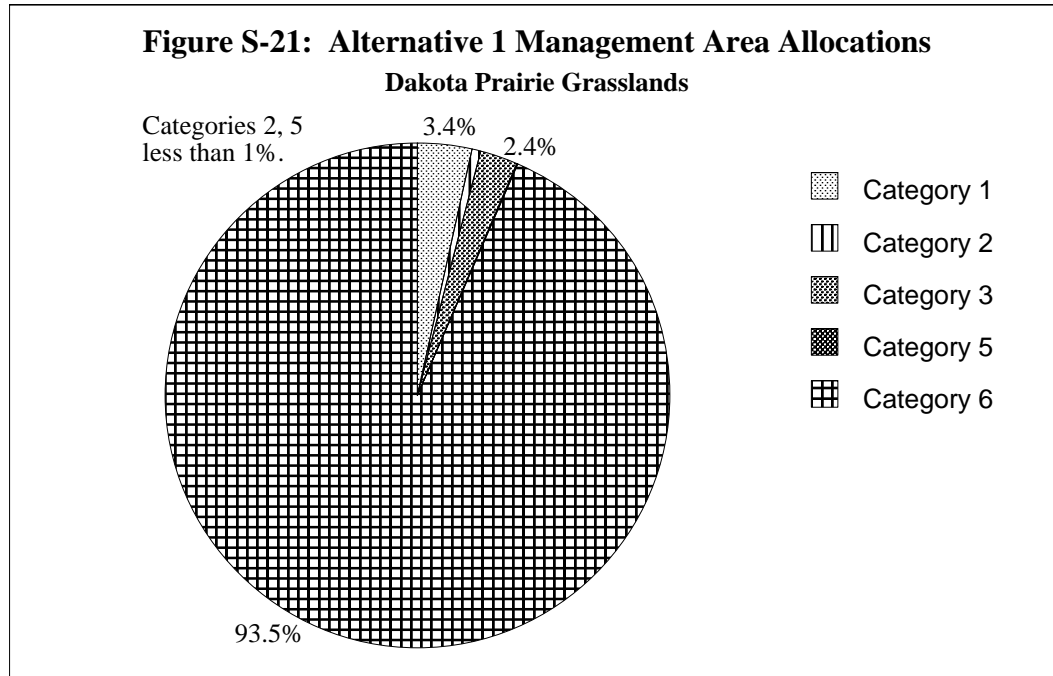
Management areas are defined as parts of the grassland or forest that are managed for a particular emphasis. Each management area has a prescription that consists of a theme, desired conditions, and standards and guidelines that apply to it. Management areas describe where different kinds of resource opportunities are available and where different kinds of management activities occur. The management area prescriptions are grouped into eight major categories, based on a continuum from least evidence of human disturbance to most:

Table S-3: Management Area Prescription Categories

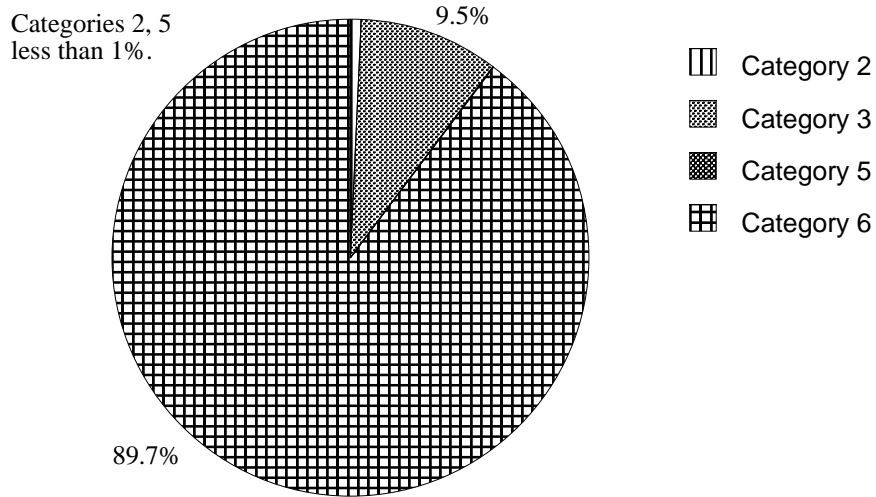
Category	Description	Example
1	Preservation with little human influence.	Wilderness.
2	Conservation of representative ecological settings, components, unique features.	Research Natural Areas, Special Interest Areas.
3	Balance of ecological values and human occupancy.	Special wildlife habitats; ecosystem restoration.
4	Recreation areas.	Scenery, dispersed recreation.
5	Forested ecosystems providing timber and range products.	General forest and rangelands.
6	Rangeland management emphasized.	
7	Residential/forest intermix.	
8	Utility corridors and mineral developments.	

Each alternative would allocate the national grassland and forest units under review to management areas. Appendix D of the DEIS describes the emphasis of each management area and lists the applicable standards and guidelines. The percent of acres associated with each management area by alternative are shown for each of the administrative units in the following figures. Only those management area categories used in that alternative appear in the graph legend.

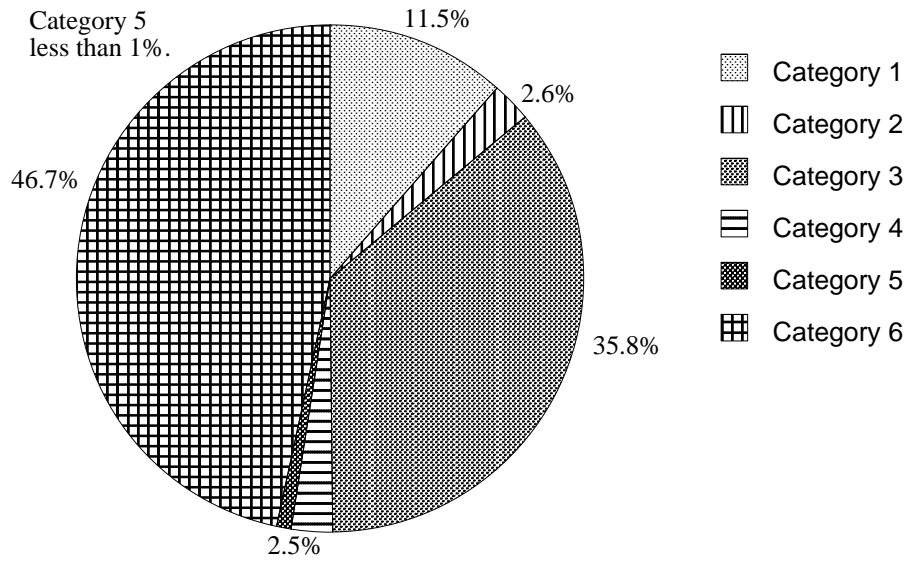
Dakota Prairie Grasslands Management Area Allocations



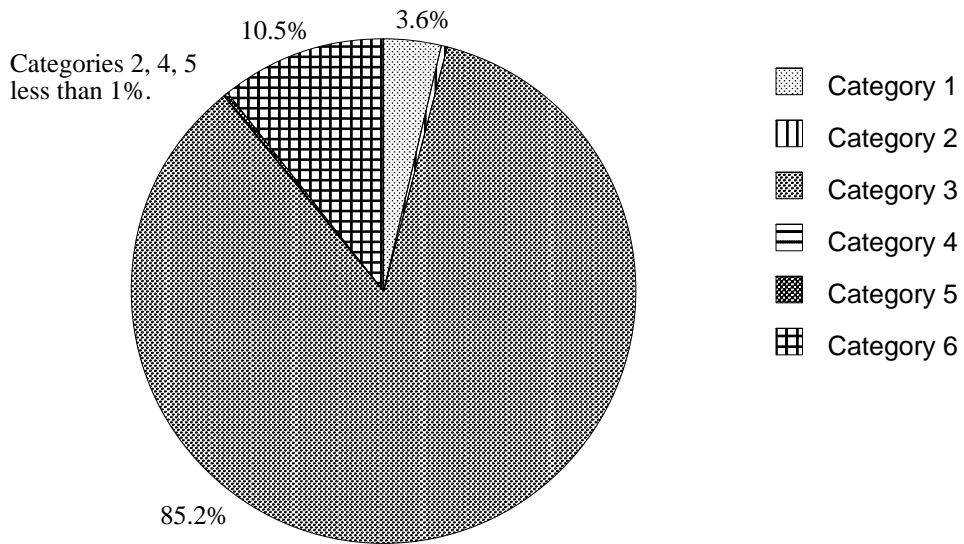
**Figure S-22: Alternative 2 Management Area Allocations
Dakota Prairie Grasslands**



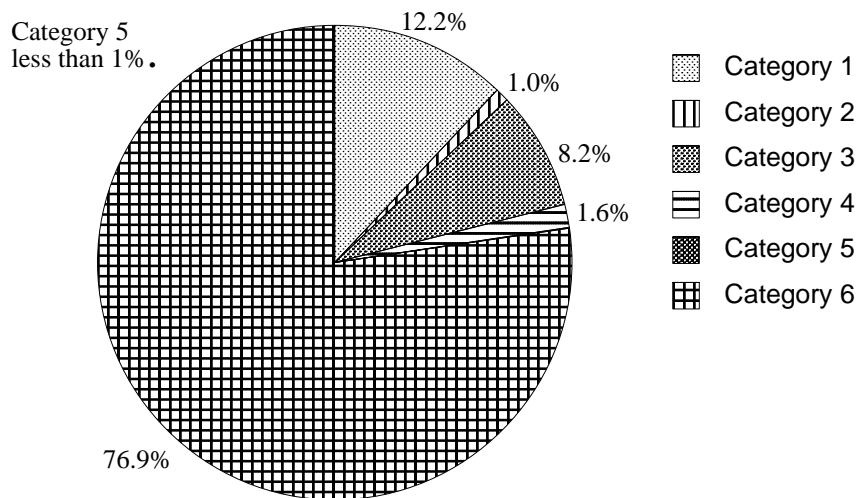
**Figure S-23: Alternative 3 Management Area Allocations
Dakota Prairie Grasslands**



**Figure S-24: Alternative 4 Management Area Allocations
Dakota Prairie Grasslands**



**Figure S-25: Alternative 5 Management Area Allocations
Dakota Prairie Grasslands**



Nebraska National Forest Units Management Area Allocations

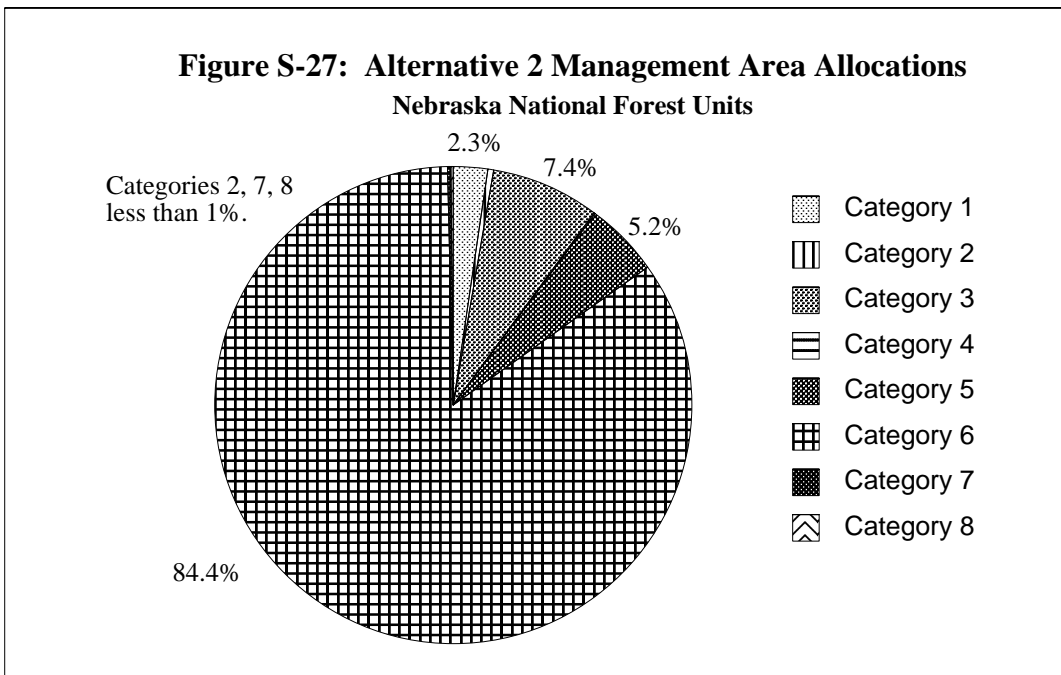
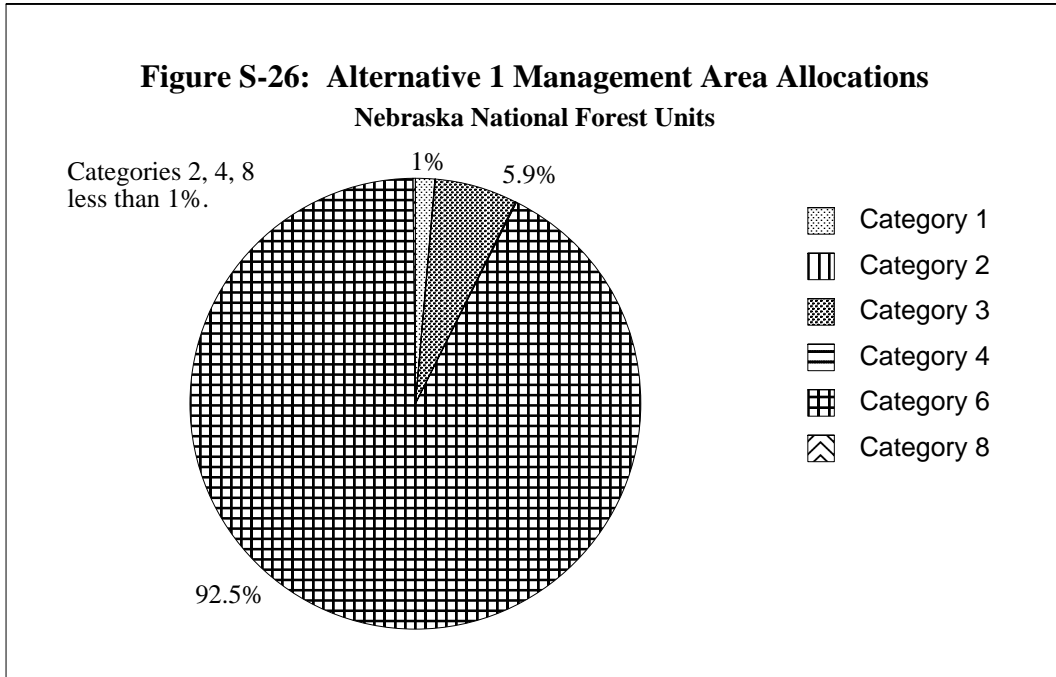


Figure S-28: Alternative 3 Management Area Allocations
Nebraska National Forest Units

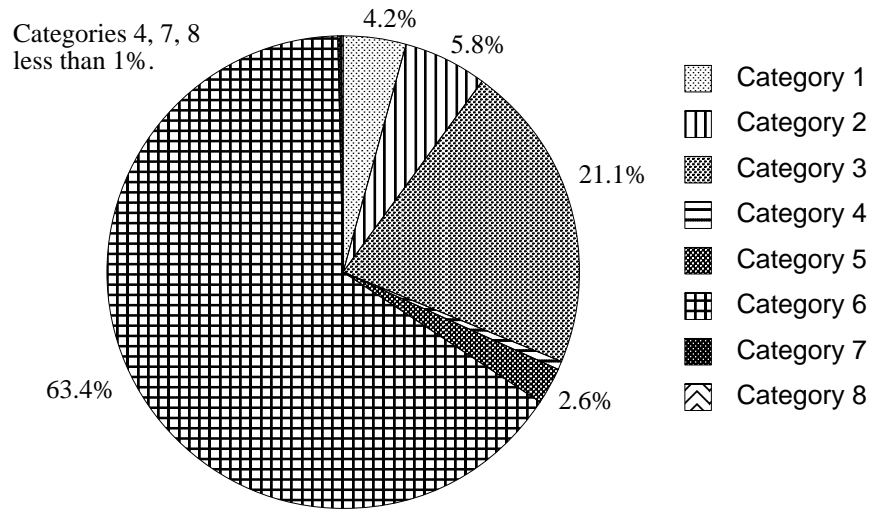
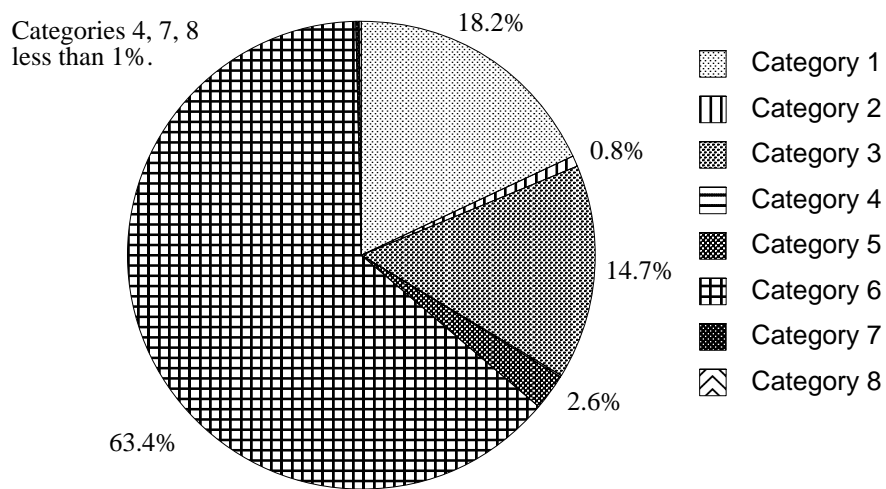
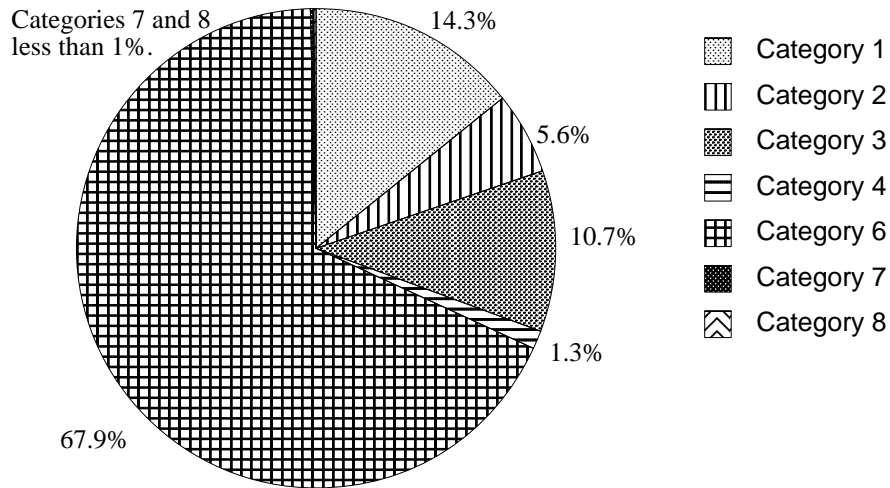


Figure S-29: Alternative 4 Management Area Allocations
Nebraska National Forest Units



**Figure S-30: Alternative 5 Management Area Allocations
Nebraska National Forest Units**



Thunder Basin National Grassland Management Area Allocations

Figure S-31: Alternative 1 Management Area Allocations
Thunder Basin National Grassland

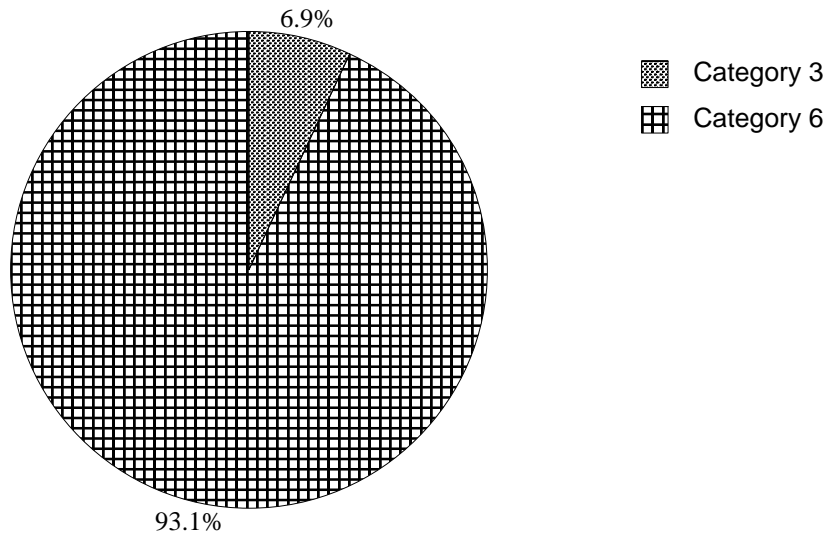


Figure S-32: Alternative 2 Management Area Allocations
Thunder Basin National Grassland

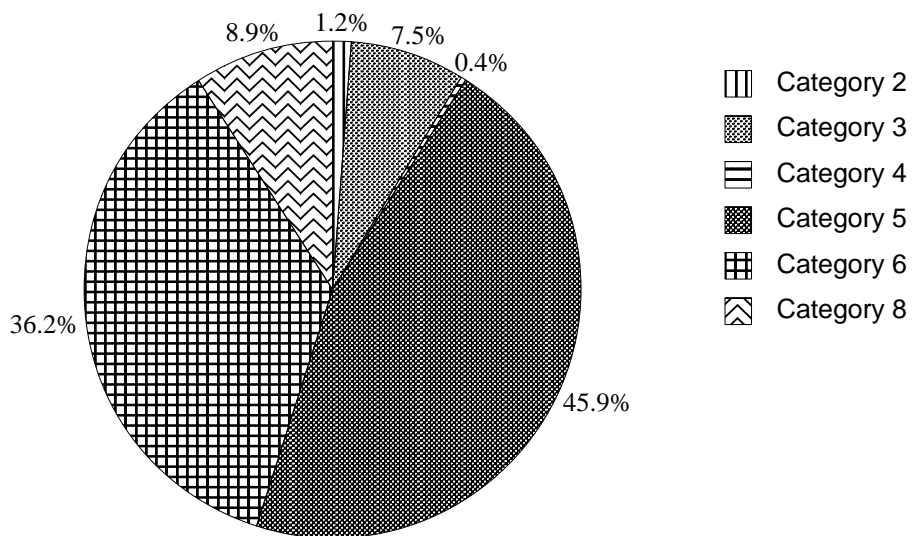


Figure S-33: Alternative 3 Management Area Allocations
Thunder Basin National Grassland

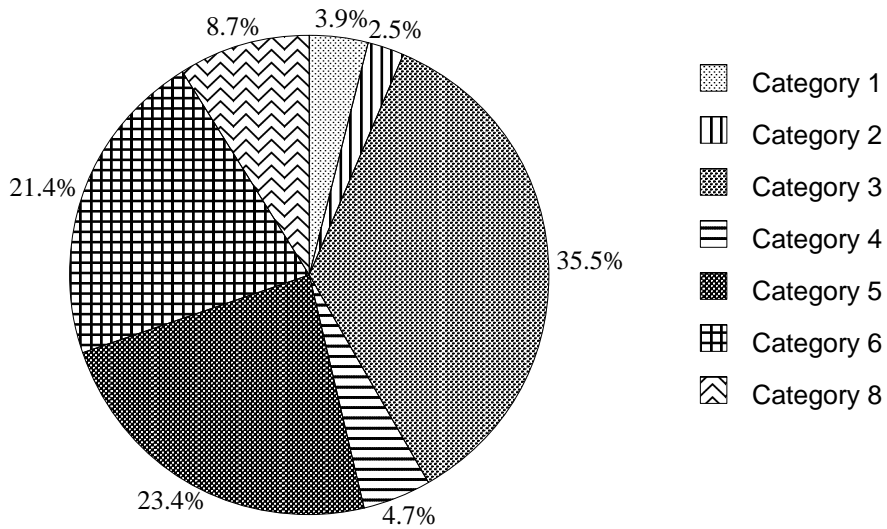
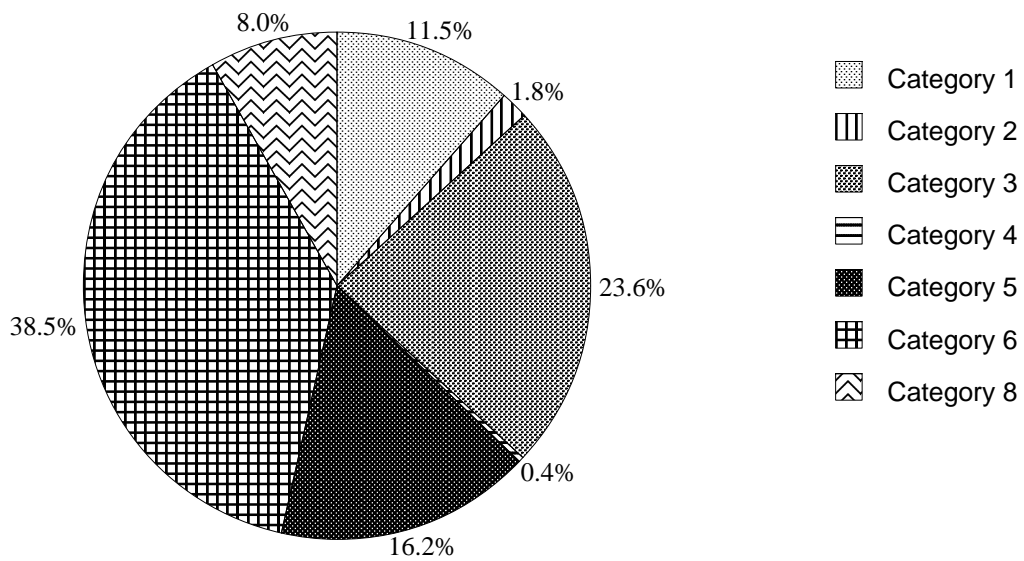
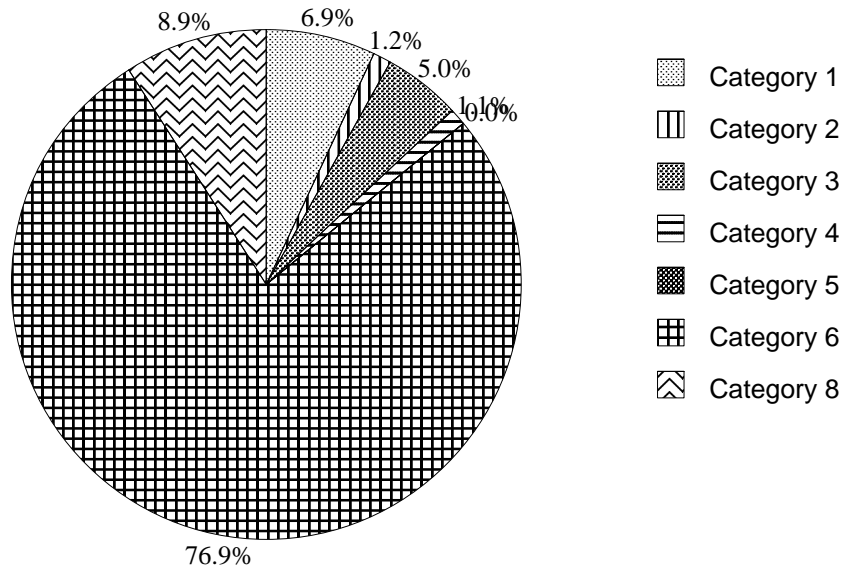


Figure S-34: Alternative 4 Management Area Allocations
Thunder Basin National Grassland



**Figure S-35: Alternative 5 Management Area Allocation
Thunder Basin National Grassland**



Comparison Tables of Differences in Alternatives

The following tables show the differences among the alternatives by management area acres and by major revision topic using the key indicators. The tables are not replacements for the full effects disclosure provided in Chapter 3 of the Draft Environmental Impact Statement. Chapter 3 should also be reviewed for more detailed and technical discussions about this summarized information. Acreages in the tables have been rounded to the nearest 10.

Dakota Prairie Grasslands

Table S-4: Management Area Acres by Alternative for Dakota Prairie Grasslands (Acres rounded to the nearest 10. Acres in parentheses are concurrent management area acres, meaning they overlap other management areas.)

Management Area	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Category 1					
1.2 Recommended for Wilderness	0	0	22,190	85,940	72,670
1.31 Backcountry Recreation Non-motorized	42,990	0	121,950	103,840	81,490
1.5 National River System: Wild Rivers Recommended	0	0	0	840	0
TOTALS	42,990	0	144,140	193,620	154,160
Category 2					
2.1 Special Interest Areas	0	1,770	6,390	5,930	4,640
2.2 Research Natural Areas	920	840	20,030 (380)	9,040 (14,150)	1,070 (830)
2.4 American Indian Traditional Use Areas	6,250	6,280	6,280	6,280	6,280
TOTALS	7,170	8,890	32,710	21,250	11,990
Category 3					
3.4 National River System: Scenic Rivers Recommended	0	0	0	17,260 (520)	18,280 (350)
3.51 Bighorn Sheep	27,940	118,490 (350)	67,210 (51,510)	74,670 (49,600)	68,710 (50,090)
3.63 Black-footed Ferret Reintroduction Habitat	0	0	0	16,220 (11,690)	0
3.64 Special Plant and Wildlife Habitat	2,730	1,010	1,010	1,010	16,400
3.65 Rangelands with Diverse, Natural- appearing Landscapes	0	0	329,300	295,350	0
3.66 Ecosystem Restoration: Tall Grass Prairie	0	0	53,050	55,150	0
TOTALS	30,670	119,500	450,570	460,070	103,390
Category 4					
4.22 Scenic Area, Visitas or Travel Corridors	0	0	22,450	0	2,960
4.32 Dispersed Recreation: High use	0	0	9,550	1,710	13,880
4.4 National River System: Recreation Rivers Recommended	0	0	0	2,470 (60)	3,070

Management Area	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
TOTALS	0	0	32,000	4,180	19,910
Category 5					
5.12 General Forest and Rangelands: Range Vegetation Emphasis	0	0	10,640	12,680	0
5.31a Experimental Forests (Denbigh)	800	800	800	800	800
5.31b Experimental Forests (Souris)	160	160	160	160	160
TOTALS	960	960	11,600	13,640	960
Category 6					
6.1 Rangeland with Broad Resource Emphasis	1,176,600	1,128,770	587,080	568,760	967,710
TOTALS	1,176,600	1,128,770	587,080	568,760	967,710

Table S-5: Comparison of Alternatives by Major Revision Topic for Dakota Prairie Grasslands

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Community/Lifestyle Relationships					
Range-fed livestock grazing on NFS lands					
direct and indirect jobs (number)	319	322	278	247	272
direct and indirect income (millions of 1993 \$)	5.0	5.1	4.4	3.9	4.3
Oil/gas activities on NFS lands					
direct and indirect jobs (number)	954	1,065	1,065	1,065	1,065
direct and indirect income (millions of 1995 \$)	34.8	38.9	38.9	38.9	38.9
Effects on major use/interest segments	See Social Effects section in Chapter 3.				
Livestock Grazing					
Acres suitable rangeland	1,053,750	1,053,430	1,051,800	1,051,970	1,053,580
Estimated range AUMs of livestock grazing	376,380 to 462,000	379,690 to 463,760	338,670 to 413,930	293,850 to 359,150	324,360 to 396,440
Thousands lbs. forage available to livestock	326,200	328,850	293,510	254,670	281,120
Acres average pasture size	NA	430 - 1,150	430 - 1,300	430 - 1,500	540 - 1,300
Average # water developments/sq. mile	NA	NA	1.3 - 2.9	1.2 - 2.6	1.3 - 2.3
Oil and Gas					
Acres with existing leasing decisions					
Acres available for leasing	976,680	1,001,550	976,620	976,620	976,620
Available with stipulations (some acres have more than one type of stipulation)					

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
No Lease	16,230	0	16,230	16,230	16,230
No Surface Occupancy (NSO)	180,990	120,460	162,650	182,250	125,040
Controlled Surface Use (CSU)	85,170	162,070	208,860	224,550	351,600
Paleontology CSU	0	657,340	535,600	505,120	439,120
Timing Limitation (TL)	176,320	229,340	229,340	229,340	229,340
Standard Lease Terms	694,090	61,679	53,290	48,470	44,640
Plant and Animal Control					
Acres prairie dog poisoning	No change	Increase	Decrease	No poisoning	Decrease
Reduction in noxious weeds and invasive plants	No change	Reduce by 15%	Contain or reduce	Reduce by 15%	Contain or reduce
Rangeland and Forest Health					
Predicted habitat suitability (where applicable) for management indicator species					
greater prairie chicken	20-30%	20-30%	50-60%	50-60%	40-50%
plains sharp-tailed grouse	0-30%	0-30%	0-60%	5-60%	5-50%
sage grouse	Reduction	Reduction	Maintain or increase	Maintain or increase	Maintain or increase
acres active (protected) prairie dog colonies in 10 years	2,600	≤ 2,600	4,400 to 11,000	8,000 to 19,500	4,400 to 11,000
Endangered Species Act species, candidate species, other species of	See the biological evaluation/assessment or summary of effects in Chapter 3.				
Black-footed ferret areas (number and acres)	0	0	0	1 27,920	0
Desired grass/shrub structure					
percent low	15	15	15	15	15
percent moderate	65	67	49	39	52
percent high	20	17	36	46	33
Desired grass/shrub composition					
percent early seral stage	10-15	20	10-15	10	10-15
percent mid/late seral stage	85-90	80	85-90	90	85-90
Percent riparian/woody draw regeneration	55	80	80	80	80
Percent capable rangeland rested	0	0	5	18	14
Percent suitable rangelands bison-only grazing	0	0	0	5	0
Acres prescribed burning	3,600	2,900	8,500	21,000	17,000
Recreation and Travel Management					
Scenic Integrity Levels					
low acres	1,194,040	1,214,270	891,380	865,100	700,670
moderate acres	12,960	34,000	188,930	180,180	390,350
high acres	50,110	8,890	176,850	211,870	166,150

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Recreation Opportunity Spectrum Classes					
urban acres	750	750	430	750	430
rural acres	294,840	301,550	289,500	290,060	279,620
roaded modified acres	116,290	116,290	110,670	113,760	111,670
roaded natural acres	605,060	609,100	568,810	559,500	580,690
roaded natural non-motorized acres	920	840	11,800	5,990	1,070
semi-primitive motorized acres	196,290	228,320	112,630	93,420	129,510
semi-primitive non-motorized acres	42,995	290	163,310	193,670	154,160
Capacity of developed sites/clusters of dispersed sites (persons at one time)	185	185	330 to 350	185	480 to 650
Trails miles	170	170	210	170	170
Dispersed Recreation					
change in fishing opportunity	No change	No change	Add 1 pond	No change	Add 2-3 ponds
change in quality deer habitat	No change	+	+	+	+
change in quality upland bird habitat	No change	No change	++	+++	+-
acres prairie dog colonies closed to shooting					
seasonally (3/1-7/31)	0	0	All NFS lands outside ferret habitat	0	0
yearlong	0	0	0	All NFS lands	0
acres active (protected) prairie dog colonies in 10 years	2,600	≤2,600	4,400 to 11,000	8,000 to 19,500	4,400 to 11,000
Acres allowing off-road motorized travel	1,257,360	1,257,360	0	0	2,800
Acres where no motorized use is allowed (except administrative use)	660	660	175,650	230,460	136,430
Acres with seasonal motorized travel restrictions (except administrative use)	0	0	118,010	74,340	59,770
Acres with designated routes for motorized travel	0	0	964,270	953,260	1,058,960
Miles expected designated routes (does not restrict snowmobile use)	NA	NA	1,830 to 2,810	1,670 to 2,345	2,185 to 3,110
Expected designated routes per sq.mile)	NA	NA	1.0 to 2.5	1.0 to 2.0	1.0 to 4.25
Special Area Designations					

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Recommended for Wilderness (number of areas and acres)	0	0	3 22,140	9 85,940	9 72,630
Recommended Wild/Scenic rivers					
Little Missouri River (Forest Service)					
miles wild classification	0	0	0	3.3	0
miles scenic classification	0	0	0	88.9	92.2
miles recreation classification	0	0	0	13.7	13.7
Little Missouri River (National Park)					
miles wild classification	0	0	14.9	14.9	0
miles scenic classification	0	0	6.8	10.8	21.7
miles recreation classification	0	0	0	1.5	0
Sheyenne River					
miles wild classification	0	0	0	0	0
miles scenic classification	0	0	0	0	0
miles recreation classification	0	0	0	0	10.2
Special Interest Areas (number and acres)	0	9 1,770	16 6,390	14 5,680	13 4,650
Research Natural Areas (number and acres)	3 840	3 840	12 20,530	13 23,690	7 1,950

Nebraska National Forest

Table S-6: Management Area Acres by Alternative for Nebraska National Forest Units (Acres rounded to nearest 10. Acres for Alternative 3a are the same as Alternative 3 unless shown otherwise. Acres in parentheses are concurrent management area acres, meaning they overlap other management area acres).

Management Area	Alt 1	Alt 2	Alt 3 <i>Alt 3a</i>	Alt 4	Alt 5
Category 1					
1.1 Wilderness: Soldier Creek	7,810	7,810	7,810	7,810	7,810
1.2 Recommended for Wilderness	0	0	15,970 <i>0</i>	174,970	9,700
1.31 Backcountry Recreation Non-motorized	0	9,700	14,000	1,830	126,660
1.31a Backcountry Recreation Nonmotorized: Pine Ridge Recreation Area	6,540	6,540	6,540	6,540	6,540
TOTALS	14,350	24,050	44,320	191,850	150,720
Category 2					
2.1 Special Interest Areas	70	1,060	54,490 <i>103,030</i>	2,820	55,190
2.2 Research Natural Areas	500	3,090	6,740 <i>1,560</i>	5,270 <i>(4,060)</i>	4,120

Management Area	Alt 1	Alt 2	Alt 3 Alt 3a	Alt 4	Alt 5
TOTALS	570	4,150	61,230 104,590	8,090	59,310
Category 3					
3.4 National River System: Scenic Rivers Recommended	0	0	0	1,790 (40)	0
3.51 Bighorn Sheep	0	0	6,590	5,950	5,950
3.63 Black-footed Ferret Reintroduction Habitat	8,050	61,510	109,140 83,870	109,930 (11,450)	86,780
3.64 Special Plant and Wildlife Habitat	54,340	16,640	107,290 6,850	15,580	20,140
3.66 Ecosystem Restoration	0	0	0	22,410	0
TOTALS	62,390	78,150	223,020 90,720	155,200	112,870
Category 4					
4.32 Dispersed Recreation: High Use	1,110	1,110	6,350 5,250	1,110	11,550
4.4 National River System: Recreation Rivers Recommended	0	0	0	140	1,790 (40)
TOTALS	1,110	1,110	6,350 5,250	1,250	13,340
Category 5					
5.12 General Forest and Rangelands: Range Vegetation Emphasis	0	22,410	27,000	27,000	0
5.13 Forest Products	0	31,990	0	0	0
TOTALS	0	54,400	27,000	27,000	0
Category 6					
6.1 Rangeland with Broad Resource Emphasis	977,180	891,380	691,300 673,790 ^{3a}	670,130	716,980
TOTALS	977,180	891,380	691,300 673,790	670,130	716,980
Category 7					
7.1 Residential/Forest Intermix	0	2,600	2,610	2,610	2,610
TOTALS	0	2,600	2,610	2,610	2,610
Category 8					
8.3 Designated Utility Corridors: Existing and Potential	240	0	0	0	0
8.4 Mineral Production and Development	0	0	0	0	0
8.5 Nursery	80	70	70	20	70
8.6 Administrative Sites	390	230	230	190	230
TOTALS	710	300	300	210	300

Table S-7: Comparison of Alternatives by Major Revision Topic for Nebraska National Forest Units.

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3 Alt3a	Alt 4	Alt 5
Community/Lifestyle Relationships					
Range-fed livestock grazing on NFS lands					
direct and indirect jobs (number)	219	251	212	179	194
direct and indirect income (millions of 1993 \$)	\$4.6	\$5.3	\$4.5 \$4.5	\$3.8	\$4.1
Oil/gas activities on NFS lands					
direct and indirect jobs (number)	57	114	114	114	114
direct and indirect income (millions of 1995 \$)	1.3	2.2	2.2	2.2	2.2
Effects on major use/interest segments	See social effects section in Chapter 3.				
Livestock Grazing					
Acres suitable rangeland	1,004,800	1,006,130	1,005,550 1,005,550	1,005,470	1,004,260
Estimated range AUMs of livestock grazing	308,700 to 377,300	357,580 to 435,820	300,420 to 367,180 298,980 to 365,420	247,500 to 302,500	268,290 to 327,910
Thousands lbs.forage available to livestock	267,550	309,050	260,360 259,110	214,510	232,530
Acres average pasture size	NA	500 - 1,170	620 - 1,170	680 - 1,290	680 - 1,290
Average # water developments/sq. mile	1 - 3	1 - 1.2	0.5 - 1.7	0.3 - 1	0.2 - 1.2
Oil and Gas					
Acres with existing leasing decisions	145,910				
Acres available for leasing	246,850	246,850	246,850	246,850	246,850
Available with stipulations (some acres have more than one type of stipulation)					
No Lease	116,720	0	0	0	0
No Surface Occupancy (NSO)	12,660	1,190	1,190	14,670	13,960
Controlled Surface Use (CSU)	3,850	20,480	52,270 22,880	21,790	71,480
Paleontology CSU	0	225,180	193,390 222,780	210,390	161,410
Timing Limitation (TL:)	980	29,310	29,310	29,310	29,310
Standard Lease Terms	128,690	0	0	0	0
Plant and Animal Control					
Acres prairie dog poisoning	No change	Increase	Decrease	No poisoning	Decrease

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3 Alt3a	Alt 4	Alt 5
Reduction in noxious weeds and invasive plants	No change	Reduce by 15%	Contain or reduce	Reduce by 15%	Contain or reduce
Rangeland and Forest Health					
Predicted habitat suitability (where applicable) for management indicator species					
greater prairie chicken	30-40%	10-30%	40-50%	40-70%	40-70%
plains sharp-tailed grouse	5-50%	0-25%	10-50%	15-70%	10-70%
sage grouse	Reduction	Reduction	Maintain or increase	Maintain or increase	Maintain or increase
acres active (protected) prairie dog colonies in 10 years	6,400 to 7,850	≤ 6,400	20,900 to 50,200	22,600 to 55,400	20,700 to 49,500
Endangered Species Act species, candidate species, other species of	See the biological evaluation/assessment or summary of effects in Chapter 3.				
Black-footed ferret areas (number and acres)	1 8,050	1 61,510	2 109,140	2 120,920	2 86,780
Desired grass/shrub structure					
percent low	18	27	23	16	19
percent moderate	64	56	42	37	39
percent high	18	17	35	47	42
Desired grass/shrub composition					
percent early seral stage	10-15	20	10-15	10	10-15
percent mid/late seral stage	85-90	80	85-90	90	85-90
Forest structure					
percent late successional	0	10	20-30	90	30-40
Percent riparian/woody draw regeneration	40	80	80	80	80
Acres/decade tree plantations maintained on Bessey Ranger District	NA	Based on need	20,000	0	12,000 to 15,000
Percent rest	2	>1	5	13	11
Percent suitable rangeland bison-only grazing	0	0	0	5	0
Acres prescribed burning	0	0	1,800	9,000	3,500
Recreation and Travel Management					
Scenic Integrity Levels					
low acres	992,290	960,990	808,540 876,350	673,250	422,240
moderate acres	56,980	73,470	148,570 48,020	75,330	472,100
high acres	580	13,850	91,200 123,760	185,580	195,950
very high acres	7,810	7,810	7,810 0	7,810	7,810

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3 <i>Alt3a</i>	Alt 4	Alt 5
Recreation Opportunity Spectrum Classes					
urban acres	240	580	240 <i>240</i>	240	240
rural acres	59,360	59,360	59,360 <i>59,360</i>	58,480	58,300
roaded natural acres	628,380	625,340	619,210 <i>605,780</i>	579,980	599,890
roaded natural non-motorized acres	500	2,590	6,240 <i>6,240</i>	3,740	2,590
semi-primitive motorized acres	334,940	325,460	308,000 <i>301,250</i>	221,310	224,610
semi-primitive non-motorized acres	32,760	42,790	63,060 <i>83,250</i>	191,330	169,460
Capacity of developed sites/ clusters of dispersed sites (persons at one time)	2,280	2,280	2,360	2,280	2,360
Trails miles	120	120	150 - 160	120	170
Dispersed Recreation					
change in fishing opportunity	No change	No change	No change	No change	Add 1 pond
change in quality deer habitat	No change	++	++	++	++
change in quality upland bird habitat	No change	No change	++	+++	+++
acres prairie dog colonies closed to shooting					
seasonally (3/1-7/31)	0	0	All NFS lands outside ferret habitat	0	0
yearlong	All ferret habitat on Buffalo Gap NG; 0 on other units	All ferret habitat on Buffalo Gap NG; 0 on other units	All ferret habitat on Buffalo Gap NG; 0 on other units	All NFS lands	All ferret habitat on Buffalo Gap NG; 0 on other units
acres active (protected) prairie dog colonies in 10 years	6,400 to 7,850	≤ 6,400	20,900 to 50,200	22,600 to 55,400	20,700 to 49,500
Acres allowing off-road motorized travel	868,560	895,460	5,200 <i>284,700</i>	0	10,400
Acres where no motorized use is allowed (except administrative use)	17,820	18,820	81,060 <i>102,160</i>	214,020	180,910
Acres with seasonal motorized travel restrictions (except administrative use)	139,980	139,980	0 NA	0	0
Acres with designated routes for motorized travel	30,900	3,000	971,000 <i>670,900</i>	843,240	865,950

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3 <i>Alt3a</i>	Alt 4	Alt 5
Miles expected designated routes (does not restrict snowmobile use)	NA	NA	1,450 to 3,040 <i>980 to 2,100</i>	1,264 to 1,977	1,970 to 2,710
Expected designated routes per sq.mile)	NA	NA	0.5 to 2.0 <i>NA</i>	0.5 to 1.75	1.5 to 2.0
Special Area Designations					
Recommended for Wilderness (number of areas and acres)	0	0	1 15,970 <i>0</i>	10 174,810	1 9,700
Recommended Wild/Scenic rivers					
Cheyenne River					
miles wild classification	0	0	0	0	0
miles scenic classification	0	0	0	8.6	0
miles recreation classification	0	0	0	0	8.6
Rapid Creek					
miles wild classification	0	0	0	0	0
miles scenic classification	0	0	0	1.7	0
miles recreation classification	0	0	0	0	1.7
Middle Loup River					
miles wild classification	0	0	0	0	0
miles scenic classification	0	0	0	0	0
miles recreation classification	0	0	0	0.5	0
Special Interest Areas (number of areas and acres)	2 70	8 1,046	15 54,436 <i>17 105,256</i>	12 2,816	18 55,136
Research Natural Areas (number of areas and acres)	1 500	3 3,100	6 6,770	9 9,360	4 4,150

Thunder Basin National Grassland

Table S-8: Management Area Acres by Alternative for Thunder Basin National Grassland (Acres rounded to nearest 10. Acres in parentheses are concurrent management area acres, meaning they overlap other management area acres.)

Management Area		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Category 1						
1.2	Recommended for Wilderness	0	0	14,850	59,280	15,260
1.31	Backcountry Recreation Non-motorized	0	0	6,540	4,200	22,710
TOTALS		0	0	21,390	63,480	37,970
Category 2						
2.1	Special Interest Areas	0	6,590	12,570	6,590	6,590
2.2	Research Natural Areas	0	0	1,210	3,520	0
TOTALS		0	6,590	13,780	10,110	6,590
Category 3						
3.63	Black-footed Ferret Reintroduction Habitat	33,750	41,230	45,470 (5,920)	112,510 (16,550)	27,850 (13,380)
3.65	Rangelands with Diverse, Natural- appearing Landscapes	0	0	116,560	17,920	0
3.68	Big Game Range	4,270	0	33,890	0	0
TOTALS		38,020	41,230	195,930	130,430	27,850
Category 4						
4.22	Scenic Area, Vistas or Travel Corridors	0	0	0	0	6,030
4.32	Dispersed Recreation: High Use	0	1,930	25,780	1,930	0
TOTALS		0	1,930	25,780	1,930	6,030
Category 5						
5.12	General Forest and Rangelands: Range Vegetation Emphasis	0	253,550	129,480	89,630	0
TOTALS		0	253,550	129,480	89,630	0
Category 6						
6.1	Rangeland with Broad Resource Emphasis	514,470	199,850	118,130	212,840	424,690
TOTALS		514,470	199,850	118,130	212,840	424,690
Category 8						
8.4	Mineral Production and Development	0	49,350	47,990	44,060	49,350
TOTALS		0	49,350	47,990	44,060	49,350

Table S-9: Comparison of Alternatives by Major Revision Topic for Thunder Basin National Grassland

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Community/Lifestyle Relationships					
Range-fed livestock grazing on NFS lands					
direct and indirect jobs	96	98	88	77	90
direct and indirect income (millions of 1993 \$)	\$1.9	\$2	\$1.8	\$1.6	\$1.8
Oil and gas activities on NFS lands					
direct and indirect jobs	1,196 to 1,264	1,196 to 1,264	1,196 to 1,264	1,196 to 1,264	1,196 to 1,264
direct and indirect income (millions of 1995 \$)	73.8 to 76.2	73.8 to 76.2	73.8 to 76.2	73.8 to 76.2	73.8 to 76.2
Effects on major use/interest segments	See social effects section in Chapter 3.				
Livestock Grazing					
Acres suitable rangeland	532,100	532,100	532,100	531,060	532,100
Estimated AUMs of livestock grazing	120,420 to 147,180	122,490 to 149,710	108,630 to 132,770	96,300 to 117,700	111,420 to 136,180
M pounds of forage available to livestock	104,360	106,160	94,150	83,540	96,570
Average pasture size in acres	NA	1,640	1,720	1,720	1,720
Average # water developments/sq. mile	NA	NA	0.5	0.5	0.6
Oil and Gas					
Acres with existing leasing decisions	520,000				
acres available for leasing	1,158,770	1,158,770	1,158,770	1,158,770	1,158,770
Available with stipulations (some acres have more than one type of stipulation)					
No Surface Occupancy (NSO)	7,580	1,440	23,940	66,400	38,610
Controlled Surface Use (CSU)	105,640	264,580	315,340	286,540	281,210
Paleontology CSU	0	892,740	819,480	805,820	838,930
Timing Limitation (TL)	106,280	422,770	446,750	422,770	422,770
Standard Lease Terms	960,210	0	0	0	0
Plant and Animal Control					
Acres of prairie dog poisoning	No change	Increase	Decrease	No poisoning	Decrease
Reduction in noxious weeds and invasive plants	No change	Reduce by 15%	Contain or reduce	Reduce by 15%	Contain or reduce
Rangeland and Forest Health					
Predicted habitat suitability (where applicable) for management indicator species					
plains sharp-tailed grouse	0-10%	0-10%	5-15%	10-20%	5-15%

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
sage grouse	Reduction	Reduction	Maintain or increase	Maintain or increase	Maintain or increase
acres of active (protected) prairie dog colonies predicted in 10 years	≥5,400	≤5,400	23,300 to 59,700	25,200 to 66,700	21,900 to 56,400
Endangered Species Act species, candidate species, other species of	See the biological evaluation/assessment or summary of effects in Chapter 3.				
Black-footed ferret reintroduction areas (numbers and acres)	1 33,700	1 41,230	1 51,400	1 129,060	1 41,230
Desired grass/shrub structure					
percent low	25	29	22	25	21
percent moderate	57	55	49	37	57
percent high	18	16	29	38	22
Desired grass/shrub composition					
percent early seral stage	10-15	20	10-15	10	10-15
percent mid/late seral stage	85-90	80	85-90	90	85-90
Forest structure					
percent late successional	0	10	20-30	90	30-40
Percent riparian/woody draw regeneration	27	80	80	80	80
Percent rest	0	0	5	10	5
Percent suitable rangeland bison-only grazing	0	0	0	5	0
Acres prescribed burning	400	1,000	500	4,500	2,000
Recreation and Travel Management					
Scenic Integrity Levels					
low acres	550,950	490,670	430,050	450,370	412,660
moderate acres	1,530	55,230	87,260	28,530	95,260
high acres	0	6,590	35,170	73,590	44,560
Recreation Opportunity Spectrum					
urban acres	13,250	49,780	48,130	44,680	49,790
rural acres	69,530	51,180	41,190	51,260	51,850
roaded natural acres	442,620	424,430	418,270	387,420	391,000
roaded natural non-motorized acres	0	0	1,210	3,520	0
semi-primitive motorized acres	27,090	27,090	22,280	2,130	21,870
semi-primitive non-motorized acres	0	0	21,390	63,480	37,970
Capacity of developed sites/clusters of dispersed sites (persons at one time)	5	5	80	5	200
Trail miles	0	0	Add some trails	0	100
Dispersed Recreation					
change in fishing opportunity	No change	No change	No change	No change	No change
change in quality deer habitat	No change	++++	++++	++++	++++
change in quality upland bird habitat	No change	No change	+	++	+

Revision Topic/Key Indicators	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
acres prairie dog colonies closed to shooting					
seasonally (3/1-7/31)	0	0	All NFS lands outside ferret habitat	0	0
yearlong	0	All ferret habitat	All ferret habitat	All NFS lands	All ferret habitat
acres active prairie dog colonies predicted in 10 years	≥ 5,400	≤ 5,400	23,300 to 59,700	25,200 to 66,700	21,900 to 56,400
Acres allowing off-road motorized travel	557,500	557,500	0	0	0
Acres where no motorized use is allowed (except administrative use)	0	0	22,600	65,500	38,000
Acres with seasonal restrictions (except administrative use)	0	0	39,800	0	0
Acres with designated routes for motorized travel	0	0	495,100	492,000	519,500
Expected designated routes per sq. mile	NA	NA	1.0 - 2.0	1.0 - 1.5	1.5 - 2.0
Expected miles of designated routes	NA	NA	970 to 1,550	960 to 1,150	1,220 to 1,620
Special Area Designations					
Recommended for Wilderness (number and acres)	0 0	0 0	1 14,840	6 59,290	1 15,260
Special Interest Areas (number and acres)	0 0	3 6,590	4 12,570	3 6,590	3 6,590
Research Natural Areas (number and acres)	0 0	0 0	2 1,230	4 2,880	0 0