FISCAL YEARS 1999 & 2000
MONITORING AND EVALUATION REPORT

Little Missouri, Cedar River, Grand River, & Sheyenne National Grasslands of the Dakota Prairie Grasslands

This document was prepared in cooperation with the District Rangers of the Little Missouri, Cedar River, Grand River, and Sheyenne National Grasslands and the Resource Program Managers in the Supervisor's Office of the Dakota Prairie Grasslands.

Approved by: *Larry J. Dawson*

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Grasslands Supervisor

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I. INTRODUCTION

This report documents the major activities that have occurred on the Little Missouri, Cedar River, Grand River, and Sheyenne National Grasslands from Fiscal Year 1999 through Fiscal Year 2000. These National Grasslands are divided into four administrative units, or districts. They are the Grand River District, consisting of the Cedar River and Grand River National Grasslands; the McKenzie District, made up of the northern one-half of the Little Missouri National Grassland; the Medora District, which is comprised of the southern one-half of the Little Missouri National Grassland; and the Sheyenne District, which consists of the Sheyenne National Grassland.

Previously, these districts were administered by the Custer National Forest. Midway through Fiscal Year 1998, a new unit, the Dakota Prairie Grasslands, was formed to administer these districts. This new unit is headquartered in Bismarck, North Dakota and Larry Dawson is its first Grasslands Supervisor. The process of transitioning administrative responsibilities between the two units is complete; however, some staff are shared between the two units.

The USDA Forest Service, in consultation with its shareholders, manages the land and resources of the National Forest System under the guidelines described in Forest and Resource Management Plans. Commonly known as Forest/Grassland Plans, these documents are agreements between the public, or shareholders, and the Forest Service. The plans are arrived at through a lengthy and deliberate process that involves all interested parties. Forest/Grasslands Plans are designed to guide the management of a specific national forest or grassland area for a period of 10 to 15 years.

The Dakota Prairie Grasslands is currently part of the Northern Great Plains Management Plans Revision process. The Final Environmental Impact Statement and the Revised Plan are at the printer and we anticipate beginning a 6-month comment period in June 2001.

In order to help both the Forest Service and the public determine how well actual day to day management meets the stated goals in the Forest Plan, Forest Service managers monitor activities occurring on the ground and evaluate their results. The Custer National Forest Plan (1987) addresses monitoring in Chapter IV. The specific monitoring elements are described on pages 105-110. Throughout the rest of this report, the items referred to, and the major headings used, are from these pages. Since they do not apply to the National Grasslands, Categories "B. Wilderness" and "E. Timber" will not be discussed in this report.

Monitoring looks at management activities in three ways:

Implementation Monitoring determines if plans, prescriptions, projects, and activities are being accomplished in compliance with Forest Plan objectives, standards, and guidelines (Did we do what we said we would?).

Effectiveness Monitoring determines if plans, prescriptions, projects, and activities are producing identifiable results in moving toward a desired future condition as identified in the Forest Plan (Did our actions accomplish what we wanted?).

Validation Monitoring determines if the assumptions, data, and models used to

develop the Forest Plan are correct, or if there are better ways, given new information and technology, to address resource management challenges.

Implementation monitoring is generally done as projects are implemented on the ground. Much of the day to day activities of district personnel is devoted to assuring that we do what we said we would do. At the end of the year, we can look at broad program areas to see if we have accomplished the level of activities envisioned in the Forest Plan. Monitoring Item C6 of the Forest Plan, "At least 90 percent of planned wildlife habitat targets are met," is an example of implementation monitoring.

This report will focus primarily on effectiveness monitoring. Monitoring Item C1, "Has effective wildlife habitat decreased by more than ten percent over levels estimated in the Forest Plan analysis?" is an example of effectiveness monitoring.

Validation monitoring is often done at levels above the National Forest through the development of better models for simulating the effects of proposed action. Few, if any of the items in this report address this type of monitoring.

Section II of this report describes what progress had been made to date in implementing and monitoring each element of the Custer Forest Plan that are applicable to the National Grasslands. Section III then summarizes how the plan had been modified, or amended, in response to new information or changing conditions. Lastly, Section IV describes the revision process. These are issues that cannot be addressed totally through the amendment process.

II. IMPLEMENTATION PROGRESS and MONITORING RESULTS

This section addresses the monitoring items described in Chapter IV of the Custer Forest Plan (1987) and discusses the accomplishments made in meeting Forest Plan goals. All other components of the Forest Plan (objectives, standards and guidelines, and monitoring) were developed to move the Forest condition toward the desired goals described in the Forest Plan. Accomplishments are listed below under the headings as they appear in the monitoring section of the Forest Plan.

A. RECREATION

Situated in the western portion of the Midwest, the Dakota Prairie Grasslands provides a variety of recreation opportunities. The Grand River/Cedar River District annually hosts a moderate number of recreationists participating in activities such as camping, picnicking, hunting, and fishing, with hunting being the most popular.

In contrast, the Little Missouri National Grassland (LMNG) receives large numbers of visitors each year. The most popular activity is hunting followed by travel/viewing scenery and bicycling. The 96-mile-long Maah Daah Hey Trail has witnessed an explosion in use by mountain bikers. The LMNG is also experiencing increased OHV use. While we have not collected data, our observations indicate that this increased use is accompanied by some resource damage.

The Sheyenne District attracts photographers, birders, horseback riders, and others interested in the rare plant communities present in a tall-grass prairie. Horseback riding and motorized travel/viewing scenery are the most popular activities. Fragile soils combined with OHV activity is resulting in resource damage especially in the Hankinson Hills area.

Heritage

Forest Service archaeologists were able to show gains and accomplishments in Section 110 type activities for FY-1999. Custer Forest staff began to catalog artifacts connected to the Custer Trail and the Battle of the Badlands. Survey and recordation work also continued on the Custer Trail. Using metal detectors and pedestrian survey, a Passport-In-Time volunteer and professional crew located new segments of the trail and a probable military campsite. Accomplishments include a draft report, new trail segments entered into the GPS database, and a map. In addition, a professional rock art curator completed an assessment of the vandalism and damage to Initial Rock (a Custer Trail National Register site). Updating also continued on the Cultural Resource Overview.

In FY-2000, DPG archaeologists built a Paleo-Indian display called "Ancient Bison Hunters of the Great Plains" showing hunting and butchering methodologies along with the different projectile point types (cast replicas). The interpretive display was featured at the Medora Ranger District, a workshop at North Dakota State University-Fargo, and is presently at the Grand/Cedar River Ranger District. The archaeologists also put together a tour of the Custer/Sully Military Complex. In addition, a $5,000 partnership grant funded a Hidatsa/Mandan woman to give interpretive presentations on Sakakawea. Performances have been presented to grade school children in Dickinson, Williston, Bismarck and Lemon. Feedback has been very positive from everyone involved, including excellent coverage and features by the local newspapers.

The Grasslands also applied for and obtained partnership funding to remove graffiti from Initial Rock, a National Register of Historic Places site. We were fortunate to acquire the assistance of world-class rock art specialists to record and cleanup this historic site. The work generated a report titled, "The Conservation and Management of Initial Rock, North Dakota". This is part of a larger effort to interpret the Indian Wars of the 1870s. Grasslands archaeologists completed a recreation/heritage plan called; "Promotion and Protection of the Little Missouri Badlands' Military Complex". This document will provide a template for protection, enhancement and interpretation of the sites. A self-guided motor tour is included in this plan. Featured will be the Custer Trail and campsites and Sulley Trail campsite and battleground located on the Little Missouri National Grasslands. These historic sites, in turn, will be tied to a broader auto tour, which will include Fort Lincoln, Battle of Killdeer Mountain, Fort Dilts, and the Battle of the Little Big Horn. The DPG is currently pursuing additional funding to complete the project.

A Passport-In-Time excavation of teepee rings and buried archaeological sites took place in the summer of 2000. The crew included both volunteers and professionals. Results of the project are documented in the accompanying report, "The Clear Creek Project: Test Excavation at Archaeological Sites 32MZ1474 and 32MZ1475, McKenzie

County, North Dakota". Interior features at 32MZ1474 contained fairly dense faunal deposits of bison bone. Radiocarbon samples taken from hearth features date the site to ca. AD 1520 to Present. Presence of hearths, fetal bison bone, stone patterns along the ring wall indicating southeasterly wind direction strongly suggest a cold weather occupation. Site 32MZ1475 consisted of a cultural material scatter highlighted by a large hearth eroding from a cutbank. The hearth and upper soil zone contained a fairly dense deposit of cracked bison bone indicating the manufacture and processing of bone marrow. The feature dated to ca. AD 1780 to Present. Both sites were evaluated as eligible for inclusion to the National Register of Historic Places.

DPG heritage personnel and line officers continue to formally and informally consult and coordinate with the Three Affiliated Tribes (Arikara, Mandan and Hidatsa) and Standing Rock Sioux on the annual program of work, mitigation measures, and clearances.

What is the actual developed and dispersed recreation use compared with projected use levels? (A1)

We have not collected any new Recreation data since the 1996 survey; however, an intensive National Recreation Use Monitoring (NRUM) monitoring project is presently in the planning stages. It will be implemented on the Dakota Prairie Grasslands in FY-2002.

What are the conditions and trends in developed sites? Do developed site conditions meet or exceed acceptable standards? (A2)

For FY1999/2000, Dakota Prairie Grasslands personnel completed the Deferred Maintenance Inventory and transcribed the data into Meaningful Measures spreadsheets. This information, in turn, is in the process of being converted to the INFRA database. A leveling of this information will take place in 2001.

On the Little Missouri National Grasslands, developed sites are being upgraded and expanded with more camping spots, new (ADA accessible) restrooms, new (ADA accessible) picnic tables, and other amenities.

A developed site is in the planning phase on the Sheyenne Ranger District. There are no plans at present to construct a developed site on the Grand River Ranger District.

Does off-highway vehicle (OHV) use and damage conflict with Forest Management area goals? (A3)

Observations and subjective evaluations by Forest Service personnel indicate that motorized use has increased on the grasslands due to the popularity of off-highway vehicles (OHV), motorcycles, and four-wheel drive vehicles. In addition, development of dependable OHV's and 4-wheel drive vehicles has significantly replaced horses as the ranchers' source of transportation.

The Medora and McKenzie Districts continue to see an increase in OHV use and resultant resource problems, such as soil erosion and destruction of vegetation. On the Grand River District, OHV resource damage is very low except during wet conditions. OHV caused resource damage continues on the Sheyenne District and is

particularly devastating because of sandy, fragile soils.

In January 2001, Regional Forester, Dale Bosworth, signed a ROD titled, Off-Highway Vehicle: Record of Decision and Plan amendment for Montana, North Dakota and Portions of South Dakota. Implementation, closures, and signing is projected to take place in FY-2001. In addition, the Dakota Prairie Grasslands are currently in the Grasslands Plan Revision process to designate non-motorized areas of the Grasslands.

Is cultural resource inventory and protection compliance being accomplished annually? (A4)

For 1999, archaeologists inventoried a total of 1,649 acres, investigated 58 undertakings and recorded 20 new sites on the Dakota Prairie Grasslands. Use of the Programmatic Agreement and Site Identification Strategy standards let heritage resource specialists make efficient use of their time. They, along with GIS specialists, were able to update data-bases, records and complete input of project data files into ARC/INFO and LOTUS. Part of the changeover between administrative units also included shipping information files, maps, applicable books and publications from Billings, Montana to Dickinson, North Dakota.

For FY-2000, site monitoring to discern the effects from current grazing strategies on the heritage resources was complete and resulted in a report titled, *Cows, Tanks, Pipelines and Fences: The Effects of Grazing to Cultural Resources on the Little Missouri Grasslands*, was issued in December 2000. The document contains a prescription for mitigating damage to cultural sites. Archaeologists inventoried a total of 4,614 acres, investigated 62 undertakings and recorded 22 new sites on the Dakota Prairie Grasslands in FY-2000. Use of the Programmatic Agreement and Site Identification Strategy standards again let heritage resource specialists make efficient use of their time. We were able to update databases and records, and complete input of project data files.

For FY2001, we will begin transferring this database into the Forest Service wide INFRA system. In addition, we were able to revisit, monitor and assess 18 archeological sites of high cultural significance on the Dakota Prairie Grasslands. Additional sites will be revisited next year. We also completed several surveys for future projects on the DPG and surveyed and/or assessed the areas burned over by the Blacktail and Talkington fires.

The Dakota Prairie Grasslands continues to follow the Programmatic Agreements (PAs) concluded with the South Dakota and North Dakota State Historic Preservation Offices. Some of the standards include identified specific site inventory strategies to follow for ground disturbing activities including Oil and Gas inventory, linear surveys, seismic surveys and range permit re-issuance. As required by the PAs, annual meetings with the SHPOs were held to review the reports and compliance actions. For FY-1999/2000, all actions were in compliance.

Inventory strategies and consultant work on the Grasslands are conducted under special use permits and this work is field checked by Forest Archaeologists to ensure accuracy and maintain quality control. Over the past three years an average

of 5 antiquity permits have been issued to consultants, all of which have been checked and found to be reporting accurately.

What are the effects of management activities and allocations on the visual resource? (A5)

Although no new information was compiled since the 1996-1997 units inventories under the new Scenery Management System, this information was used in the revision process of the Land and Resource Management Plan for the Dakota Prairie Grasslands. This plan identifies scenic integrity of objectives and provides standards and guidelines for meeting them. Future monitoring will determine if implemented projects are meeting the scenic integrity objectives.

B. WILDERNESS

(Not applicable to National Grasslands.)

C. WILDLIFE

Big Game

The analysis conducted for the 1999 draft Northern Great Plains Environmental Impact Statement (NGP DEIS), stressed the importance of woodlands, such as wooded draws and riparian forests, as habitat for mule and white-tailed deer. Under the 2001 FEIS and Land and Resource Management Plan, additional effort would be devoted to improving such habitat.

California bighorn sheep have recently declined on the Little Missouri National Grassland. Most of the animals south of Interstate 94 were lost in 1998, presumably due to disease. According to North Dakota Game and Fish Department data, it appears that bighorn sheep populations north of Interstate 94 are relatively stable. The North Dakota Game and Fish Department is attempting to supplement the southern populations, through transplants. Bighorn sheep viability was an important issue for the 1999 NGP DEIS, resulting in extensive new direction identified in the FEIS and revised Plan for the DPG.

Sharp-tailed Grouse

As noted in earlier monitoring reports, concern has been expressed over the availability of sharp-tailed grouse nesting habitat on the Dakota Prairie Grasslands. The most important component of such habitat is the presence of residual grass cover. Annual monitoring of this habitat component on the Little Missouri National Grassland began in 1996. Results are shown in Table 1. No grassland structure monitoring has been completed on the Grand River or Cedar River National Grasslands since the last monitoring report. Monitoring on these two units was not completed due to a lack of baseline soil and climate information.

Table 1: Grassland structure monitoring results from the Little Missouri National Grassland. Values indicate transect average Visual Obstruction Readings (VOR), in inches.

YEAR	# OF TRANSECTS	LESS THAN 2"	2.0-2.9"	3.0-3.9"	GREATER THAN 4"
1996*	221	53%	37%	6%	3%
1997*	230	60%	30%	8%	2%
1998*	207	75%	20%	3%	2%
1999	355	56%	26%	12%	6%
2000	94	60%	31%	6%	3%

*From Table RFH-22, Draft Environmental Impact Statement, Northern Great Plains Plans Revision, July 1999.

The Forest Service did not monitor sharp-tailed grouse populations on the Little Missouri, Cedar River, or Grand River National Grasslands in 1999-2000. Monitoring by cooperating state agencies indicates that sharp-tailed grouse populations in the general area of these grasslands were stable or increasing during this period due to increased moisture conditions resulting in more residual cover. Generally, a minimum VOR 0f 3.5 inches is needed for succesful grouse nesting.

In 1999 and 2000, the Dakota Prairie Grasslands monitored sharp-tailed grouse populations on the Sheyenne National Grassland. In 1999, 308 males were found, while 317 were present in 2000.

For FY2001, monitoring for new leks will be conducted on portions of the Grand River and Little Missouri.

Greater Prairie Chicken

Like sharp-tailed grouse, greater prairie chickens are greatly affected by the availability of residual grass cover. The Sheyenne National Grassland has conducted grassland structure monitoring since 1992. Data for 1999 and 2000 is summarized in Table 2.

Table 2: Grassland structure monitoring results from the Sheyenne National Grassland. Values indicate transect average Visual Obstruction Readings (VOR), in inches.

YEAR	ACRES SAMPLED	LESS THAN 2"	2.0-3.0"	4.0-5.0"	6.0-7.9"	GREATER THAN 8"
1999	14,727	29.4%	39.4%	15.4%	10%	5.8%
2000	11,251	13.6%	17%	44.3%	21%	4.0%

In 1998, 110 male greater prairie chickens were counted during systematic surveys, while approximately 106 were found in 1999, and 137 in 2000. Data indicates that the long-term trend for the chickens is down due to a lack of residual cover.

Greater Sage Grouse

Greater sage grouse occur in southwestern North Dakota, and are found on the southwestern portion of the Little Missouri National Grassland (LMNG). Little is known of this population's ecology. In 2000, the Dakota Prairie Grasslands initiated a cooperative study of North Dakota's greater sage grouse. This effort, led by South Dakota State University, and coordinated by the North Dakota Game and Fish Department, will take several years to complete. Population monitoring by the North Dakota Game and Fish Department found 195 male greater sage grouse in 1999, and 283 in 2000.

Waterfowl

No cooperative wetland development projects were completed, 1999-2000.

In 1998, the Custer National Forest contracted with Northern Prairie Wildlife Research Center to monitor the effects of wetlands developments on the Little Missouri National Grassland. Field research was completed in 2000, and data is currently being analyzed.

Fisheries

The Dakota Prairie Grasslands manages several water bodies for recreational fishing. These efforts are often hampered by overwinter fish loss (i.e. "winterkill"). In order to combat this difficulty, the Grand River National Grassland operates several stock pond aerators to keep fishing ponds oxygenated. In 2000, the Grand River National Grassland purchased an additional aerator, so that these efforts could be expanded.

No inventory work on the Dakota Prairie Grasslands' recreational fisheries was completed in 1999 or 2000. However, in 2000 an inventory of the Sheyenne National Grassland's fish community was completed on seven tributaries of the Sheyenne River. A total of 15 species were found, with brook stickleback, fathead minnow, and white sucker being the most common. Blacknose dace, a species of local interest, was found in two of the seven drainages sampled. Also in 2000, a cooperative inventory of the native fish on the Little Missouri National Grassland was initiated with the University of Idaho. Field work on this project is scheduled to begin in summer 2001.

Threatened, Endangered, and Sensitive Species (TES)

Since the 1998 Monitoring Report, the status of several threatened, endangered, and sensitive species has changed. The peregrine falcon has been delisted under the Endangered Species Act, while the bald eagle has been reclassified as threatened. Black-tailed prairie dogs are now considered a candidate species, while swift fox are not. In March 1999, the Region 1 Regional Forester updated the sensitive species list for the Dakota Prairie Grasslands.

The Sheyenne National Grassland (SNG) population of the western prairie fringed orchid is one of three remaining meta-populations for this species. The SNG is an active participant in recovery efforts for this federally threatened species. The District participated in the recovery plan, and helped develop management standards and guidelines in cooperation with the U.S. Fish and Wildlife Service. The Dakota Prairie

Grasslands has revised the Management Guidelines for the Western Prairie Fringed Orchid on the Sheyenne National Grassland. This document will be appended to the Dakota Prairie Land and Resource Management Plan Revision. The management guidelines focus on standards to insure the long-term viability of the SNG meta-population. In cooperation with the Rocky Mountain Research Station, several universities, and other partners, research has been conducted on the life cycle of the orchid, ecological relationships, the role of pollinators, and effects of livestock grazing and prescribed fire.

The Dakota Prairie Grasslands support habitats for 43 sensitive plant, 18 sensitive wildlife species, and two sensitive fish species. Population and habitat status for many of these species are unknown. With the exception of sensitive plant species associated with riparian habitats on the SNG, most populations were identified during sensitive plant surveys between 1990 and 1995.

Populations have also been documented during the course of sensitive plant clearances for range and oil and gas projects. The Sheyenne District has the majority of the sensitive plants, 31 species, which comprises nearly 15 percent of all sensitive plant species in the region. Region One revised its sensitive species list in 1999. Known sensitive plant populations have been mapped onto mylar overlays and will be digitized as an ARC GIS layer.

Black-tailed Prairie Dog

This species has been referred to as a keystone species on the Great Plains, and provides important habitat for several other species, including TES species such as the black-footed ferret. No systematic surveys were completed in 1999-2000.

Wooded Draws

These are considered important habitats for many wildlife species. Trend data suggests that wooded draws with a high degree of structure are declining, particularly those in close proximity to livestock water developments. The proximity of wooded draws to water developments may make them susceptible to heavy utilization by livestock. In 2000, North Dakota Game and Fish Department collected additional plot data on the Little Missouri National Grassland, and is currently analyzing the data.

Grassland Community Biodiversity

Encroachment by exotic species, displacement of natural processes such as fire and herbivory, and current management practices potentially affect the floristic composition and structure of grassland communities.

In 1998, the Dakota Prairie Grasslands evaluated the relationship between avian populations and grassland habitat structure on the Little Missouri National Grassland. Based on this investigation, vegetation cover type maps may be useful in predicting mean abundances of sharp-tailed grouse, vesper sparrows, clay-colored sparrows, Sprague's pipits, horned larks, chestnut-collared longspurs, and Baird's sparrows. In 1999, breeding bird data was again collected, with analysis ongoing.

Botanical composition of native prairie habitats has also become a significant issue.

Botanists have expressed concern in the loss of plant communities as a result of management activities. The Grasslands are developing a "rating system" that assesses the integrity of grassland communities based on plant composition in potential natural communities. In 1998, the Grasslands initiated data collection to assess the integrity of plant communities in relationship to distance from livestock water developments. Analysis of this data will be completed in 2001.

Has effective wildlife habitat decreased by more than ten percent over levels estimated in the Forest Plan FORPLAN analysis as a result of road construction and oil and gas activities? (C1)

No new information is available since the 1998 monitoring report.

Have essential habitats or populations for Threatened and Endangered species of bald eagle, black footed ferret or peregrine decreased by more than five percent? (C2)

As noted above, peregrine falcon are no longer listed under the Endangered Species Act. No bald eagles nest on or near the Dakota National Grasslands. The status of black-footed ferret habitat has not changed since the 1998 monitoring report.

The number of prairie-fringed orchid populations found on the Sheyenne National Grassland has generally increased since 1992. Increases in orchid numbers has largely been correlated with climatic events (high precipitation/ground water). Orchid populations are managed under the Management Guidelines for the Western Prairie Fringed Orchid on the Sheyenne National Grassland developed cooperatively with the U.S. Fish and Wildlife Service (USFWS). The Grasslands consulted with the USFWS to revise these guidelines in 2000 based on current scientific information. Numbers of populations and orchids fluctuates significantly from year to year. The expansion of leafy spurge, depletion of local water tables, and continued loss of prairie habitats pose the greatest threats to orchid habitats. Livestock grazing can also potentially impact orchids by reducing the number of orchids which set seed.

No prairie dog complexes on the DPG are currently large enough to support Black-footed ferrets. Under the NGP FEIS and revised Plan (June 2001), a Black-footed ferret reintroduction area is proposed for the McKenzie Ranger District on the Little Missouri National Grassland. Ferret reintroduction will be considered where prairie dog complexes grow to sufficient size.

Have winter range capacity and population levels decreased by more than five percent for elk, bighorn sheep, or mule deer in the three year population average for these species? (C3)

We have not monitored to capacity of winter ranges. Based on information from the state wildlife agencies, mule deer and elk populations are believed to be stable or increasing on the Dakota Prairie Grasslands. As noted above, bighorn sheep populations south of Interstate 94 suffered a major decline in 1998, but may soon increase due to transplant efforts by the North Dakota Game and Fish Department.

Has there been greater than a five percent reduction of key wildlife habitats with

special emphasis on riparian and woody draw areas? (C4)

The Forest Service is currently conducting a landscape assessment on the Little Missouri National Grassland. As part of this effort, woody draw and riparian inventory work was completed in 1998 and 1999. Analysis of this data is nearing completion. No woody draw or riparian habitat monitoring was conducted on the remainder of the Dakota Prairie Grasslands in 1999-2000.

As noted above (Wooded Draws), the North Dakota Game and Fish Department is currently analyzing their monitoring data from 2000.

Have wildlife and livestock conflicts in key wildlife habitat areas caused more than a five percent decrease in effective wildlife habitat? (C5)

The Dakota Prairie Grasslands does not have any baseline information at this time to make this determination. Two key ares where wildlife and livestock conflicts in key habitat areas can best be noted are in prairie dog complex expansion and residual grass cover.

Because no prairie dog control efforts occurred on the grasslands in 1999 and 2000, this key habitat was not reduced during this timeframe. On the Dakota Prairie Grasslands residual cover availability for ground nesting birds (e.g. greater prairie chicken, sharp-tailed grouse and Baird's sparrow) is low. Livestock grazing patterns, along with weather and site conditions, have great influence on residual cover. Residual cover information (VOR) is presented in Table 1.

Have at least 90 percent of planned fish and wildlife habitat targets been met? (C6 and C10)

Fish, wildlife, and TES habitat improvement projects were accomplished at or above 90 percent of annual targets. These projects included placing solar-powered lake aerators on fish ponds to prevent winter kill, prescribed burning to invigorate tallgrass prairie, and inventory and monitoring of vegetative cover.

Has there been an increase or decrease in acreage of prairie dogs by more than ten percent? (C7)

No new information is available since the 1998 monitoring report.

Have the population trends for mule deer, whitetail deer, mountain goats, and antelope decreased by more than ten percent from the previous five year average? (C8)

Population trends of mule deer, whitetail deer, and antelope are thought to be stable or increasing. Mountain goats do not occur on the Dakota Prairie Grasslands.

Have harvest levels of bobcat and coyote decreased their populations by more than ten percent from the previous five year average? (C8)

The status of these species is largely unknown for Grassland units. It is suspected that their populations are relatively stable. No monitoring for these species was conducted in1999 or 2000.

Has the occupied/unoccupied habitat for golden eagle and prairie falcon decreased by more than ten percent? (C8)

The Sheyenne National Grassland is unsuitable nesting habitat for these species. As explained in the 1998 monitoring report, a comprehensive golden eagle and prairie falcon survey has not been conducted on the Little Missouri National Grassland since 1993. The Dakota Prairie Grasslands plans to update the raptor nest layer on the Little Missouri National Grassland in summers 2001-2004. Raptor nest information for the Grand River and Cedar River National Grasslands will also be updated during this time period.

Does at least 90 percent of the prairie grouse dancing/booming grounds have an average stubble height of 12 inches or more within a one mile radius? (C9)

As noted in the 1998 monitoring report, the Dakota Prairie Grasslands likely does not meet this standard. The DPG has focused on monitoring Visual Obstruction Reading (or Visual Obstruction Measurement), rather than stubble height. A direct comparison between the two elements is not possible; therefore we cannot provide an answer to this monitoring element that is data supported.

D. RANGE

The Custer National Forest Plan (1987) indicates range condition to be good to excellent across most of the four grasslands. This rating was based on data from 1980. No monitoring of range condition and trend has been conducted on the DPG since the 1998 monitoring report.

As part of The Governor of North Dakota's comments (February 2, 2000) on the DEIS for Grasslands Plan revision, a panel of state resource professionals were assembled to evaluate rangeland conditions on the National Grasslands in North Dakota. Because of insufficient sample sizes and non-random selection of the monitoring sites, the data presented here is not considered statistically valid. However, the data does provide a quantified characterization of range conditions across the grasslands. It is important to note that characterization of range condition is based on livestock forage preference and may not reflect conditions for other resources. Along with range condition, the panel also rated each site for wildlife habitat values.

That panel monitored 31 total sites on the Little Missouri and Sheyenne National Grasslands. Their findings indicated that of the 22 sites evaluated on the Little Missouri National Grassland, 55% were rated as fair range condition, 41% were rated as good range condition, and 1 site rated as excellent range condition. Of 9 sites evaluated on the Sheyenne National Grassland, 67% were rated as fair range condition and 33% were rated as good range condition. Of the 22 sites evaluated on the Little Missouri National Grassland, 50% were rated as poor wildlife habitat, 41% were rated as fair wildlife habitat, and 9% were rated as good wildlife habitat. Of the 9 sites evaluated on the Sheyenne National Grassland, 56% were rated as poor wildlife habitat, 22% were rated as fair wildlife habitat, and 22% were rated as good wildlife habitat. The results of that monitoring effort are attached as Appendix A.

Uplands

The 1986 Forest Plan identified habitat typing for non-forested ecosystems as an additional data requirement (page 3, Table II-3). For the Little Missouri National Grasslands, a habitat type classification has been developed and is currently being edited for publication in a General Technical Report. Habitat types provide information on general geographic, physiographic, climatic, and edaphic features (soil and topography) of each vegetation type. It also describes various seral communities characteristic of each vegetation type. It will present information on successional pathways, potential rangeland productivity, and other biological observations of importance to rangeland managers. We anticipate this will be completed in late 2001.

A model utilizing satellite imagery, precipitation data, vegetation types, and edaphic features, is currently being developed. This model will help us understand our departure from potential vegetation compared to existing vegetation. As part of a landscape assessment, the model for the Little Missouri Grasslands will be completed in late 2001 or early 2002.

Hardwood draws

Hardwood draws are an important component of grasslands ecology. Undisturbed wooded draws occur as multi-storied communities with a tree canopy of green ash and/or elm, a dense shrub stratum of chokecherry, serviceberry, snowberry and plum, and a ground layer dominated by herbaceous species.

Permanent transects installed in 1976 on the McKenzie Ranger District will be reread in 2001. This information will be used to characterize trend under specific treatment scenarios.

Riparian

In 1996, the Forest Service adopted (USDA, Thomas, Jack Ward. 1996) the Proper Functioning Condition (PFC) assessment methodology (USDI Bureau of Land Management, and USDA Forest Service and Natural Resource Conservation Service Technical Reference TR-1737-15, 1998) as the minimum inventory for riparian assessments. The PFC riparian (stream or wetland) assessment is a reach-based, qualitative assessment of the physical function of a riparian ecosystem. The assessment addresses hydrology, vegetation, erosion and sediment deposition. The assessment determines if the reach is functioning, functioning at risk, or non-functional. PFC does not address desired resource conditions and associated values, such as wildlife forage or fisheries habitat. However, PFC is considered as the minimum starting requirement from which to work towards desired resource conditions.

PFC assessments of streams on the Little Missouri National Grassland are currently being analyzed as part of a landscape assessment. This assessment will be completed in late 2001 or early 2002.

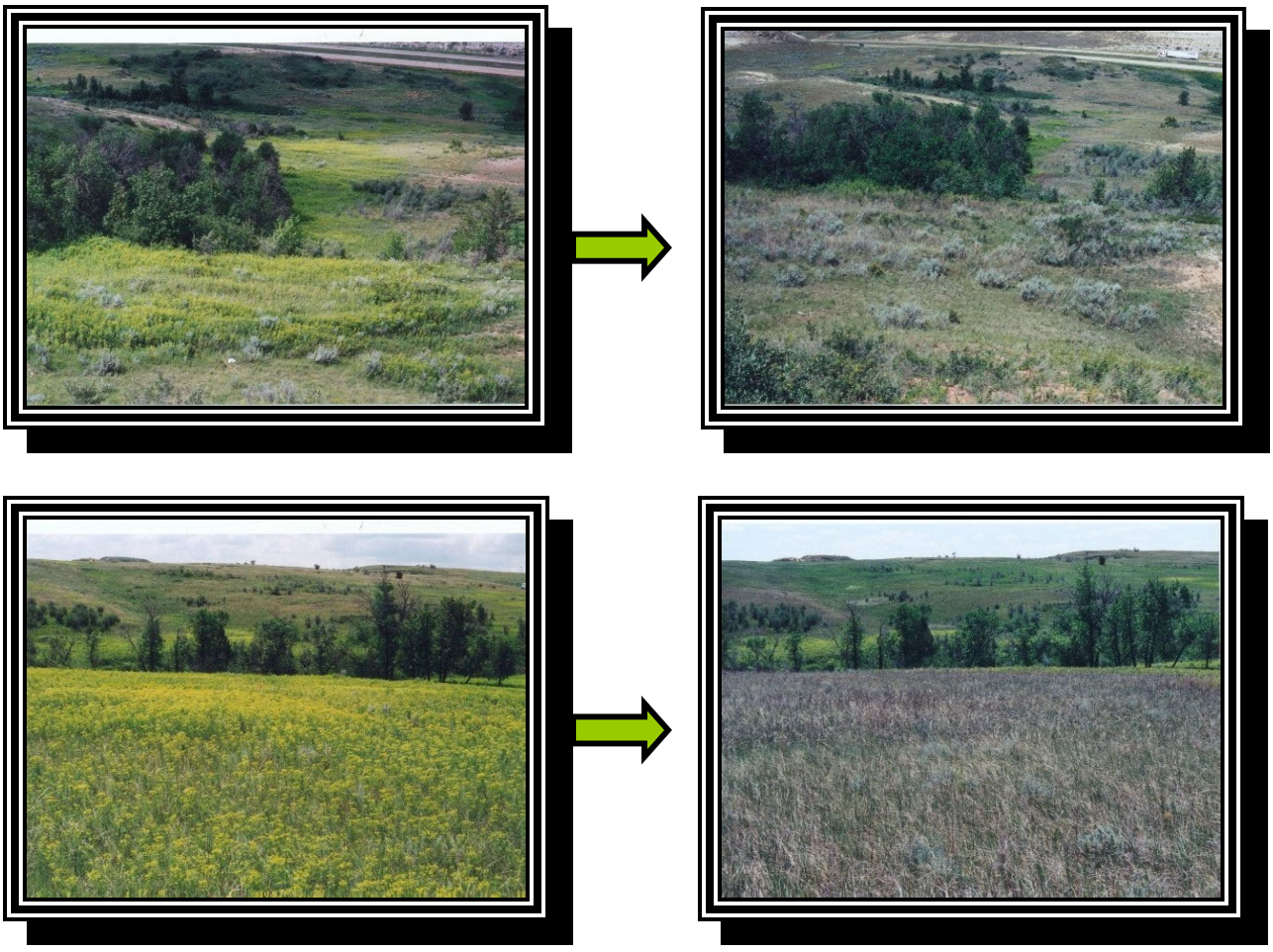
Noxious Weeds

The effort to control noxious weeds continues to emphasize a biologically based integrated pest management approach. Populations of flea beetles (Apthona lacertosa

and A. nigriscutis) are becoming well established in several areas especially on the Medora Ranger District. During the 2000 season, the District collected over 8,650,000 apthona flea beetles for re-distribution onto suitable spurge infestations. That effort included 4,200,000 beetles released on 1,050 sites on the Medora Ranger District; 1,550,000 beetles provided to the Grazing Associations which were released on 620 national grassland sites; and over 1,900,000 beetles that were released on 741 sites on intermingled private lands, North Dakota State lands, and other sites on national forests in Region 1.

Apthona populations in the vicinity of the Buffalo Gap Campground have become well extablished and photo monitoring from 1998 and 2000 indicate they have been very successful in reducing leafy spurge infestations. The following photographs are graphic illustration of that success. The photos on the left are from June 1998 while those on the right are the same site in June 2000.

BEFORE (1998) **AFTER (2000)**



Cooperative efforts between the Grazing Associations and other external partners

continue to increase the effectiveness of noxious weed control within the current budgets. Additionally, partnership contributions of money and services are ongoing on the McKenzie, Sheyenne, and Grand River Ranger Districts. The Medora Ranger District is working closely with their Grazing Associations to ensure that their control efforts are as efficient as possible.

The Sheyenne Ranger District continues to include goat grazing as an integral part of their leafy spurge control program. Apthona beetles have not established well in the sandy soils of the Sheyenne Ranger District and although insects are being released yearly, they have not established themselves as they have where they have been released on the Medora Ranger District.

Herbicide use continues to be an important aspect of noxious weed control efforts. New chemical formulations are being evaluated through research efforts at North Dakota State University and at South Dakota State University. The most promising of those formulations was utilized on the Sheyenne National Grassland during the fall of 2000. Plateau is a narrow spectrum pesticide that has been shown to be effective in controlling leafy spurge with limited effect on non-target herbaceous species. The effectiveness of Plateau in reducing stem densities of leafy spurge will be monitored using plots established prior to the 2000 treatment. Table 3 provides an overview of herbicide use during the 1999 and 2000 seasons:

Table 3. Herbicide Treatment Levels on the Dakota Prairie National Grasslands (1999 & 2000)

UNIT	TARGET SPECIES	1999 TREATMENT LEVEL (acres)	2000 TREATMENT LEVEL (acres)
Sheyenne NG	Leafy Spurge	2,039	4,443
Grand River/CedarRiver NG's	Leafy Spurge	550	550
Little Missouri NG McKenzie Unit	Leafy Spurge	259	273
	Absinth Wormwood	1	8
	Canada Thistle	54	11
	Spotted Knapweed	1	
	Russian Knapweed	1	
Little Missouri NG Medora Unit	Leafy Spurge	484	455
	Canada Thistle	56	6

Allotment Management Plans

There has been no change in the status of NEPA analysis for the Rescission Bill schedule. A large-scale landscape assessment on the Little Missouri National Grassland will be completed in late 2001 or early 2002. This assessment will facilitate the NEPA analysis process for allotments on the Little Missouri National Grassland. A focus on Allotment Management Plan NEPA analysis on the Little Missouri will begin in late 2001.

NEPA analysis for allotments on the Cedar River National Grassland were initiated in late 2000 and will be completed in the summer to early fall of 2001.

Permit Administration

For the purpose of the Forest Plan, this activity includes the work associated with allotment inspections and, in general, monitoring annual instructions and Allotment Management Plans. The frequency of examination of an allotment varies depending on the complexity of administrative and management concerns. In general, District range staff examined 25% of the allotments on the Dakota Prairie in 1999 and 2000. During the 1999 and 2000 field seasons, District range staff time was focused on inventory condition assessments of physical improvements such as fences and water developments.

Note: Monitoring Item D5 does not apply to the Grasslands.

Does range condition and trend analysis show less than a five percent increase in rangelands in a downward trend over the previous analysis? (D2)

Rangeland conditions on the Little Missouri National Grassland are currently being addressed in a large-scale landscape assessment, which will be completed in late 2001, or early 2002. Landscape assessment of conditions on the remaining National Grasslands is ongoing and should be completed by 2004.

Have noxious weed infestations increased more than 10 percent over the last five years? (D6)

Since there has not been a complete inventory since 1998, noxious weed infestations on the Dakota Prairie National Grassland are still estimated to be at the 1998 reported total of 21,550 acres when it was noted that weed infestation had increased by more than 10 percent over the previous five years.

in 1999 and 2000, empahsis was placed on obtaining better inventories of noxious weed acres. Spectral imagery, on-the-ground delineations using geographic positioning systems (GPS), and inventory mapping using geographic information systems (GIS) analysis were utilized. This is an ongoing effort and we anticipate that existing inventories will be updated by the end of 2001.

Is availability and use of forage for livestock grazing at least 90 percent of anticipated Forest Plan levels? (D1)

The 1999 and 2000 authorized use levels, when compared to Forest Plan permit levels, were influenced by environmental conditions and consultation with each

Grazing Association. Adjustments in authorized levels included changes in total livestock numbers, season of use, and complete rest where needed to allow movement toward desired conditions. Table 4 displays authorized use levels for 1999 and 2000. Both authorizations are compared to the 1980-1999 20-year average authorization. That average is considered to be a representation of environmental conditions including the drier years of the 1980's along with the wetter years in the 1990's. The LMNG 2000 authorization was heavily influenced by reductions necessary in dealing with the Rough Creek (Gap Creek) fire which occurred in the fall of 1999.

Table 4. Authorized Grazing Level Compared with the 20-Year Average (1980-1999)

Grasslands District	20-Year Average (% Of 1987 Permit Level)	1999 Authorization (% Of 20-Year Average)	2000 Authorization (% Of 20-Year Average)
Sheyenne NG's	90%	95%	95%
Grand/Cedar River NG's	96%	106%	106%
Little Missouri NG	84%	108%	96%

The authorized level of livestock grazing is not the only factor affecting total forage utilization. Other factors such as increased cow/calf size and the differences between animal classes (cow/calf pairs, yearlings, horses, etc.) affect the total forage utilization that occurs as a result of authorized livestock grazing. As an example, an analysis of use between 1945 and 1997 suggests that even though livestock numbers were reduced over that timeframe, pounds of forage actually utilized by livestock increased. This occurred because of an increase in cow and calf size, along with a higher percentage in the calf crop weaned.

Have at least 95% of Allotment Management Plans targeted for updates been accomplished? (D3):

The Dakota Prairie National Grasslands is behind schedule in completing AMP's. Allotment management plan revision will begin after approval of the DPG Land and Resource Management Plan Revision.

In addition, the DPG is currently completing a National Forest Management Act assessment of the Little Missouri National Grassland. This broad-scale assessment (analysis of the management situation - AMS) will provide the baseline needed to analysis grazing on the Little Missouri's allotments. This AMS is scheduled for completion in late 2001 followed by initiation of NEPA analysis of grazing on allotments in the fall.

The Grand River Ranger District has initiated the allotment management planning process on the 9 allotments that constitute the Cedar River National Grassland. The NEPA process guiding this revision effort is ongoing.

Are at least 20 percent of allotments inspected annually for grazing permit compliance? (D4):

During 1999 and continuing into 2000, an emphasis was placed on inspection of all range structural improvements in assessing needs for deferred maintenance. This involved a majority of the monitoring time in 1999 and, to a lesser extent, 2000. The results of this large-scale monitoring effort will be available in 2001. This effort resulted in total inspections exceeding the monitoring objective of 20 percent of the existing allotments.

In addition to finishing monitoring of structural improvements, field inspections of allotments for compliance with the grazing permit concerns increased in 2000. This compliance monitoring was geared toward asking the question of whether implementing guidelines identified in the Annual Operating Instructions (AOI's) were followed. Compliance monitoring deals primarily with instructions having to do with systems such as livestock numbers and season of use including annual changes due to environmental conditions. Although compliance monitoring did not indicate concerns on most allotments, that does not mean that all of those allotments were in full compliance with the Custer Forest Plan. For instance, resource issues dealing with structural objectives may not have been monitored in every allotment or around every grouse lek.

When an allotment was reported as being inspected, any compliance concern issues that were observed have been documented for the files. In some cases, livestock were removed from the allotments earlier than the "off" dates because of concern with excess forage use. All issues of concern were addressed after consultation with the responsible Grazing Association.

Table 5. 2000 Field Inspections

	Sheyenne	Grand River & Cedar River	Medora	McKenzie
Total Allotments	55	76	254	184
# Of Allotments Visited	54	2	65	39
% Of Allotments Visited	98%	1%	26%	21%
# Allotments with resource or range improvment concerns noted	7	2	8	3
# Allotments with concern due to not following plans or instructions	1	2	-	-
# Allotments with concern due to resource issues or early removal for resource concerns	6	-	8	2
# Allotments with concern due to not maintaining range improvements	-	-	2	1

E. TIMBER

(Not applicable to National Grasslands.)

F. SOIL, AIR, WATER

On site observations on the Little Missouri National Grasslands indicate that soil productivity and water quality are adversely impacted in some areas. Areas of off-site soil loss occur near trails, stream banks and near roads with natural erosion occurring in the badlands. Past cultivation practices over much of the grasslands have affected soil and their properties.

No specific soil or water monitoring was conducted on the Grand River/Cedar River District.

Limited watershed assessments on the Sheyenne, McKenzie, and Medora Ranger Districts show some areas with adverse impacts to the soil resource.

Note: Monitoring Items F1, F2, F3, F4, and F7 do not apply to the Grasslands.

Have the effects of mineral development activities shown signs of excessive erosion, loss of vegetation, or surface damage on more than 25 percent of well sites or roads? (F5)

Both the McKenzie District and the Medora District conduct annual inspections on oil and gas activity areas and inspections on reclamation activities. As evidence of detrimental impacts are identified, notice is sent to the responsible party requesting mitigation. Less than 25% of the inspections identified excessive erosion, loss of vegetation or surface damage. Oil and gas companies on these districts have been doing an adequate job of dealing with the adverse impacts of accelerated erosion and surface damage through mitigation as documented in project specific environmental assessments and District annual inspections and reports.

Are soil conditions as a result of grazing better than fair with either an upward trend or a range condition of good or better? (F6)

On both the Medora and McKenzie Districts, riparian and woody draw areas were sampled in 1997 and 1998 and assessed in 1999 and 2000. Preliminary results show that soil condition in woody draw areas are impacted where livestock concentration occurs or has historically occurred.

Several areas on the Sheyenne District were identified as having detrimental soil conditions. These are mainly due to sandy blow outs.

No specific soil or riparian monitoring was conducted on the Grand River District.

Is watershed rehabilitation backlog accomplishment at least 20 percent of planned levels if funding is available? (F8)

On the Medora, McKenzie, and Grand River/Cedar River Districts, no backlog of rehabilitation needs have been identified. The majority of watershed rehabilitation consists of plugging abandoned oil and gas wells.

On the Sheyenne District no backlog of rehabilitation needs have been identified. The watershed rehabilitation consists of stabilizing blow out areas.

Does air quality management for hydrogen sulfide, sulfur dioxide, and smoke meet standards in the State Implementation Plan, the Smoke Management Plan, and Federal Air Quality Standards? (F9)

Oil and gas companies on both the Medora District and McKenzie District are required to meet state and federal air quality standards for hydrogen sulfide as part of their lease permits.

For prescribed burns, districts obtain and abide by the necessary State burning permits.

G. MINERALS

All permits and lease applications during the last three fiscal years were processed with in the required time frames and 100 percent of critical terms and conditions were met. A significant portion of Applications for Permit to Drill (APD's) were not processed within the 30 + 5 days required by the Custer Forest Plan (1987). This is due to the fact that compliance with the National Environmental Policy Act and other agency required surveys, such as botanical, wildlife, and archaeological, make meeting this time frame improbable.

Note: Monitoring Items G7 and G8 do not apply to the Grasslands. Monitoring Element G6 relates to Coal Leasing. Currently there is no coal leasing on the Grasslands.

Are at least 95 percent of geophysical permit applications processed within 15 working days or 20 working days if not covered by a programmatic EA? Are at least 95 percent of plans administered in compliance with critical conditions and terms of permits? (G1)

The "clock" for processing permits is set when all surveys and needed information is supplied. Once that happens, 50 percent of sampled permits were issued within these timeframes. Compliance with NEPA and other agency requirements surveys (such as botanical, wildlife, archaeological) make meeting these timeframes improbable. All (100%) critical conditions and terms of permits have been met.

Are at least 95 percent of lease applications, APD, and sundry notices reviewed within specified time frames? Were at least 95 percent of drilling permits in compliance with critical conditions and terms? Was there at least 80 percent of projected production estimates? (G2)

The DPG processed 27 lease parcels covering a total of 10,277 acres for FY 99. The DPG processed 38 parcels for a total of 18,632 acres for FY 2000. For 1999-2000, 61 percent of APDs were processed within specified time frames.

One hundred percent of APDs/SNs are in compliance with critical conditions or stipulations; activities on these are not allowed to proceed unless in compliance.

The tracking of production rates is not within Forest Service purview.

Was there at least 95 percent compliance with critical conditions and terms of operating plans for mineral rights reserved or outstanding? (G3)

One hundred percent of operations on lands with mineral rights reserved or outstanding are in compliance with critical conditions and terms of operating plans.

Are saltwater spills being adequately prevented (no more than three unintentional spills, two intentional spills, or five spills from saltwater flowlines for any one operator)? (G4)

Assuming that the "reporting quantity" for saltwater spills is considered one barrel (42 gallons), the answer to all four situations is "none".

The monitoring items detailed here dealt with concerns or problems that existed at the time the Forest Plan was signed. Since then, management of operations have

changed to the point where these generally no longer are issues. An efficient tracking system enables us to respond in short timeframes to get saltwater spills cleaned up rapidly with minimal environmental damage. The Dakota Prairie requires more maintenance on what were problem pipelines that were particularly subject to spills in past. Also, in the past, salt water was intentionally applied (spilled) to pads for vegetative control; now, by utilizing other approved methods of vegetative control, intentional salt water "spills" are no longer allowed.

The type and quantity of spills are reported per regulatory or policy requirements. The Custer and Dakota Prairie in November 1998 formalized a policy regarding reporting quantities of oil and salt water spills in a manual supplement. An additonal factor to counting and categorizing is response to the spills.

Does reclamation from salt water or toxic drilling fluids provide for at least 90 percent of plant density of adjacent sites within three growing seasons? (G5)

The Districts track areas that have had spills until rehabilitation is considered complete. It is not unusual for this to take longer than three years depending on climate and soil variability. District experience has shown that rehabilitation normally takes at least four to six years.

H. HUMAN AND COMMUNITY DEVELOPMENT AND BUDGET

The DPG works in partnership with the North Dakota Forest Service to provide assistance to communities through Economic Recovery and Rural Development programs. Nineteen communities were awarded grants to enhance the economic, social, and environmental well-being of these rural communities. Ten communities received grants through the Rural Community Assistance program to develop strategic community action plans. The other nine projects, utilizing funding assistance through Rural Community Assistance, the National Endowment of the Arts, and other Rural Development grant programs; cover a diverse range of projects that will help communities to achieve long-term sustainability.

The Standing Rock Sioux Tribe and community of Porcupine received grant funds to upgrade their local pow-wow grounds. The Fort Berthold Housing Authority, located on the Fort Berthold Reservation, received RCA/NEA grant funds to establish a cultural arts business program. Minot Area Council of the Arts also received RCA/NEA grant funds for a rural expansion of the arts program.

Several projects will enhance the local economy through the development of tourism and recreation enterprises. These projects include the development of a multi-county tourism and marketing plan (Roosevelt-Custer Regional Council); a campsite with log cabins and teepees (Mandaree); and improvement of campsite facilities on the Bald Hill Creek Recreation park (Hannaford) and the Tabacco Gardens (McKenzie County). The last three projects are located near the Lewis and Clark trail and will be ready for the upcoming bi-centennial events. Grant funds were also awarded to improve community facilities to better serve the community's social and economic needs (Lemmon).

A USDA Forest Service Conservation Education grant was also awarded to the Dakota Prairie Grasslands to develop a Conservation Education Youth Camp with the Casey Family Program. The project targets underserved and disadvantaged youth on the Fort Berthold and Standing Rock Reservations to increase awareness of natural resources, grasslands, and resource conservation issues. This project is still under development. In addition, the Grand River district is in the third year of a 5 year agreement with Standing Rock Sioux Workforce Investment Act administration to provide job training to two tribal members through the field season.

Are issues identified in the Forest Plan resolved through Forest Plan implementation or with minor shifts in the Forest Plan? (H1) Are there new or emerging issues or changing socioeconomic values? (H2)

The Dakota Prairie Grasslands is currently in the process of revising the Land and Resource Management Plan. The FEIS and Revised Plan are expected to be available to the public in June 2001, at which time a 180-calendar day comment period will be initiated before signing the Record of Decision.

Are the actual local economic effects of Forest Plan implementation as predicted or are they significantly different? (H3)

On the Dakota Prairie Grasslands units, the 1987 Custer Land and Resource Management Plan has never been completely implemented with regards to livestock grazing and achieving desired range and wildlife habitat conditions. Because these portions of the plan were never implemented, it is impossible to know whether the actual local economic effects of the Forest Plan are as predicted or significantly different.

Do annual budget fluctuations cause a ten percent or more loss of Forest outputs or significant changes in Forest Plan allocations? (H4)

Since the creation of the Dakota Prairie Grasslands administrative unit in November 1998, additional budgetary resources for the management of facilities and resources have made attaining outputs more feasible. This administrative change has brought needed skills closer to the ground where they are more accessible and able to implement management direction.

Are returns to treasury 80 percent or more of predicted levels? (H5)

Revenues from oil and gas production are up from the 1998 report while grazing fees remain stable since that report.

J. LANDS

The Forest Service may acquire rights of way by 1) purchase/donation of easement; 2) as part of a land exchange; or 3) in a cooperative effort with other governmental entities such as a County, State or other Federal agencies. Easements and land exchanges/purchases must have a Final Title Opinion from Office of General Council before they are considered accomplished and federal money spent on

management and capital improvements.

Rights of way are acquired in support of resources such as trails for recreation, road access for oil and gas leases, for wildlife purposes such as Ducks Unlimited projects, for range stockwater purposes, fire and fuels management, and for capital investment projects. In addition, rights of way are acquired to provide general access to public lands.

The Grasslands Districts' Five Year Plan projects that each District (with the exception of the Sheyenne RD) will acquire one right of way per year. (Sheyenne RD, with its relatively flat topography, and section line roads has little or no need for rights of way acquisitions). With that assumption, over a five year period, the Grasslands would acquire 15 rights of way.

Has at least 90 percent of the five year right-of-way/easement plan been accomplished? (J1)

Table 6: Rights-of-way Acquired, Roads and Trails

FY	Rights of Way Acquired	By
2000	0	
99	1 road	Easement
98	2 roads	Easement
97	2 roads, 4 trails	Easement, cooperative efforts other agencies
96	0	
Total	**9 rights-of-way aquired for an average of .6 per year**	

The Grasslands have acquired 60% of planned rights of ways in the Five Year Plan. In addition, the Grassland units have acquired the following rights for stockwater developments.

Table 7: Rights-of-way Acquired, Stockwater Developments

FY	Rights of Way Acquired	By
2000	0	
99	0	
98	2 stockwater pipelines	Notice of Ditches and Canals
97	2 stockwater pipelines	Notice of Ditches and Canals
96	2 stockwater pipelines	Notice of Ditches and Canals
Total	**6 stockwater rights-of-way aquired for an average of 1.2 per year**	

Has at least 80 percent of the five year land ownership adjustment been accomplished? (J2)

The United States, through the Forest Service may accomplish land adjustments by purchase, exchange, partial interest acquisition (such as minerals only estate) or Small Tracts Act Sale. Accomplishments are considered complete when a Final Title Opinion is granted by Office of General Council.

Criteria for land adjustment projects: Must be in the public's best interest; acquire a critical right of way; resolve an encroachment; protect/improve by acquisition a significant resource; reduce cadastral costs by reducing landlines and section corners; provide a more effective, and efficient public ownership pattern.

Land exchanges, purchases, donations, and partial interest acquisitions must have a Final Title Opinion from the Office of General Council before they are considered accomplished. A Small Tract Act Sale is considered complete when an executed Quitclaim Deed is conveyed to the landowner.

The Grassland Districts' Five Year Plan projects a five year average for the Grasslands of 822 acres per year accomplishment.

Table 8: Acres Acquired

FY	Acres Acquired	By
2000	46.62	LWCF purchase
99	17.7	Donation
98	740 + 9,854 Partial Interest	Exchange, partial interest
97	794	Exchange
96	616	Exchange
Total	**2,214 acres aquired for a five year average of 443 acres.**	

The Grasslands acquired 54% of the planned acres in the Five Year Plan. The partial interest exchange acquisition noted in 1998 was the legislated Burlington Resources/Meridian exchange of oil and gas.

L. FACILITIES

The Dakota Prairie Grasslands completed planning efforts and NEPA documentation of Buffalo Gap Campground, the Maah Daah Hey Trail Overnights, and CCC Campground. Construction and upgrades are planned for 2001.

Is road and trail construction/reconstruction at 80 percent of the five year program? (L1)

Trail construction continues to exceed Forest Plan estimates for FY-1999/2000. In FY2000 we constructed 8 miles of the Buffalo Gap trail on the Medora Ranger

District.

Miles of road construction and reconstruction across the DPG were 3.0 in FY1999 and 11.4 in FY2000.

Is gained public access (defined by miles of road open) within plus or minus 20 percent of anticipated levels? (L2)

The DPG did not gain any additional public rights-of-way in fiscal years 1999 and 2000.

Are at least 95 percent of road identified as no longer needed, closed within two years? (L3)

Decommissioned roads on the DPG were 23 miles in FY1999 and 22 miles in FY2000.

P. PROTECTION

During the 1999 and 2000 fire seasons, the DPG supported two large fire complexes on the LMNG, including the Rough Creek Complex, comprised of the 52,000 acre Gap Fire and the 8,000 acre Rough Creek Fire; and the Blacktail Complex, comprised of 11 fires that burned over 3,000 acres.

The DPG is in the process of evaluating current fire management policies in which wildland fire suppression responsibilities have been delegated to the Grazing Associations, to determine how best to deal with fire protection responsibilities, improving rural fire department capabilities on inter-mixed landholdings, training needs, and Forest Service staffing and fire equipment needs.

The Grassland Districts have implemented prescribed burning projects to reduce fuels, improve forage, and reintroduce fire as a natural disturbance process. In FY99 over 2,600 acres were burned and in FY2000 over 5,300 acres were burned. All plans address Air Quality and provide for burning only when acceptable air standards can be met.

Note: Monitoring Items P2 and P4 do not apply to the Grasslands.

Have fuel treatment levels been at least 80 percent of programmed levels? (P1) Are 90 percent of fuel treatments meeting air quality standards? (P3)

The grassland districts have been conducting prescribed burning for the past 10 years to reduce fuels, improve forage, and reintroduce fire as a natural disturbance process in the tall grass prairie. Acres treated in FY99 totalled 2,970 acres. The target fuel treatment acres in FY00 was 1,200 acres, with 5,380 actually burned. All burn plans address air quality and provide for burning only when acceptable air standards can be met.

The Sheyenne District has the most aggressive annual program and is continuing to increase the acres treated. In 1999, 2,570 acres were burned, and in FY00

approximately 4,570 acres were burned due to favorable weather conditions. Since 1990 over 19,000 acres of tall grass prairie on the Sheyenne have been treated with fire, despite several exceptionally wet years.

The Grand River District also has also been treating some large acreages and has increased an annual program of less than 100 acres to 500-1000 acres per year. The District has been successful in building confidence and trust with local government and permittees on the improved management with fire. In FY99, no acres were burned due to poor weather conditions. In FY00, 765 acres were treated to improve forage and reduce hazardous fuels.

The Medora and McKenzie districts are treating a much smaller acreage, less than 400 acres per year, and are continuing to build trust and experience levels with cooperators and permittees. In FY99 the Medora district had three prescribed burns totalling 400 acres to improve rangeland forage. In FY00, 59 acres in and adjacent to the Buffalo Gap Campground were treated for hazardous fuel reduction. The Medora district is evaluating the ponderosa pine area on the southern edge of the District for a hazard fuel reduction project, and has initiated dialog with adjacent landowners to identify areas needing treatment on both public and private lands.

ROADLESSNESS

Under the 1979 Roadless Area Review and Evaluation (RARE II), twelve areas were identified as inventoried roadless on the Dakota Prairie Grasslands. As required during Land and Resource Management Plan revision, roadless areas were again reviewed and an updated inventory was created. This new inventory for the DPG has since been finalized based on modifications made during the NEPA process for the Roadless Area Conservation FEIS dated November 2000.

Are the acres in a roadless condition (including low development areas) at least 90 percent of anticipated levels?

The new inventory includes a total of 24 areas equalling 279,637 acres on the Little Missouri, Sheyenne, and Grand River National Grasslands. There are 218,925 acres in 17 areas on the Little Missouri; 46,522 acres in five areas on the Sheyenne; and 14,190 acres in two areas on the Grand River.

Given the presence of private mineral rights under Forest Service surface ownership; as well as government leases that lack special stipulations to prevent development of the surface, it is expected that some future mineral development in these areas will occur.

III. COMPLETED FOREST PLAN AMENDMENTS

The Custer National Forest Plan has been amended thirty-two times since it was approved in 1987. A number of these amendments apply to the Dakota Prairie Grasslands. See the Custer National Forest Monitoring and Evaluation Report for

FY2000 (April 18, 2001) for a complete list of Forest Plan Amendments @ www.fs.fed.us/r1/custer/planning/NEPA/NEPA_files/forestplanmonitoring.pdf.

IV. FOREST PLAN REVISION

The Northern Great Plains Land and Resource Manangement Plan Revision process began in 1996. Revision topics and preliminary alternatives were presented at a series of public meetings from February through April of that year. Revision topics included:

- Community relationships
- Livestock grazing
- Oil and gas leasing
- Plant and animal damage control
- Rangeland and forest health
- Recreation and travel management
- Special area designation

Publication of the Draft Environmental Impact Statement and proposed Revised Plan on July 16, 1999 was followed by a 90-day public comment period which was scheduled to end October 13, 1999. In response to public requests, the comment period was extended three additional times until February 3, 2000.

Letters were received from over 26,000 agencies, local governments, organizations, tribes, and individuals resulting in nearly 110,000 individual comments. Approximately 14,258 letters containing comments specific to the Dakota Prairie Grasslands were received.

Each comment was analyzed for issues (content analysis) and entered into a database. From that point we began identifying where in the existing documentation that issues had been dealt with and a determination was made if the issue had been dealt with adequately.

As a result of the content analysis, we reworked some of the effects analyses using better information and improved procedures. Some of the management direction presented in the draft LRMP was also changed.

We are now in the process of preparing to release the Final Environmental Impact Statement. Our intent is to publish the Notice of Availability (NOA) in mid-to-late June 2001, which will initiate a 180-calendar day comment period before signing the Record of Decision.

APPENDICES

A. Governor's Report on Range Condition (January 31, 2000). Submitted during the comment period of the Draft Environmental Impact Statement by Governor E. Schafer.

REPORT TO GOVERNOR SCHAFER
CONDITION OF DAKOTA PRAIRIE GRASSLANDS
January 31, 2000

Purpose and Scope of the Report[1].

The purpose of this document is to report on the current conditions of the portion of the Dakota Prairie Grasslands which occur in North Dakota as they relate to range condition, biological health, and value for wildlife and livestock. The report is based primarily on ground surveys conducted in October and November 1999 by a panel of technical specialists. The panel also evaluated a limited amount of related information that resides in the files of the U.S. Forest Service (USFS) and the North Dakota Game and Fish Department (NDG&F) that is relevant to range condition, range trend, wildlife habitat and value of these landscapes for different uses. The report:

1. Clarifies the terminology related to range and wildlife habitat condition as it relates to biological health of the range resource and its value for:
    a. wildlife habitat
    b. livestock grazing
2. Analyzes range condition and field observation data as they relate to:
    a. ecosystem health
    b. value for wildlife habitat
    c. value for livestock grazing
3. Provides recommendations to balance domestic livestock grazing and desired levels of wildlife habitat

Limitations of Dakota Prairie Grasslands Ground Survey

This section of the document is to acknowledge some of the limitations of this report. The panel was convened in October 1999 and conducted a ground survey in late October and November 1999. In order to complete field work before the onset of unfavorable weather and to complete the report in a timely fashion, a rapid assessment was made of 31 locations. Observations were recorded in traveling approximately 500 miles within the 1.2 million acres of the Dakota Prairie Grasslands.

The rangelands were in a dormant state and had been changed to some degree by weathering factors, and had been or were being grazed by livestock at the time of the survey. Due to these factors, the panel reconstructed the herbage production and composition of surveyed sites to that perceived to have been present at the time of peak standing crop. The late timing of the survey, however, did facilitate estimating residual cover. Despite the desire of the panel to revisit specific sites that had previously been evaluated by the Forest Service, the panel had to

'See Appendix I for details of organizing the panel and planning the survey

settle for evaluating larger areas at -the approximate location of the 1960-1984 evaluated sites. Range condition monitoring in 1960-1984 by the Forest Service was conducted using the Parker 3-step method. This method has been abandoned as a monitoring tool by the Forest Service and is not used by any other federal or state land management agency. Therefore, the panel decided to use the NRCS Range Condition and Trend method of analysis which has a 50 year history of use in the Great Plains. Comparisons between the 1960-1984 and the 1999 data are, therefore, limited based on the above factors. Although the panel is not aware of direct comparisons of the two methods (NRCS and Parker), we suspect that the Parker method would under estimate range condition because it tends to under-represent contributions by taller species of plants.

The wildlife habitat survey was photographed, but no standard methodology is currently available to quantify the value of the habitat for wildlife. Percentages of use of certain habitats by vertebrate wildlife species are open for interpretation due to differing opinions from the data with regards to the use of those habitats by wildlife and livestock. Interpretation differences are due to the limited scope of the survey and limited research data specific to the area. Due to the variation in methodology and differences in ranking of categories between the range analysis and wildlife habitat evaluation, the range and wildlife analyses of data and the ranking of sites are not directly comparable.

Background

Considerable interest about the current health or condition of the grasslands managed by the U.S. Forest Service (USFS) has been generated by the release of the Land and Resource Management Plan for the Dakota Prairie National Grasslands (LRMPDP). The Dakota Prairie Grasslands includes the portion of North Dakota's grasslands that are publicly owned and occur within the boundaries of the National Grasslands administered by the USFS under the Multiple-Use Sustained Yield act of 1960 and other pertinent acts. The changes called for within the LRMPDP imply that management changes are justified which may result in reductions in use of these lands by domestic livestock. Some claim the grasslands are currently in satisfactory condition and reductions in livestock use or implementation of certain other management changes proposed are not justified. Others claim the lands are not in satisfactory condition and that the changes proposed by the USFS, including livestock reductions, are justified, warranted, and long overdue.

North Dakota Governor Schafer contacted the NDSU Animal and Range Sciences Department on September 28, 1999, to discuss the possibility of specialists conducting some type of independent assessment of the current land condition (Range Condition, Biological Health, Wildlife Habitat) of the Grasslands. It was clear in these discussions that a thorough quantitative evaluation of condition of these extensive landscapes could not be conducted in a short period of time. However, the possibility of a panel of technical specialists conducting a ground survey was considered feasible within the time constraints available. The Governor requested that other state and federal organizations be included in the process to give it a broad sense of scope, and requested the ND Game and Fish Department to collaborate in

the effort on October 11.

Terminology used in the Report[2]

Rangelands are a type of native grassland, shrubland, or woodland that are capable of sustaining populations of large wild or domestic herbivores in a self-perpetuating manner. Range condition is a classification of the successional status of a range site and is generally defined by the range science profession as the present state of vegetation of a range site in relation to the natural potential vegetation for that particular range site and is primarily based on the mixture and yearly productivity of plant species. Traditionally, range condition classes have been defined as Poor, Fair, Good, and Excellent with associated similarities to potential vegetation being 0-25, 26-50, 51-75, and 76, -100%, respectively. Different range sites have different potential mixtures of plants and production potential. A **range site** is a unique area that produces a plant community having different kinds and/or amounts of plants from other sites.

The value of range vegetation on a particular site and in a particular range condition class for livestock, different types of wildlife, or other uses depends on site and area specific management objectives. Lower condition classes are preferred for some uses while mid-level or higher condition classes better meet management objectives for other uses. When the overall productivity and mixture of plant species based on relative productivity is in the range of normal variability of the natural potential for that site, it is considered healthy and ecologically stable.

Wildlife habitat[3] condition is a term used widely by wildlife professionals. In this study it refers to the evaluation of three critical components (on the LNFNG) which are grass, woods, and shrubs. The evaluation of these three components provides a broad approach to habitat evaluation and recognizes important requirements of LMNG wildlife in all three. Because of their abundance, woodlands and shrublands were not incorporated into the wildlife habitat ratings in the SNG. Wildlife habitat rankings within this report refer to value of different-range sites and areas in their current habitat condition and utilization state for vertebrate wildlife in general.

Confusion over terminology. Subjective terminology, as it relates to evaluating range and wildlife habitat, has been and remains problematic. "Good", in the context of range condition, maybe “Poor” in the context of wildlife habitat. This paradox is partially responsible for the preparation of this report and is the source of much public confusion over the management of public "multiple use" lands. It is important to recognize that when one hears an opinion that lands are in "Good" or "Poor" condition, those subjective terms may be describing the same piece of land from different perspectives. A more detailed explanation of this is in Appendix II.

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[2]See Appendix H for more details on terminology

[3]See Appendix III for photographs of representative wildlife habitat condition classes

Results of the Ground Survey

McKenzie Ranger District

The McKenzie Ranger District was surveyed on October 28 and 29, 1999. Condition analysis was conducted on 12 sites (Table 1). Most sites were selected, in part, because they had been evaluated by USFS personnel in previous years and data from the earlier evaluations were available for comparison with current conditions. We also attempted to include some sites that were located in problem areas i.e., areas where USFS judged that the range resource was not currently in the condition it should be because of livestock impacts. Some of these sites had also been identified as problem areas in previous decades. We elected to evaluate several sites of each category (4 in the non-problem areas, and 8 in the problem areas).

Wildlife habitat rankings ranged from Poor to Fair with none being in the Good or Excellent category (Table 1). Poor sites outnumbered Fair sites and the presence and condition of woodlands were the major limiting factor for wildlife. Six of the 12 sites visited received a Poor wildlife habitat value ranking with 6 ranking in Fair habitat condition.

Range condition has apparently improved to the next higher class on 3 of the 7 problem area sites that had been evaluated in earlier decades. The four non-problem sites selected were evaluated and classified in Good and Excellent range condition. As we traveled through the McKenzie District, the range professionals on the panel observed that most (60-70%) of the rangelands appeared to be in Fair to Good range condition. Poor range condition was only noticed in areas near gates and watering points or in dense patches of exotic plant species. Leafy spurge was a problem in areas of the District as well as Kentucky bluegrass dominating in areas of livestock exclusion.

Table 1. Range and Wildlife Conditions on Selected Sites in McKenzie District in October 1999

Site #	Legal Description	Pasture Name	Range Site	Present Range Condition 1999	Past Range Condition Yr Condition	Wildlife Habitat Value Percent of Potential
1	S26-153-96	P12-A1	Silt	Good 58%	1981 Good	Fair 54%
2	SW23-153-96	P12-A1	Silty	Excellent 781%	1986 Good	Fair 63%
3	NVNW22-149-97	P9-A2	Clayey	Good 65%	1979 Fair-Good	Poor 28%
4Pr	SE18-147-98	P8-A2	Silty	Fair 30%	1972 High-Fair	Fair 51%
5Pr	NWW16-147-98	P8-A2	Silty	Fair 50%	1973 Poor-Fair	Fair 50%
6Pr	NW26-147-98	P8-A2	Silty	Fair 40%	1973 Fair-Good	Poor 24%
7Pr	NENW9-145-101	P7-A3	Silty	Good 58%	1973 Good	Fair 50%
8Pr	S25-145-101	P7-A3	Claypan	Fair 49%	N/A	Poor 43%

9Pr	NE24-145-99	P15-A1	Silty	Good 68%	1984 Poor-Fair	Poor 48%
10Pr	NW19-145-99	P15-A1	Silty	Good 63%	1984 Fair	Poor 37%
11	This site was observed and discussed but was not evaluated. No previous data exists for the site.					
12	SWSE35-149-103	P4-A1	Claypan	Good 68%	1968 Fair	Fair 51%
13Pr	SWSW12-147-102	P4-A1	Clayey	Fair 30%	1968 Poor	Poor 5%

Legal descriptions refer to section, township, and range.

Range sites and range condition standards are described in the Badlands and Missouri Slope Vegetation Zones (NRCS 1984)

Pr - indicates a site was chosen because it was thought to be in an area considered a livestock management problem.

*Where shrubs or woods did not apply the scoring percentage was adjusted.

Medora Ranger District

The Medora Ranger District (MRD) was surveyed on October 30 and 31, 1999. Nine

sites were selected for condition analysis in the MRD (Table 2). Six of these sites were selected based on availability of past range condition surveys, three were selected as problem areas, and one site was selected in the east end of the south unit of Theodore Roosevelt National Park. The Theodore Roosevelt National Park site, an old field succession site, was classified as Fair range condition and had Fair wildlife habitat value. Wildlife habitat values ranged from Poor to Good in the MIRD with none of the sites evaluated being in the Excellent class. As in the McKenzie District, the presence and condition of woodlands was the major factor in determining wildlife habitat value in the MRD.

Five of the sites were classified Fair range condition and four were classified Good range condition. Prior evaluations by the USFS classified three sites in Good, two in Fair-Good, three in Fair, and three in Fair-Poor or Poor range condition. Overall, most of the rangelands observed by the panel in October 1999 appeared to be in the Fair to Good range condition classes in the Medora Grazing Association portion of the MRD.

Table 2. Range and Wildlife Conditions on Selected Sites in Medora Ranger District in October 1999.

Site #	Legal Description	Pasture Name	Range Site	Present Range Condition 1999	Past Range Condition Yr Condition	Wildlife Habitat Value Percent of Potential
14	NENE29-140-100	S Unit TRNP	Silty	Fair 32%	N/A	Fair 52%
15Pr	NESE03-140-100		Silty	Fair 29%	Good 1979	Fair 51%
16Pr	29-141-100		Clayey	Fair 37%	N/A	Poor 18%
17Pr	NWNW22-141-100		Silty	Fair 48%	Fair 1979	Poor 12%
18	NESE28-142-100	V Fritz Allot	Silty	Good 63%	Good 1978	Poor 45%

19	13-138-102	NE Tracy Mtn	Sandy	Good 73%	N/A	Good 77%
20	NENE03-138-101	Moody Plat	Sandy	Good 70%	N/A	Good 78%
21	SWSW09-141-103	Twin Buttes	Sandy	Fair 50%	Good 1978	Fair 57%
22	SESE21-141-103	Twin Buttes	Sandy	Good 66%	Fair 1978	Poor 28%
23	SW24-141-103		Clayey	Fair 46%	Fair 1967	Poor 47%

Legal descriptions refer to section, township, and range.

Range sites and range condition standards are described in Badlands and Missouri Slope vegetation zones (NRCS 1984)

Pr - indicates site was chosen because it was in an area considered a livestock management problem

Site #14 was an old field succession site that had been previously farmed and was burned in 1998.

Site #15 was reclaimed cropland with crested wheatgrass and classified as "Good" in 1979 when crested wheatgrass was described as a desirable plant In 1999, crested wheatgrass was described as an invader plant, thus placing the site in "Fair" condition.

*Where shrubs or woods did not apply the scoring percentage was adjusted.

Sheyenne Ranger District

A summary of the range survey conducted by the panel on the Sheyenne National Grasslands (SNG) can be found in Table 3. Nine sites were scored with three estimated in Good range condition and six estimated to be in Fair condition. Surveys conducted by USFS personnel in 1961, 1963, or 1984 on these sites indicated that one-third of them were in each of Good, Fair, and Poor range condition classes at that time. In addition, observations made traveling between sampling sites during the survey agree with range condition results from the sites evaluated. Observations indicated that, overall, the range condition of the SNG is in Fair and Good classes. However, wildlife habitat values ranged from Poor to Good with most sites being in the Poor class and only two in the Good class. The low ratings are mainly a product of low residual cover on the uplands and in the zone between the uplands and the wet meadows.

The SNG is a unique region of southeastern North Dakota formed from sand deposits with wind blowing these deposits into a hummocky or rolling topography. This makes management of this area difficult as there are dry upland range sites such as sands and thin sands interspersed with wet, seasonally flooded lowland range sites such as wet meadow. Cattle graze the upland sites to a greater extent than they do the lower, wetter sites especially in years characterized by high water tables. In addition, the upland sites are more sensitive to grazing pressure due to their droughty nature. Of the four upland sites evaluated in 1999, three were in Fair range condition. In contrast, two of the five lowland sites evaluated were in Good range condition and two other lowland sites were 1 to 3 percentage

points from being in Good range condition. The uneven grazing distribution between these diverse range sites (dry vs. wet) is a continuing management problem in the SNG. It should be noted, however, two of the five wetter range sites scored Good in wildlife habitat value and were the only sites to do so in the SNG. Additional concerns of the panel in surveying the SNG was the abundance of exotic plant species such as leafy spurge and Kentucky bluegrass and the large component of invasive native woody plant species such as aspen and willow in the grassland phase of the SNG rangelands.

Site #	Legal Description	Pasture Name	Range Site	Present Range Condition 1999	Past Range Condition Yr Condition	Wildlife Habitat Value Percent of Potential
1	NW34-134-59	R Allot.	Thin sands	Good 56%	1982 Good	Poor 45%
2	S4-133-52	R Allot	Subirrigated	Fair 34%	1961 Poor	Fair 52%
3	SE34-154-52	R Allot	Sands	Fair 28%%	1961 Fair	Poor 36%
4	S11-135-52	East I Allot	Limy	Fair 48%	1961 Poor	Poor 35%
5	SE14-135-52	Milton Jr. Allot	Subirrigated sands	Fair 46%	1961 Fair	Poor 42%
6	W14-134-54	South Durler Allot	Subirrigated	Good 52%	1961 Good	Fair 72%
7	WSE14-134-54	South Durler Allot	Wet Meadow	Good 66%	1961 Fair	Good 76%
8	W12-134-54	North Durler Allot	Limy subirrigated	Fair 50%	1961 Poor	Good 82%
9	W8-134-53	A Annex Allot	Thin sands	Fair 35%	1963 Good	Poor 39%

Legal descriptions refer to section, township, and range

Range sites and range condition standards are described in Altamont Vegetation Zone (NRCS 1984)

*Wildlife habitat values were determined using the grass component as the only factor.

Summary and Recommendations

The rangelands, which includes both grasslands and woodlands, of the Little Missouri National Grasslands (LMNG) and the Sheyenne National Grasslands (SNG) contain areas that are in a generally healthy state and areas that need improved management for both wildlife and livestock production. The authors of this report are aware that many management plans exist and have been implemented for portions of these rangelands over the years. These management plans were not reviewed as part of this evaluation and we will not attempt to comment on them or their effectiveness in this report.

Grasslands of the LMNG were generally in better range condition than were the woodlands. A majority of the grassland components of the LMNG rangelands were in Fair to Good range condition. Both the grasslands and woodlands on steeper slopes (>40%) in the LMNG

appeared to be in Good range condition. Many of the woodlands on lower slopes (<40%) were stable and productive from the perspective of livestock needs and soil stability but were in Poor wildlife habitat condition. The majority of the wildlife habitat on the LMNG was classified as Poor to Fair, due to the degraded woodland and riparian areas. The grassland component of wildlife habitat varied from Fair to Good from a plant species composition perspective and from Poor to Good from a plant height perspective. Insufficient residual cover was problematic and resulted in low wildlife habitat ratings.

Most of the grasslands of the SNG ranged from Fair to Good range condition with the lowest ratings in the season-long grazing pastures and the higher ratings in the rotationally grazed pastures. Kentucky bluegrass and leafy spurge, both exotic species, are problems on most SNG range sites. Wildlife habitat values on the grassland component of the SNG ranged from Poor to Good. Current condition of the woodlands of the SNG were not evaluated from a wildlife perspective. Wildlife habitat problems exist in the areas between the wet lowlands and the dry uplands and are in need of a change in livestock grazing practices in order to provide acceptable wildlife habitat.

Past management has accommodated a diversified plant community with stable soils on a major portion of the Little Missouri and Sheyenne National Grasslands. Some allotments showed potential for future decreased range condition based on plant species composition and degree of livestock grazing pressure. Based on present plant species composition, these allotments have potential for improvement under new range management strategies. Many allotments showed a diversity of plant species and Fair to Good range condition.

Management strategies on the National Grasslands should be incorporated by allotment and should not encompass the entire NG area. Room for improvement for wildlife, livestock grazing, and other multiple-uses does exist on the grasslands and should be implemented on an individual allotment basis. More specific recommendations of the panel are:

1. Grassland habitats should be managed so that range condition is Good or trending to Good condition, to the degree possible under the uncontrollable environmental limitations (i.e. weather). Residual wildlife nesting cover should also be available to fulfill the needs of wildlife species.
2. Woodland habitats should be managed to a self-perpetuating state, to the extent possible recognizing the limitations of variables such as weather, soils, site potential, and wildlife populations.
3. Management objectives in accordance with the Multiple-Use Sustained Yield Act of 1960, with the primary emphasis being the various renewable surface resources of the Dakota Prairie Grasslands, should be established for each allotment.
4. All available livestock grazing management practices (water development, fencing, herding, salt location@ stocking densities, stocking rates, etc.) to manage the intensity and frequency of livestock use of the grassland and woodland habitats should be considered when allotment management plans are prepared. Allotments should be fenced so that rest, timing, and intensity of livestock grazing can be regulated to achieve the above stated general objectives. Watering points should have controlled access by grazing livestock in order to improve management of localized areas within allotments. As a means of providing the flexibility in livestock management necessary

to achieve good range and wildlife habitat conditions, objective-specific grazing management systems should be implemented.

5. Standardized monitoring techniques should be adopted and employed in both grassland and woodland habitats to monitor progress towards management objectives as plan requirements. Techniques and sampling designs should be adopted in consultation with technical specialists experienced with their development and application.
6. Specific plans for management of the numerous exotic plannt populations (leafy spurge, annual bromegrasses, various knapweeds, Kentucky bluegrass, etc.,) that have invaded or are invading the grassland and woodland habitats of the Dakota Prairie Grasslands should be developed and incorporated in the allotment management plans. Emphasis in these plans should be placed on biological and cultural control.

APPENDIX 1. Organizing, Planning and Conducting the Ground Survey

In consultation with the Governor's office, it was agreed that the technical specialists panel should include range professionals from the USDA/Agricultural Research Service (ARS), USDA/Natural Resource Conservation Service (NRCS), USDA/TJS Forest Service (USFS), North Dakota Game and Fish Department (G&F), and NDSU Animal and Ran e Sciences Department (A&RS), and that the panel would be coordinated and led by the A&RS Department. Dodd, Kirby and Sedivec developed the initial plans and recommended the panel be composed of Sedivec, Kirby, and Dodd, two range professionals from the USFS, two or three from the NRCS, one or two from the Agricultural Research Service, and two from the ND Game and Fish Department.

The field evaluation panel was composed of. Jeff Printz, NRCS Area Range Conservationist, Jamestown; Dennis Froemke, NRCS Area Range Conservationist, Dickinson; Darrell VanderBusch, NRCS Soil Scientist, Dickinson; Hal Weiser, NRCS Soil Scientist, Jamestown; Mike McKenna, NDG&F Chief of Conservation and Communications Division, Bismarck; and Kevin Gedivec, Donald Kirby, Assistant Professor and Professor, NDSU, A&RS, and Jerrold Dodd, Chair/Professor, NDSU, A&RS. Greg Gullickson, ND G&F Biologist worked with the panel in the data evaluation and writing stage. No USFS range professionals were allowed to participate on the panel.

Mr. Larry Dawson, Supervisor, USFS, Dakota Prairie Grasslands, was appraised of the ground survey plan in mid-October and was requested to: select two USFS range staff personnel to serve as members of the panel; allow one or more district level range professional(s) to accompany the panel as it surveyed a district; and to provide geographic coordinates and data summary sheets for each of the evaluation sites that were incorporated into the USFS range condition report published for the region in 1986. Mr. Dawson respectfully declined to provide staff members to serve on the panel and declined permission for district range professionals to accompany the panel within the Medora and McKenzie districts (the panel surveyed these districts in late October, 1999). Ms. Bernadette Braun, USFS Range Conservationist, was allowed to and did accompany the panel in the Sheyenne National Grasslands survey (conducted in late November, 1999). The Supervisor's office

initially agreed to provide the information requested from the 1986 range report. However, several days later and two days before the ground survey was to begin the Supervisor's office informed the panel this data base (which consisted of data sets taken from pace transacts in the 1960's, 1970's, and 1980's) was not available from that office.. The Supervisor's office suggested we work directly with personnel in the individual districts to secure the portions of this information base that might still reside in the district offices. Personnel in each district that the panel subsequently contacted and visited were very helpful in providing the limited information that was available in their files.

The original plan was for the panel to evaluate as many sites as possible where range condition had been evaluated in previous decades and to make general observations on range condition as the panel traveled between evaluation sites. These sites would be chosen from the list of the numerous sites (presumed by the panel to number in the hundreds for the 1.2 million acres of National Grasslands in North Dakota) that were the data source for the 1986 Range Condition Report that were referenced in the USFS 1998 Monitoring and Evaluation Report (Table 6, p. 30). The panel would also request information on some areas considered to have management problems in each of the districts. Because of severe time limitation, no attempt was made to visit the Horsecreek Grazing Association and Little Missouri Grazing Association portions of the Medora District.

The panel spent four days on the ground and traveled over 400 miles in the Little Missouri

National Grasslands (LMNG) area (two days each in McKenzie Ranger District and the Medora Ranger District) and 1 and 1/2 days on the ground in the Sheyenne National Grassland (SNG). Range condition and wildlife habitat value were evaluated on and near 12 sites in the McKenzie District, I 0 sites in the Medora District, and 9 sites in the SNG and general observations of range condition were made on the rangelands as we traveled through them.

At each site the same subset of panel members visually estimated dry weight (lbs/acre) for dominant species, groups of species, and total current year's plant production. Adjustments were made for materials that had been removed by grazing and weathering during 1999. Sedivec, Kirby, Printz, and Froemke did the estimates in the LMNG while only the first three made the estimates in the SNG. The estimates of the observers were averaged and range condition scores were then determined according to the current NRCS production and composition method. This method compares the amount and mixture of plant production in a given year with the potential for the site. Soil scientists on the panel examined the soils to properly identify the range site (Mr. VanderBush in the LNMG and Mr. Hal Weiser the SNG). Except for the geographic location coordinates for each site, the USFS information collected for the sites in previous years were not examined until the panel members had determined the current range condition score. This was done to insure objectivity in the 1999 estimates. Condition in prior years was determined by the Parker 3-Step method. The panel judged that although the current NRCS method is superior to the Parker, the two methods should yield similar class results with the Parker 3-Step slightly underestimating range condition compared to the NRCS method for the North Dakota rangelands.

The woodlands in the SNG's were not formally evaluated during this survey but were assessed in the LMNG. The panel examined several woodlands and discussed the various multiple-use issues related to them. In general, the team agreed that the condition of and the

area occupied by woodlands in North Dakota has varied through historic and pre-historic time and that, like the grass dominated rangelands, their area and condition is influenced by past and current weather, fire, grazing, and by complex interactions of these factors.

APPENDIX II. Terminology: Rangelands, Range Condition, Range Trend, Ecosystem Health, Wildlife Habitat Condition

Rangelands are defined as a type of land that encompasses deserts, senii-deserts, tundra, native grasslands, shrublands, and woodlands that are capable of sustaining populations of large wild or domestic herbivores in a self-perpetuating manner. For example, most of the land in North Dakota's (and the US's for that matter) land-based federal refuges, national parks, and national grasslands are rangelands. Use of the term rangeland instead of the ten-n grassland or sbrubland to describe these types of ecosystems is always accurate because it is inclusive of all vegetation types that are capable of supporting populations of large herbivores. Thus, all rangelands are not grasslands but all grasslands are rangelands. The designation of land as rangeland does not indicate that the land is used for livestock production purposes.

Wildlife Habitat Condition is a term used widely by wildlife professionals. In this study it refers to the evaluation of three components (on the LMNG) which are grass, woods, and shrubs. The evaluation of these three components provides a broad approach to habitat evaluation and recognizes important requirements of LMNG wildlife species in all three vegetation types. When scoring the LMNG more importance was placed on the grass and woods than the shrubs and in the SNG the grass component was emphasized. Therefore, a weighted scoring system was used. The breakdown of scoring potential is as follows: grass 50%, woods 40%, and shrubs 10%. Grass was further divided between structure (35%) and species composition (15%). Where woods or shrubs did not apply the scale was shifted but still carried the same weighed scoring system. The score given reflects the percent of vertebrate species which could be expected to be present in relation to the site potential. Once a score was determined for a site it was then necessary to rank the site. The wildlife ranking scale has four main breakdowns. Excellent ranking is for those, sites scoring 90 or greater. Good is for scores that range from 75-89. Fair are those that score between 50-74. Poor is for scores ranging from 0-49%.

In years such as 1999 with high precipitation and good growing conditions, perennial species such as those that make up the grass component exhibit good growth. However, other species such as woods and shrubs are not affected dramatically. Therefore, it is necessary to evaluate not only the grass but also the woods and shrubs to determine condition of the site over time.

Range condition is defined by the Natural Resource Conservation Service and in the range science profession as "the present state of vegetation of a range site in relation to the natural potential vegetation for that particular range site" and is largely based on the mixture and productivity of all plant species that do or can occur on a site. Different range sites can have

vastly different potential plant communities and production potentials. Range condition assessment does not simply "describe the condition of range for livestock productions' as is often mis-stated. The value of rangeland on a particular site and in a particular condition class for livestock or wildlife depends on the livestock production management objectives or the habitat requirements of the particular groups of wildlife and the habitat management objectives. In some cases lower range condition classes are preferred, but generally higher condition classes, better meet management objectives. In some cases value has little to do with range condition per se but is primarily dependent on residual cover at a particular point in the life cycle of a species or species group. To a very large extent value of a particular range condition class is dictated by management objectives for a particular type of land Use (winter grazing for large herbivores that graze grass vs. those that browse woody plants, summer grazing, fawning 'grounds, calving grounds, nesting grounds, etc.,).

A hypothetical case can be used to, hopefully, clarify the issue. If it is known that the potential natural plant community for a given site should be composed of a plant production based-mixture of 15% shrubs and 85% mid-height native perennial grasses and it is actually composed of 50% shrubs and 50% grasses the similarity to potential natural vegetation would be 65% (i.e. add 15% for shrubs to 50% for grasses). Although the Range Condition would be Good this site would have much higher value as a winter grazing resource for cattle, deer, and sheep than it would have if it were in Excellent range condition because of the thermal protection and browse provided by the shrubs. In the case of cattle, thermal protection might be critical for survival of newly born calves. This site, in Good range condition would have lower value as a resource for summer grazing by cattle or for migratory birds that prefer open (non-woody) grasslands than if it were in a higher range condition class. If 50% of the grass on this hypothetical site had been removed by grazing, snow pack, grasshoppers, etc., at the time of evaluation the range condition score would still be 65% but the value of the site for many uses would change. Although this change would reduce value for species that require or prefer high standing crop it would increase the value of the site for those that require or prefer less cover.

Substantial published evidence indicates that if the overall productivity and the mixture of plant species based on relative productivity in a rangeland site or ecosystem is in the range of normal variability of the natural potential for that site or ecosystem, the system is considered healthy and stable. Under such circumstances research indicates that nutrients are cycling and energy is flowing through the system in a normal manner and that the system is self-perpetuating. Primary production (production by plants) and the relative contributions to it by different species are used as the main indicators of health or condition. Production is appropriate because it is the single most important and measurable integrator of all environmental impacts on a species or an ecosystem and it reflects an ecosystems capability to capture and store solar energy. Although other attributes are also important in judging health there are currently no other proven indicators of ecosystem health that are measurable on a routine basis and that change in a relatively short time period. Soil organic matter (or carbon or critical elements) content is another important component of ecosystem health but changes in soil organic matter take place so slow that if it were the indicator of health used, irreversible changes to the system could occur before change could be detected with modern methodologies. Even such traits as accelerated erosion are less sensitive indicators of health than the vegetation based indicators noted above in most cases.

Normally, if erosion is accelerated it is because dramatic change in plant cover has already happened. Plant and animal species diversity are other important traits that are thought to be closely associated with the health of ecosystems. Research studies indicate that plant species diversity, which is very laborious to determine, generally has a maximum value in the Good range condition class for the types of grasslands that occur in North Dakota and that faunal species diversity is generally correlated with it.

The vegetation based approach to assessment of condition or health is widely used by professional rangeland managers and scientists throughout the Great Plains and, although it is not perfect, has been undergoing refinement for over 50 years. Although this approach is not universally applicable to all range environments, particularly those that do not have equilibrial vegetation amics, it is applicable to most sites in the Northern Great Plains because NGP vegetation dynamics are generally equilibrial i.e., species mixtures and productivity of vegetation change along reasonably predictable and reversible pathways in response to fluctuations in weather and grazing. Generally speaking, taller species are reduced by both drought and heavy repeated grazing and shorter species increase in the mixture in response to availability of less competition for water and nutrients with the taller species. Severe grazing and/or drought is generally harmful to nearly all major species of plants and plant populations may diminish until bare soil is exposed and erosion occurs. Many exotic weed species invade range sites in the very lowest range condition class. However, three of the most common exotics on North Dakota rangelands, leafy spurge, Kentucky bluegrass, and yellow sweetclover, and several more exotics invade rangelands in all range condition classes. Traditionally, range classes have been defined as Poor, Fair, Good, and Excellent with approximate similarities to potential vegetation being O-25, 26-50,51-75,and76-100%, respectively. When the numeric range condition rating is near the point between two classes the terms low and high are often applied or both class names might be used to represent the rating in a verbal fashion e.g. a rating of 48-50 might be called Fair-Good or high-Fair. Since range condition classes roughly follow ecological successional stages (seres), some range scientists refer to the classes as pioneer, early seral, mid seral, and late seral with additional modifiers to split the stages into more than four stages.

North Dakota ran elands in Good condition are quite productive and generally have the greatest plant species diversity of the four classes. Excellent condition rangelands might have slightly higher productivity and slightly lower diversity than Good while Fair condition rangelands are slightly to much less productive and less diverse than Good condition rangelands. Poor condition rangelands have low diversity and are the least productive. Soils are the least stable in the Poor condition class. But soils are generally stable and soil processes function normally on range in the Fair, Good, and Excellent classes on North Dakota's rangelands.

Trend is a term that, in the range science context, refers simply to direction of change in range condition between two points in time (Upward indicates evidence of change toward higher range condition classes or seral stages, downward is the opposite, and static indicates no evidence of change). In some cases trend is determined by actually evaluating condition at two or more points in time while in others various indicators, such as plant vigor and litter cover, are evaluated to make a prediction of trend.

Range Sites, Ecological Sites, and Site Potential. Range site is an interchangeable ten-n with

ecological site and refers to combinations of physical limitations that govern ecosystem function and structure such as: soil type, landscape position, and climatic zone. The potential plant community for each range or ecological site is based on evaluations of numerous examples of these sites in a local region that have been observed through time and under varying conditions of weather fluctuation and herbivory (grazing or browsing).

Appendix III Visual Descriptions of Wildlife Habitat Condition Classes

The following series of photographs are intended to provide the reader with a visual sense of how wildlife habitat condition was classified. While species composition factors were incorporated and are evident in the scenes shown, the photographs are intended more to represent structure than composition.