United States Department of Agriculture
Forest Service
Dakota Prairie Grasslands
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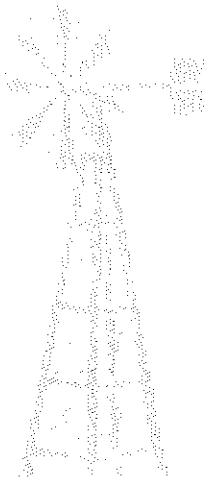
1920-1-2 Permanen

Dakota Prairie Grasslands

USDA Forest Service, Northern Region

Monitoring and Evaluation Report



Fiscal Year 2002

Caring for the Land and Serving People.

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Fiscal Year 2002 Monitoring and Evaluation Report

Introduction

This report summarizes Grasslands Plan monitoring and evaluation during fiscal year 2002, which ran from October 1, 2001, to September 30, 2002.

Each National Forest and Grassland unit manages resources under the guidance of a Land and Resource Management Plan (LRMP), commonly referred to as a Forest Plan or Grasslands Plan. The National Forest Management Act requires National Forests and Grasslands to develop these management plans. It also requires them to monitor and evaluate the plans.

Context

The Dakota Prairie Grasslands is comprised of four Ranger Districts.

The Grand River Ranger District administers the Grand River and Cedar River National Grasslands.

The Sheyenne Ranger District administers the Sheyenne National Grassland.

The Medora Ranger District administers the southern half of the Little Missouri National Grassland.

The McKenzie Ranger District administers the northern half of the Little Missouri National Grassland.

Figure 1: Sheyenne National Grassland.

> *The Grand River National Grassland is located in South Dakota; the other national grasslands that are part of the Dakota Prairie are located in North Dakota.*

2002 – A Year of Transition for the Dakota Prairie Grasslands

The four national grasslands comprising the Dakota Prairie were administered by the Custer National Forest until 1998, when they became one unit. On July 31, 2002, the Regional Forester signed the Record of Decision to approve the Dakota Prairie Grasslands LRMP, or Grasslands Plan. Until that time, the Dakota Prairie Grasslands had been managed under the Custer National Forest LRMP.

While the new Grasslands Plan was approved toward the end of the 2002 fiscal year, managers decided to base the 2002 monitoring report on the new plan in order to begin forming a baseline for monitoring and evaluation over the life of the plan.

> *The Dakota Prairie Grasslands Land and Resource Management Plan, or Grasslands Plan, will provide management guidance for the next 10 to 15 years.*

Chapter 4 of the Grasslands Plan outlines a monitoring and evaluation strategy. It provides an overview of what drives our monitoring, the monitoring questions, priorities, methods, and reporting timeframes. These items are further detailed in a Monitoring Handbook that is being developed by the Dakota Prairie Grasslands.

Delayed Implementation of Grazing Portions of the Grasslands Plan

Through the planning process the Forest Service estimated the effects of implementing the Grasslands Plan. With regard to livestock grazing, the Forest Service estimated that the selected alternative (Modified Alternative 3 Final) of the Grasslands Plan would have a nine percent reduction in grazing levels. Other entities estimated reductions of 43 to 69 percent, and these estimates fueled controversy stemming from projections of major adverse economic effects on local communities and a perceived uncertainty of effects to individuals. To remedy the situation, the Regional Forester decided, in the Record of Decision for the Grasslands Plan Final Environmental Impact Statement, to "phase in" the Grasslands Plan with regard to livestock grazing. The first phase of the decision includes development of sample Allotment Management Plans (AMPs) that will be reviewed by a "Scientific Review Team." After consultation with the North Dakota Governor, the Grasslands Supervisor nominated the team's members, and the Regional Forester appointed the members. This team includes a variety of disciplines to review 64 sample AMPs.

Completion of the sample allotments is analogous to taking the new plan out for a "test drive." The intent of this "test drive" is to determine if the grazing portion of the plan can be implemented, and to verify that grazing levels are similar to those projected in the Revised Grasslands Plan Final Environmental Impact Statement. After completion of this "test drive," the Regional Forester will make a final decision either to adopt the grazing portion of the Grasslands Plan or to make any needed adjustments or changes. The "test drive" will be completed within two years of the signing of the Record of Decision.

It will not be possible to evaluate implementation of the grazing portions of the Grasslands Plan until the 64 sample AMPs are complete and the grazing portion of the Grasslands Plan has either been accepted or changed. In the meantime, monitoring questions that pertain to grazing will be answered with the most current information.

Monitoring - Who, When, Why, What

Purposes of Monitoring and Evaluation

Effective land and resource management plan monitoring and evaluation fosters adaptive management and more informed decisions. It helps identify the need to adjust desired conditions, goals, objectives, standards and guidelines as conditions change. Monitoring and evaluation helps forests, grasslands, the agency and the public determine how a land and resource management plan is being implemented, whether plan implementation is achieving desired outcomes, and whether assumptions made in the planning process are valid.

Monitoring and evaluation are conducted at several scales and for many purposes, each of which has different objectives and requirements. Monitoring requirements and tasks are developed to be responsive to the objectives and scale of the plan, program, or project to be monitored.

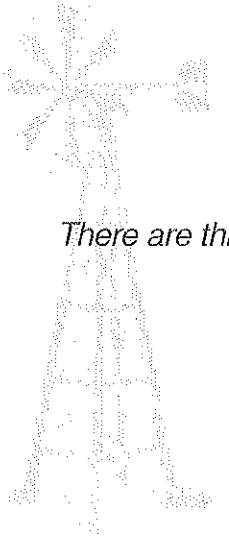
Monitoring and evaluation are separate, sequential activities required by National Forest Management Act regulations to determine how well objectives have been met and how closely management standards and guidelines have been applied. Monitoring generally includes the

collection of data and information, either by observation or measurement. Evaluation is the analysis of the data and information collected during the monitoring phase. The evaluation results are used to answer the monitoring questions, determine the need to revise management plans, change how the plans are implemented, and form a basis for adaptively managing the national grasslands. Monitoring and evaluation keep the Grasslands Plan up-to-date and responsive to changing issues by verifying the effectiveness of management plan standards and guidelines, anticipating program and project effects on resources, and providing information for amendments to the management plan.

Monitoring provides the information necessary to determine whether the Grasslands Plan is sufficient to guide management of the national grasslands for subsequent years or whether modification of the plan is needed.

The purposes of Land and Resource Management Plan monitoring and evaluation are to:

- Determine whether the plan is working as anticipated to accomplish its identified goals and objectives.
- Determine whether changes need to be made to the plan.
- Determine whether assumptions made in the planning process are valid.
- Allow Forest Service managers to make better decisions within the guidance of the plan.



There are three types of monitoring activities:

1. Implementation Monitoring: evaluates whether the anticipated inputs, anticipated outputs, and actions prescribed in the Grasslands Plan are occurring as planned. Implementation monitoring asks whether the activities called for in the Grasslands Plan are occurring.
2. Effectiveness Monitoring: evaluates how effective the Grasslands Plan actions are at achieving the desired outcomes. Effectiveness monitoring asks whether the desired outcomes and conditions prescribed in the plan are occurring.
3. Validation Monitoring: verifies the assumptions and models used in the Grasslands Plan.

Monitoring Team

The Dakota Prairie Grasslands Monitoring Team is an interdisciplinary group of people that oversees Grasslands Plan monitoring. Functions of the team include developing monitoring protocols, overseeing monitoring data collection and storage, evaluating monitoring results, budgeting, and making recommendations to the Grasslands leadership in regards to monitoring and evaluation. Monitoring team members are listed on page 30.

Monitoring Handbook

A Monitoring Handbook is being developed by the Dakota Prairie Grasslands Monitoring Team to provide more refined guidance in monitoring and evaluation than the monitoring strategy outlined in the Grasslands Plan. The target audience for this Monitoring Handbook is Dakota Prairie Grassland employees. Its objectives are:

1. To focus our monitoring efforts,
2. To schedule monitoring data collection,
3. To budget monitoring funds, and
4. To specify monitoring protocols.

The Monitoring Handbook is in a draft stage. Despite being in draft form, the Handbook has a great deal of useful information in it as far as monitoring methods, reporting language, and scheduling that was helpful in developing this monitoring report. The Monitoring Handbook is scheduled for completion at the end of 2004.

Questions for Fiscal Year 2002

The Grasslands Plan contains 48 monitoring questions in Chapter 4. These questions need to be answered over the life of the plan, but each question will not be monitored or evaluated every year. Development of the Dakota Prairie Grasslands Monitoring Handbook will include creation of a monitoring schedule based on question prioritization, time needed for data collection, and projected budgets. However, even with the best-laid plans, circumstances will change that may affect the monitoring schedule; therefore, the Grasslands leadership will assist in prioritizing what will be monitored in any given year.

Which questions were addressed for fiscal year 2002 was based on several factors including the "frequency of reporting" stated in Chapter 4 of the Grasslands Plan for each question, availability of information to answer the question, and initial attempts by the Monitoring Team to prioritize questions.

Monitoring Questions

Riparian

RIP1. To what extent are perennial streams in proper functioning condition and riparian areas and wooded draws self perpetuating?

Frequency of Reporting: Ten Years
Monitoring Type: Effectiveness

Figure 2: A stream in proper functioning condition on the Medora Ranger District.

Stream Conditions

"Proper Functioning Condition" (PFC) is the term used to describe streams that have adequate vegetation, landforms, or large woody debris to dissipate the stream energy associated with high water flows. Streams in this condition have reduced erosion, improved water quality, and are better able to filter sediment, capture bed loads, recharge ground and surface water flows, and develop floodplains. The Forest Service uses an established protocol, which utilizes a standardized field survey, to determine the PFC of a stream.

The survey covers 17 different items that assess the hydrology, vegetation, and soils/erosion characteristics of a stream. Results from the survey are then used to identify a rating for the stream or stream segment that was surveyed. There are five different ratings including PFC, Functional At Risk – Upward Trend, Functional At Risk – Downward Trend, Functional At Risk – Trend Not Apparent, or Nonfunctional. A "Functional At Risk" rating means that the riparian area is functional but the existing condition of one or more soil, water, or vegetation attributes is such that the stream is no longer considered to be properly functioning. "Non-Functional" means that the riparian area or wetland is clearly not providing attributes to dissipate stream energy and thus are not reducing erosion, improving water quality, etc., as listed above.

Little Missouri National Grassland

Surveys were conducted on 401 miles of perennial and major intermittent streams on the Little Missouri National Grassland in 1998 and 1999. The table below provides a summary of the survey results.

Table 1: Proper functioning condition stream survey results for the Little Missouri National Grassland in 1998 and 1999.

Percent of Surveyed Stream Miles	Survey Rating
56%	**Proper Functioning Condition**
6%	**Functional At Risk – Upward Trend**
26%	**Functional At Risk – Trend Not Apparent**
10%	**Functional At Risk – Downward Trend**
2%	**Non-Functional**

Survey results show that 62% of the streams sampled are in Proper Functioning Condition (PFC) or exhibit improvement (i.e. "Upward Trend"), 2% are non-functional and 36% show a downward trend or the trend was not apparent.

Most of the surveyed riparian systems had good vegetative conditions and channel characteristics. This is a sign that management of resources that can affect riparian areas, such as road systems and livestock, is being properly conducted in respect to riparian condition.

Some of the major causes for poor ratings (Functional At Risk – Downward Trend or Non-Functional) were grazing of the uplands in steep Badlands terrain, road crossings, channel straightening, and grazing of the riparian area. Other problems stemmed from livestock watering facilities near the stream or livestock using the stream as a water source without controlled access. A large number of stream segments were rated at Functional At Risk – Trend Not Apparent. These segments had some problems, such as a lack of vegetation, but no factors showed enough of a trend to be rated upward or downward. These segments need further field review because an initial survey did not reveal enough information to determine a trend.

Some actions have already been taken prior to 2002 to help improve stream conditions on Bernts Creek on the McKenzie Ranger District and Ash Coulee on the Medora Ranger District. On Bernts Creek, a temporary fence was added to create a riparian unit in the south end of allotment 12-1. The unit is grazed early and late in the season. On Ash Coulee, about a quarter mile of temporary electric fencing was installed to aid in the recovery of approximately 70 acres of degraded riparian area. Improvements have been observed in both of these riparian systems.

Based on current information, we recommend that future management focus first on those streams where the trend in stream condition is not apparent or is exhibiting a downward trend. The objective is to prevent these streams from becoming non-functional. These streams also offer the greatest opportunity to improve their condition for the lowest investment of resources.

Non-Functional and Functional At Risk – Downward Trend streams should be addressed within the next three years as per Grasslands Plan direction. It should be noted that non-functional streams would generally require extensive resources and long timeframes to start them on the road to recovery.

The Little Missouri National Grassland Rangeland Assessment (May 2002) should be consulted for a complete report on the 1998 and 1999 Proper Functioning Condition surveys and results.

Sheyenne National Grassland

Streams on the Sheyenne National Grassland are somewhat different than those on the Little Missouri, Grand River or Cedar River National Grasslands. This is due to sandy geological features and higher average precipitation. Surveys were conducted on 5.1 miles of steams on the Sheyenne National Grassland in 1997. Several of these streams were resurveyed in 2000 and 2002. The most recent data available for all streams surveyed is summarized in table 2.

Table 2: Proper functioning condition stream survey results for the Sheyenne National Grassland in 1997, 2000 and 2002.

Percent of Surveyed Stream Miles	Survey Rating
34%*	**Proper Functioning Condition**
17%	**Functional At Risk – Upward Trend**
43%	**Functional At Risk – Trend Not Apparent**
6%	**Functional At Risk – Downward Trend**
none	**Non-Functional**

* In addition to the miles of stream surveyed, 93 acres of ponds were surveyed and rated PFC.

Survey results show that 51% of the streams sampled are in Proper Functioning Condition (PFC) or exhibit improvement (i.e. "Upward Trend"), 49% show a downward trend or the trend was not apparent, and none were non-functional.

Streams in proper functioning condition tended to have good riparian vegetation. They often had beaver ponds on them, and several were excluded from cattle use.

Streams segments that were not in proper functioning condition tended to have large areas of bare soil, widening channels, and down-cutting of the channel. There were some beaver ponds that had blown out and caused down-cutting of a stream channel. Surveyors felt that the beaver pond blowouts may have been partly attributed to a drainage ditch that emptied into the stream, causing accelerated high flows. Cattle trampling, trailing and grazing were having negative impacts on several stream segments.

Several streams that were resurveyed in 2000 and 2002 improved from "trend not apparent" to "upward trend". This was generally due to new beaver ponds on the streams, increased riparian vegetation, and reduced down-cutting.

Photo point plots have been established on several streams to help monitor conditions. In addition, water quality studies have begun on the Sheyenne.

Grand River and Cedar River National Grasslands

Proper Functioning Surveys were planned for the Grand River National Grassland in 2003.

On all Grasslands, after these baseline surveys are completed, we will focus more intensive methods (i.e. hydrological condition assessment surveys) at the project scale. These will contain GPS (Global Positioning System) data points for vegetation stream morphological assessments and sedimentation processes. These will be monitored every 3-5 years, depending on funding.

Riparian and Woody Draw Conditions

During the development of the Dakota Prairie Grasslands LRMP, numerous comments were received that expressed concern over the lack of chokecherry, green ash, and American elm regeneration in the riparian areas and woody draws of the Little Missouri National Grassland. Between 1995 and 1998, approximately 11,000 acres of woodlands were surveyed on the Little Missouri National Grassland. Of the seven different types of woodlands located and surveyed on the Little Missouri National Grasslands, only the green ash (*Fraxinus pennsylvanica*) woodlands are of concern. Of 430 sampled green ash stands, 77% were in an early seral stage, 11% mid seral and 12% late seral. This represents a heavily skew distribution where a more normal distribution of seral stages would be expected.

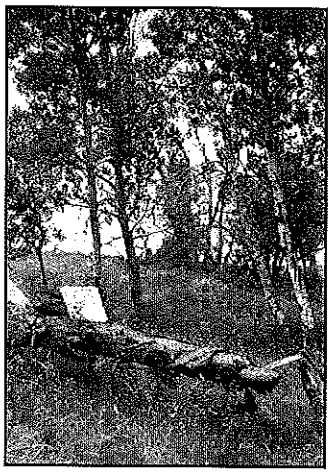


Figure 3: Green ash draw exhibiting lack of tree regeneration.

At least 30 % of the sampled stands have no green ash regeneration. Regeneration is defined as trees less than 6.5 feet in height. Approximately 53% of the stands had no seedling cover, which is defined as trees less than 2.5 feet tall. Sixty-two percent of the sampled stands are at risk of not being able to maintain their tree canopy because they have less than 15% pole-sized tree cover.

Green ash woodlands located in the Rolling Prairie geographic area tend to have simpler structure then those located in the Badlands geographic area. Approximately 65% of the surveyed green ash stands in the Rolling Prairie have simple structure, tending to be park-like, as compared to 23% in the Badlands. The Badlands tend to have more regeneration then the Rolling Prairie. Approximately 78% of the stands located in the Badlands have some green ash regeneration as compared to 37% for the Rolling Prairie geographic area.

Green ash draws on gently rolling slopes tend to be heavily impacted by livestock access. This is particularly true where there are livestock attractants within or adjacent to the woody draw. Livestock directly impact woodlands by trampling, trailing, rubbing vegetation, and grazing.

Management recommendations include focusing rehabilitation efforts on stands located on the Rolling Prairies first and the Badlands second. The stands on the rolling prairies tend to be long narrow strips of trees easily accessible to livestock and wildlife. Rehabilitation criteria need to be completed to identify those stands that have the greatest opportunity for recovery.

These woody draw surveys were valuable in showing broad-scale conditions for the Little Missouri National Grassland. In specific project areas, such as allotment planning areas, site-specific condition of green ash draws should be assessed through observation, spot-checking or other means to determine whether the larger-scale trend is applicable at the project level.

We will replicate these surveys in 2012.

Management Indicator Species

MIS2. What is the current habitat suitability for each management indicator species?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

The Dakota Prairie Grasslands has designated greater prairie chicken, greater sage grouse, sharp-tailed grouse, western prairie fringed orchid, and black-tailed prairie dog as management indicator species. In 2002, we assessed the current habitat suitability for black-tailed prairie dogs.

Black-tailed prairie dog

"Current habitat suitability" for black-tailed prairie dogs is defined as the acreage of occupied sites. In order to quantify this, we mapped all prairie dog colonies across the Dakota Prairie Grasslands using Global Positioning System (GPS) technology in 1997 and 2002 on the Little Missouri and Grand River National Grasslands (Table 3). Black-tailed prairie dogs were not present on the Cedar River National Grassland during this time period, and the Sheyenne National Grassland is outside of the species' range.

As shown in Table 3, prairie dog acreage increased on the Dakota Prairie Grasslands between 1997 and 2002. The greatest increase, both in actual acres and as a percentage, was on the Little Missouri National Grassland. Changes in the amount of occupied habitat were likely due to weather and livestock grazing patterns. Prairie dogs expand most easily in areas that are stressed by drought and heavy livestock grazing. The species often declines in areas that are well-watered and moderately to lightly grazed.

Table 3. Acres of active prairie dog colonies on the Dakota Prairie Grasslands in 1997 and 2002.

SITE	1997 ACRES*	2002 ACRES**	% CHANGE
Little Missouri National Grassland	2,860	4,144	+45%
Grand River National Grassland	1,520	1,786	+18%
TOTAL	4,380	5,930	+36%

*From: USDA Forest Service. 2001. Final environmental impact statement for the Northern Great Plains Management Plans Revision. Table H-4, p. H-95.

**From: Knowles, C. J. 2003. Prairie dog colony numbers, area, and distribution on the Little Missouri and Grand River National Grasslands. Report prepared for the Dakota Prairie Grasslands, 28 January 2003. 22 pp. + appendices.

Prairie dog habitat quality increased between 1997 and 2002 on the Dakota Prairie Grasslands. Livestock grazing and weather patterns were likely the two most important factors affecting prairie dog habitat quality during this time period.

Because of the high public interest in this species, the Dakota Prairie Grasslands will periodically re-map all occupied prairie dog colonies.

MIS3. What are the population trends for the western prairie fringed orchid and associated species? How have management activities affected this trend and the species' overall recovery?

Frequency of Reporting: Annually
Monitoring Type: Effectiveness

The Sheyenne National Grasslands supports one of the world's largest populations of the western prairie fringed orchid (orchid). Moisture availability and habitat management affect population trends. The focus of habitat management includes replicating natural ecological processes such as fire, grazing, and rest and the mitigation of potential impacts from the noxious weed control program.

In 2002, population censuses were conducted in three key areas on these grasslands: Viking Prairie, McLeod Allotment (north pasture), and Sagvold Allotment (west pasture).

Viking Prairie population numbers were 119 flowering plants, a decline from 660 in 2001. In McLeod Allotment 186 flowering orchids were found, and in Sagvold Allotment 204 flowering orchids were found. Censuses in McLeod and Sagvold Allotment were the initial counts of long-term monitoring at these sites. These areas will be inventoried annually in the future to determine long-term trends. The numbers for 2002 are not sufficient to determine the population trend for the orchid.

In 2002, herbicide damage from Plateau (imazapic) was first documented on orchids on the Sheyenne National Grasslands. Spray damage was found at two sites affecting four orchids. Damage includes plants with deformed flowers, fewer flowers, shorter plants, and also results in plants less likely to flower. Mitigation for future Plateau spraying is the avoidance of orchid habitat.

The majority of orchids on the Sheyenne are in grazed allotments. The impact of grazing on flowering plants and seed pod production is being monitored. Seed reproduction is important to the long-term survival of the orchid. In 2002, ungrazed orchids had significantly higher number of flowering plants survive and produce seed pods. Monitoring results showed that ungrazed orchids had an average of 55.8% of the marked plants survive to seed dispersal compared to 40% in the grazed areas and 36.2% in the burned+grazing areas. More monitoring is needed to determine the long-term implications of these results.

MIS. Are the selected management indicator species and their response to management activities in habitats on local National Forest System lands adequately representing the management effects on other species in the associated response guilds and is the species membership identified for each response guild reasonably accurate and complete?

Frequency of Reporting: Five Years
Monitoring Type: Validation

By law, the Dakota Prairie Grasslands was required to designate "Management Indicator Species" during development of the Grasslands Plan. Management Indicator Species (MIS) are used to reflect the impact of our management on a suite of plants and animals. For example, if the population of an MIS goes down, then the population trends of plants and animals that use similar habitats (i.e. "associated species") are assumed to have been similarly affected. The purpose of this monitoring question is to test that assumption, as well as to determine whether our current list of associated species is accurate and complete.

Management Indicator Species on the Dakota Prairie Grasslands include: western prairie fringed orchid, greater sage grouse, greater prairie chicken, sharp-tailed grouse, and black-tailed prairie dog.

Black-tailed prairie dog.

In fiscal year 2002, we assessed how black-tailed prairie dogs and associated species were responding to our management. Change in the amount of habitat occupied by black-tailed prairie dogs in recent years is presented under "MIS 2" on page 10.

Figure 4: Black-tailed prairie dog on the Little Missouri National Grassland.

Past research has shown several wildlife species to be associated with black-tailed prairie dogs. These species include: golden eagle, prairie falcon, ferruginous hawk, and burrowing owl. As mentioned in the 2001 Annual Monitoring Report, the Dakota Prairie Grasslands recently revisited all known golden eagle nests on the Little Missouri National Grassland to determine nest status (active vs. inactive) and nest condition (good, fair, destroyed). Less than a third of the nests visited appeared to be have been used in recent years. In 2002, we conducted a similar survey of known prairie falcon and ferruginous hawk nests. Of the 86 known prairie falcon nest sites visited in 2002, 7 were confirmed as active, whereas only one of the 32 known ferruginous hawk nest sites was active. Of even more concern, only one of the remaining 31 ferruginous hawk nests appeared to be in good shape. This suggests that 30 of the 32 nests had not been used in recent years. Although the causes of the apparent declines in golden eagles, prairie falcons, and ferruginous hawks are unknown, loss of prairie dogs (an important prey species that was more abundant in the 1970's and 1980's than it is today), and an increase in human disturbance over the last 30 years are suspected. In response to the concerns raised by these surveys, the Dakota Prairie Grasslands and the University of North Dakota initiated a multi-year study of nesting raptors on the Little Missouri National Grassland in 2002. The potential influence of prairie dog populations and human disturbance on nesting raptors will be assessed. Study results are expected by 2006.

On the Dakota Prairie Grasslands the species that is most closely associated with the black-tailed prairie dog is the burrowing owl. In 1998, we surveyed 62 prairie dog colonies on the Little Missouri National Grassland for burrowing owls. The bird was found on less than one-quarter of the colonies visited. This was in marked contrast to similar surveys conducted on other National Grasslands in the Great Plains, where burrowing owls were found on more than 90% of the prairie dog colonies visited. The low occupancy rate on the Little Missouri National Grassland is of great concern, due to the species' apparent range contraction throughout North Dakota, and its near extirpation from nearby portions of Canada. Because of these data, the Dakota Prairie Grasslands, Rocky Mountain College, and St. Cloud State University studied burrowing owls on the Little Missouri National Grassland in 2001 and 2002. Nesting birds were found on 17 of 65 prairie dog colonies surveyed. The low density of burrowing owls may be a reflection of the small amount of land area currently occupied by prairie dogs. Further research will be conducted in 2003.

Based on the preliminary nature of these investigations, it appears that the populations of golden eagles, prairie falcons, ferruginous hawks, and burrowing owls may indeed be associated, at least in part, with prairie dog populations. Considering this information, as well as the scientific literature available from other studies, the species membership identified above appears to be accurate and reasonably complete.

The data presented above point to the importance of continuing to monitor populations of black-tailed prairie dogs, golden eagles, prairie falcons, ferruginous hawks, and burrowing owls, as planned.

For additional information, see the following sources:

- Knowles, C. 2001. A survey of the Grand River National Grassland for Baird's sparrows, Sprague's pipits, and burrowing owls and other South Dakota sensitive bird species. Report to South Dakota Game, Fish and Parks. 18 November 2001. 23 pp. + appendices.

- Knowles, C. J. 2002. Results of a survey for previously recorded prairie falcon and ferruginous hawk nests in the Little Missouri National Grassland. Report prepared for the Dakota Prairie Grasslands. 14 pp. + figures.

- Restani, M. 2003. Nest site selection and productivity of burrowing owls breeding on the Little Missouri National Grassland: 2002 Annual Report. Report prepared for the Dakota Prairie Grasslands. 11 pp.

- Murphy, R. K., K. W. Hasselblad, C. D. Grondahl, J.G. Sidle, R.E. Martin, and D.W. Freed. 2001. Status of the burrowing owl in North Dakota. J. Raptor Res. 35(4):322-330.

- Sidle, J.G., M. Ball, T. Byer, J.J. Chynoweth, G. Foli, R. Hodorff, G. Moravek, R. Peterson, and D.N. Svingen. 2001. Occurrence of burrowing owls in black-tailed prairie dog colonies on Great Plains National Grasslands. J. Raptor Res. 35:316-321.

- Svingen, D. 2002. Bird monitoring on the Grand River and Cedar River National Grasslands, 2001. Dakota Prairie Grasslands Internal Report. 8 pp. + appendices.

Threatened and Endangered Species

TE1. To what extent is the Dakota Prairie Grasslands and its management contributing to the recovery and viability of black-footed ferrets?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

Black-footed ferrets are wholly reliant on prairie dogs for food and shelter. Currently, no black-footed ferrets occur on the Dakota Prairie Grasslands, nor does sufficient habitat exist. Under the Grasslands Plan, 29,000 acres has been designated as MA 3.63 – Black-footed Ferret Reintroduction Area. Management at this site will emphasize increasing prairie dogs to the point where they are numerous enough to support black-footed ferrets. In addition, prairie dog expansion will be emphasized in other areas, such as near the South Unit Theodore Roosevelt National Park, in Indian and Boyce Creeks, and on the south half of the Grand River National Grasslands. As noted above in MIS2, recent management has allowed an increase in prairie dogs on both the Little Missouri National Grassland and Grand River National Grassland.

TE2. To what extent is the Dakota Prairie Grasslands and its management contributing to the recovery and viability of bald eagles?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

Bald eagles do not nest on the DPG, nor does regular wintering occur. Incidental use is made of the grasslands by migrating bald eagles, and occasionally by wintering ones. Because of these facts, the Dakota Prairie Grasslands plays little role in this species' recovery and viability.

TE3. To what extent is the Dakota Prairie Grasslands and its management contributing to the recovery and viability of whooping cranes?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

The Dakota Prairie Grasslands might occasionally be used by migrant whooping cranes, but no nesting or wintering habitat is available. In 2001, no whooping cranes were sighted on the Dakota Prairie Grasslands. Because of these facts, the Dakota Prairie Grasslands plays little role in this species' recovery and viability.

TE4. Are actions identified in national recovery plans for threatened and endangered species being implemented where opportunities exist on national grasslands?

Frequency of Reporting: Annually
Monitoring Type: Implementation

Western Prairie Fringed Orchid – Threatened

Important actions identified in the western prairie fringed orchid recovery plan include the maintenance of protective management on public lands, development of appropriate burning, grazing and mowing regimes, and development of appropriate noxious weed control practices.

In response to these actions, the US Forest Service developed an orchid recovery strategy as part of the 2002 Grasslands Plan revision. The US Fish and Wildlife Service has approved this strategy. It outlines appropriate management activities and provides approved mitigation. Implementation of this recovery strategy began in 2002.

Other Threatened and Endangered Species

As noted above in questions TE1, TE2 and TE3, the only threatened or endangered wildlife species that makes use of the Dakota Prairie Grasslands on a regular basis is the bald eagle, which is a regular migrant and occasional winterer. Because the actions identified in the Bald Eagle National Recovery Plan focuses on nesting and major wintering habitats, the Dakota Prairie Grasslands has little opportunity to implement the recovery plan.

Viability

VIA2. To what extent is the Dakota Prairie Grasslands contributing to the viability of sensitive plant, animal, and fish species?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

For 2002, we reported on sensitive plants on the Sheyenne National Grassland, and Smooth Goosefoot, a sensitive plant on the Little Missouri National Grassland.

Sensitive Plants of the Sheyenne National Grassland.

The Sheyenne National Grassland supports 31 sensitive plant species. Of these, baseline inventories and monitoring was conducted on 17 different species in 2001 and 2002. Permanent plots were placed in populations of each of the 17 species. Abundance measurements were completed in most populations and will be repeated in approximately five years to determine viability of these populations. Habitat management in the areas supporting these species includes mitigation of grazing and noxious weed control. Several populations showed impacts

from grazing. Several of these populations will be protected from grazing in the future with a fence planned for the West I Allotment.

Table 4. Plant species located during 2001 and 2002 surveys with number of populations found and number of frequency or census plots.

Latin Name	Common Name	Number of Populations Mapped	Number of Populations with Frequency, Density, or Census Plot Data Collected
Apios americana	**Ground nut**	1	1
Athyrium filix-femina	**Northern lady-fern**	9	3
Campanula aparinoides	**Marsh bellflower**	8	6
Carex formosa	**Handsome sedge**	4	2
Cypripedium parviflorum	**Small yellow lady's slipper**	8	3
Cypripedium pubescens var. pubescens	**Large yellow lady's slipper**	1	1
Cypripedium reginae	**Showy lady's slipper**	5	3
Dryopteris carthusiana	**Spinulose woodfern**	10	4
Dryopteris cristata	**Crested woodfern**	9	3
Equisetum palustre	**Marsh horsetail**	5	3
Euonymus atropurpurea	**Wahoo**	1	1
Galium labridoricum	**Bog bedstraw**	1	1
Gymnocarpium dryopteris	**Oakfern**	1	1
Menyanthes trifoliata	**Buckbean**	2	2
Onoclea sensibilis	**Sensitive fern**	1	1
Solidago flexicaulis	**Zigzag goldenrod**	1	1
Thelypteris palustris	**Marsh fern**	5	3
Totals		72	39

Little Missouri National Grassland Sensitive Plant: Smooth Goosefoot

Smooth Goosefoot is not the only sensitive plant on the Little Missouri National Grassland; however, it is one of the more rare species and is a higher priority to monitor and than some of the other species. Funding was available in 2002 for monitoring this species.

A baseline inventory was conducted for Smooth Goosefoot (*Chenopodium subglabrum*) in 2002 on all Forest Service lands along the Little Missouri River on the Medora Ranger District of the Little Missouri National Grassland. The survey resulted in the discovery of two new populations of this species in Slope County. The large area covered by the survey and the few populations documented illustrate the rarity of Smooth Goosefoot in this area. Little is known about the impacts of land management on this species. Future monitoring will include an inventory of the Little Missouri River on the McKenzie Ranger District and monitoring of the populations discovered in 2002 to determine if land management activities have any impact on this species.

Recreation

REC1. To what extent are trails managed to meet regional standards and to minimize conflicts among users?

Frequency of Reporting: Annually
Monitoring Type: Effectiveness

Figure 5: Hiker on the Maah Daah Hey Trail. Note trail marker on the horizon.

The Dakota Prairie Grasslands has constructed all trails to meet Regional standards since 1995. We have some old trails, like Summit and Long X, that have short portions that do not meet Regional standards and we are in the process of getting these to standard via the Capital Investment Program. We have no user conflicts on our system trails that we know of. All the trails are non-motorized and have foot, horse and bicycle traffic. The trails were designed to provide sight distance to alleviate potential user conflicts. We perform normal maintenance activities with temporary work crews.

REC3. To what extent are grassland visitors informed of the recreation opportunities available to them; adequately guided to those opportunities; and receive adequate interpretive information on National Register of Historic Places and other heritage sites, geologic, paleontologic, wildlife, plant, and recreation resources or opportunities?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

The public has several venues to receive information on recreation opportunities available to them on the Dakota Prairie Grasslands. Medora is the focus of a major advertising campaign by North Dakota Tourism. This includes the 96-mile long Maah Daah Hey Trail which is marketed nationally in major magazines and other literature, as well as internationally. Located in east-central North Dakota, the Sheyenne National Grasslands incorporates a portion of the 4,200-mile long North Country National Scenic Trail, which also has national recognition. The Dakota Prairie Grasslands' 10 developed recreation sites have, or will shortly have, kiosks displaying information on recreational opportunities. We also have a website that provides specific recreation information. In addition, we advertise smaller events in local newspapers. Frontliners provide information to the public both in person and over the phone. Campgrounds are also listed on a regional directory of developed sites. A brochure is in revision for a scenic tour of the badlands. In 2002, the DPG also sponsored a Heritage Expeditions excavation of triceratops that was advertised on the Internet and newspapers.

Maps are a very important source of information. Recently, the Dakota Prairie Grasslands produced a map for the public showing the Maah Daah Hey Trail. The Supervisor's Office in Bismarck and all of the Ranger Stations have District maps available to the public. Currently, we are in a partnership project with the North Dakota State Historical Society and North Dakota Tourism to produce a map showing major points of interest in the state. This map will include the Grasslands' historic and recreation sites. Proper road signing is very important. Off Highway Vehicle and non-motorized signs are in place to inform the public about travel on the grasslands. All campground direction signs were placed in late 2002 and we have received comments from the public that the routes to the overnight campgrounds are well marked at present.

Figure 6: Forest Service employee Ben Grey Eagle, of the Grand River Ranger District, explains traditional uses of green ash to Explorer Series participants.

Management is in the planning stages for interpreting some of the Grasslands' Special Interest Areas. Interpretation of Dakota Prairie Grasslands natural and historical resources will provide more recreation opportunities, and accommodate growing areas of interest such as eco-tourism. Birding is a popular and growing activity in North Dakota. In order to help guide birders around the state, we cooperated on the development of "A Birder's Guide To North Dakota". This guide will feature over 60 great birding sites in North Dakota, including the Little Missouri National Grassland, Sheyenne National Grassland, Cedar River National Grassland, and Denbigh Experimental Forest. Wildlife and botany specialists provide guided tours on such subjects as birds and wild flowers. We will continue to expand our highly popular Explorer Series, which provides interpretive tours of our diverse resources. We will also continue the Passport-In-Time programs that give the public a chance to participate in archaeological excavations and field survey projects. These programs are free to the public. Paid tours are also available from outfitter-guides who have permits issued by the Forest Service. In addition, we will continue to provide Heritage Expeditions type programs, where people pay to participate in paleontological and prehistoric excavations.

The Dakota Prairie Grasslands has at least twelve historic and over 100 prehistoric, National Register eligible, recorded sites. We are working to interpret the following ones:

The "Battle of the Badlands Historic District" is in the badlands region of the Little Missouri National Grasslands. It includes an exciting chapter in Northern Great Plains history, remarkably preserved in a natural setting. The complex consists of wagon ruts and campsites used by Custer on his way to the Little Bighorn in 1876. Also, a running battle took place between the Sioux and General Sully in this area. We continue major upgrades of Initial Rock interpretive site where 7th Cavalry troopers carved their names on a sandstone outcrop. The finished facility will eventually have interpretation, fencing, a restroom, parking lot, plantings and a new protective shelter for Initial Rock. The site is part of a major interpretive effort, and should draw many visitors when completed.

To the north, we are constructing the Lewis and Clark "Birnt Hills" interpretive site on the southwest shore of Lake Sakakawea, near Tobacco Gardens. The finished facility will have a restroom, parking lot, fencing and a trail leading to an overlook interpretive site. The site will be completed in 2003.

We continue the multi-year Wood's Cabin renovation, which we plan to interpret when completed.

We are also contracting an interpretive sign for the former Hanson Ranch, which abuts the Maah Daah Hey Trail.

Suitable for Wilderness

WILD1. To what extent are the areas that have management area designation 1.2a (Suitable for Wilderness) conserving, enhancing, or protecting the special features and communities of special concern?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

There are four "Suitable For Wilderness" management areas on the Dakota Prairie Grassland. Long X Divide is located on the McKenzie Ranger District. Bullion Butte, Twin Buttes, and Kinley Plateau are all on the Medora Ranger District.

These areas are managed to protect their wilderness characteristics, but certain limited existing administrative uses continue. These activities include allowing some motorized uses for grazing administration and invasive weed control as well as when needed for fire suppression and law enforcement activities. These activities currently are not impacting the wilderness characteristics of the area, but longer term monitoring will be required to assess these impacts.

To further answer this monitoring question, the NEPA Quarterly Schedule was reviewed to determine what management changes have occurred in the "Suitable For Wilderness" areas. Projects with a decision completed in 2002 were analyzed.

In 2002, the Dakota Prairie Grasslands authorized 2 projects in Management Area (MA) 1.2a. These were Little Knife Outfitters Outfitter-Guide 5-Year Special Use Permit and the Long X Endurance Ride. Both of these projects partially occur within the Long X Divide area, but they only occur on existing recreation trails. Decision Memos for both of these projects were signed prior to approval of the Grasslands Plan ROD; therefore, an analysis of MA 1.2a was not specifically conducted. However, the nature and size of the projects raises no concern that they would detract from the desired condition for MA 1.2a.

Livestock grazing is an ongoing use that occurs in all four areas. Herbivory is a natural and historical part of the ecosystems across the Dakota Prairie Grasslands, including within MA 1.2a. The site-specific amount of grazing use and number of improvements (such as tanks and fences) compatible with MA 1.2a will be analyzed through Allotment Management Plan revisions over the next seven years.

Approved uses in MA 1.2a are not detracting from the special features and communities of those areas. Dakota Prairie Grasslands personnel and the public are learning to understand the importance of this management area designation, and are considering it early on when reviewing projects. Designation of these areas as MA 1.2a is having the desired effect of conserving and protecting these areas. To date, we have not taken actions that specifically enhance the areas, but this may occur in the future.

Experimental Forests

EXP1. To what extent have the unique research features of Denbigh and Souris Experimental Forests been conserved or enhanced?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

Denbigh Experimental Forest encompasses 636 acres near Granville, North Dakota. It was established in 1931 to determine which trees would grow well in the Northern Great Plains. The Souris Experimental Forest covers 160 acres near Towner, North Dakota. It is a study site for research on pine and juniper provenance. Both units are jointly managed with the North Dakota

Forest Service, which takes the lead on providing sign maintenance, firebreak maintenance, building maintenance, and weed control.

The Denbigh Experimental Forest is a unique and historic planted forest. It contains over 40 species and selections of trees planted during the 1930's, 1940's, and the 1960's. All of these stands are important because of the genetic material the trees represent, the seed they produce, and the beauty and recreational benefits the forest provides. No research was conducted in FY 2002. Because of the large collection of seed sources and species represented in the Experimental Forest, these trees are a very valuable genetic pool. The North Dakota Forest Service has developed stands of Black Hills Spruce, Colorado Blue Spruce, Scotch Pine, Ponderosa Pine, Siberian Larch, and Rocky Mt. Juniper into seed orchards. Annual maintenance of the seed orchards includes pruning trees, mowing grass, and monitoring for insect and disease problems. The North Dakota Forest Service annually collects seed from these orchards. Compatible activities that regularly occur at Denbigh Experimental Forest include hunting, birding, hiking, snowmobiling, cross-country skiing, and sightseeing. In July 2002, North Dakota's annual "Prairie Day" celebration was held at Denbigh Experimental Forest. Over 200 people attended the one-day event, which included guided butterfly, bird, and wildflower walks, wagon rides, a barbeque, and Native American dancers.

The Souris Unit contains provenance plantings of Ponderosa Pine, Rocky Mt. Juniper, and Eastern Redcedar. No research was conducted in FY 2002. The Rocky Mt. Juniper and Eastern Redcedar plantings have been thinned and converted to seed orchards. The North Dakota Forest Service collects seed from this site whenever crops are available. Very little public use occurs at Souris Experimental Forest.

These sites continue to fulfill their original purpose, and are now being increasingly used for compatible recreation.

We will continue to manage these sites for their research and nursery purposes as well as encouraging recreational use that is complementary to or compatible with these primary activities.

Geologic & Paleontologic Resources

GEO1. To what extent are geologic and paleontologic resources being made available for the education, use or enjoyment of the general public?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

For paleontology, there was a public dig in Marmarth, North Dakota where a Triceratops skull had been excavated several years before. Several skeletal bones were recovered including 12 ribs. This was a 10-day excursion with participants from seven states including North Dakota. Several students and their professor from St. Lawrence University in New York participated in the Lone Butte crocodile dig in McKenzie County, North Dakota. Several crocodile bones and plant leaves were recovered, plus the discovery of a 58 million year old "Bald Cypress" stump.

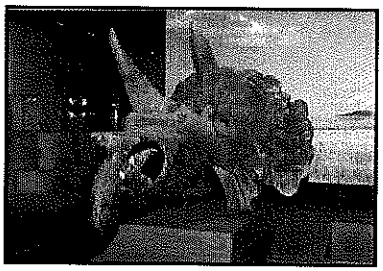


Figure 7: Triceratops skull.

For geology, the Forest Service participated in three field trips to visit active oil and gas drilling rigs, production facilities and reclaimed well pad and road sites. The first was for 45 high school teachers from around North Dakota participating in a 4-day seminar sponsored by various entities of the energy sector and the Forest Service. They received college credits for the course. The second trip was for 20 teachers associated with the Tech program at Bismarck State College, and the last field trip was 65 Century High School summer biology students.

Community Relations

The Grasslands Plan includes three monitoring questions that address economic impacts of Plan implementation. They are:

CR1. What are the effects of National Grasslands management on adjacent communities?

Frequency of Reporting: Annually
Monitoring Type: Effectiveness

CR2. What are the effects of National Grasslands management on local communities?

Frequency of Reporting: Five Years
Monitoring Type: Effectiveness

CR3. What are the effects of National Grasslands management on economic conditions of local residents?

Frequency of Reporting: Annually
Monitoring Type: Effectiveness

Although the monitoring questions are slightly different, they are largely similar and pursuing all three as separate monitoring items would result in significant redundancy. The ultimate question is: "Are there economic effects from changes in grassland management, and what are they?" Therefore, it is most efficient to provide one answer for all three questions.

We are reporting economic effects of three resource programs: livestock grazing, oil and gas production, and recreation. These three are the most quantifiable programs with regard to economics on the Dakota Prairie Grasslands.

Livestock Grazing

Livestock grazing is reported as AUMs (Animal Unit Months) authorized to graze on Forest Service land. One AUM is the amount of forage required by a 1,000-pound cow and her calf grazing for one month. The number of AUMs is multiplied by economic response coefficients to determine total jobs and income that can be associated with the AUMs. Economic response coefficients used in calculating jobs and income were taken from spreadsheets used to determine economic effects in the Final Environmental Impact Statement for the Grasslands Plan. Information is reported for the Little Missouri National Grassland (McKenzie and Medora Ranger Districts), the Cedar River and Grand River National Grasslands, and the Sheyenne National Grassland because the response coefficients were different for each of the economic impact areas associated with these grasslands. Table 5 depicts the economic impacts from cattle grazing.

Drought conditions occurred in western North Dakota, particularly southwestern North Dakota, in 2002. Lack of moisture required Grassland managers to work with permittees to reduce cattle numbers on the Grasslands, especially on the Grand River and Cedar River National Grasslands where precipitation was approximately 30% of normal (4-6" compared to an average of 16"). The AUMs in table 5 reflect grazing reductions due to drought.

Table 5: Economic impacts from cattle grazing on the Dakota Prairie Grasslands in 2002.

Unit	2002 AUMs*	Effects from National Forest System Lands Grazing	
		Total Jobs	Total Income
Grand River / Cedar River National Grasslands**	50,114	64	$954,045
Little Missouri National Grassland	327,471	596	$7,462,932
Sheyenne National Grassland	55,098	119	$1,341,814
Total Dakota Prairie Grasslands	432,683	779	$9,758,791

* AUMs on National Forest System lands, determined from the final billing to permittees; does not include sheep AUMs.

** Grand River also grazed 1,364 sheep head months (equal to 273 AUMs) but this was not included in the calculations as the economic response coefficients were developed for cattle, not sheep.

Due to delayed implementation of the grazing portion of the Grasslands Plan, as discussed on page 5, changes in livestock grazing and associated economics do not reflect the effects of the new Grasslands Plan. However, this data may help define the range of variability in the cattle industry that can occur due to natural effects, such as drought, independent of effects from Grasslands Plan direction.

Oil and Gas

Oil and gas production occurs only on the Little Missouri National Grassland.

In 2002, an average of about 550 oil and gas wells were operating (this number varies throughout the year). Estimated production was 4,522,301 barrels of oil and 805,698 oil equivalent barrels of natural gas, totaling 5,327,999 oil equivalent barrels of oil and gas. Similarly to the livestock grazing analysis, the number of barrels is multiplied by economic response coefficients to determine total jobs and income that can be associated with the oil production. Once again, the economic response coefficients used to calculate jobs and income came from spreadsheets used to calculate economic effects in the Final Environmental Impact Statement for the Grasslands Plan. Table 6 shows the economic impacts from oil production in 2002.

Figure 8: Oil well pad on the Little Missouri National Grassland.

Table 6: Economic impacts from oil production on the Dakota Prairie Grasslands in 2002.

Unit	2002 Oil Equivalent Barrels of Oil and Gas	Effects from National Forest System Lands Oil and Gas Production*	
		Total Jobs	Total Labor Income (1997$)
Little Missouri National Grassland	5,327,999	698	$23,443,196

*These figures do not include the economic impacts associated with drilling.

Recreation

The Grasslands provide North Dakota's most extensive recreational trail systems; core habitat for greater prairie chicken, western prairie fringed orchid and bighorn sheep; key areas for mule deer, wild turkey, and sharp-tailed grouse hunting; and the largest expanse of public land in the state. These resources attract thousands of visitors each year. The Forest Service National Forest Visitor Use Monitoring program collects information on National Forests and Grasslands about visitor satisfaction and use. Results of this effort show that recreation use on the Dakota

Prairie Grasslands for fiscal year 2002 was 739,157 national forest (or grassland) visits. A national forest (or grassland) visit is defined as the entry of one person upon a national forest or grassland to participate in recreation activities for an unspecified period of time. Table 7 shows how visitor use on the Dakota Prairie Grasslands compared with other National Forest units in Region 1 during fiscal year 2002. The entire 2002 National Visitor Use Report can be viewed online at http:/www.fs.fed.us/recreation/programs/nvum.

Table 7: Region 1 National Forest and Grassland recreation use estimates for fiscal year 2002 from the National Forest Visitor Use Monitoring program.

National Forest Unit	National Forest Visitors for Fiscal Year 2002*
Flathead National Forest	1.4 M
Lolo National Forest	1.2 M
Kootanai National Forest	1.1 M
Beaverhead-Deerlodge National Forest	1.1 M
Clearwater National Forest	915,900
Bitteroot National Forest	793,000
Custer National Forest	739,700
Dakota Prairie Grasslands	739,100
Nez Perce National Forest	500,000
Lewis & Clark National Forest	476,000
Gallatin National Forest	survey pending

*Numbers are rounded

CR4. To what extent are noxious weeds, invasive species, and animal damage spreading from the National Grasslands to other ownerships or from lands managed by other government agencies to the National Grasslands?

Frequency of Reporting: Annually
Monitoring Type: Effectiveness

Noxious weeds

Noxious weeds such as leafy spurge are present on all districts. Aggressive control practices are being implemented on ranger districts. These practices include herbicide spraying, biological control, mechanical treatment and grazing. Although emphasis is placed on treatment of new areas, yearly inventories continue to reveal new infestations. In reference to leafy spurge and salt cedar, transport of seeds along waterways continues to start new infestations across all land ownership boundaries. In 2003, the Dakota Prairie Grasslands provided grant money to county weed boards, some grazing associations, and the North Dakota Department of Agriculture as part of a larger effort to help control noxious weeds on state and private lands within the administrative boundaries of the Dakota Prairie Grasslands.

Black-tailed Prairie Dog

Although a sensitive species with the Forest Service, the black-tailed prairie dog is considered a pest by some other landowners who believe that the many holes in prairie dog towns pose a hazard to livestock, and that prairie dogs reduce forage availability for livestock. For this reason, the Grasslands Plan includes direction to help confine prairie dog colonies to Forest Service lands.

Some data has been collected that may provide insight into this question, but it has yet to be analyzed. This information will be included in subsequent monitoring reports.

Travel and Access

TVL1. To what extent is off-road vehicle use (permitted and unpermitted) damaging grassland resources and causing erosion, sedimentation, and vegetation loss?

Frequency of Reporting: Two Years
Monitoring Type: Effectiveness

Off-road vehicle use is restricted on the entire Dakota Prairie Grasslands. Wheeled motorized vehicle travel is limited to existing roads and two-tracks. Permits can be obtained for off-road travel for specific reasons, including grazing allotment administration, noxious weed treatment, fire suppression, and emergencies. Permitted off-road travel is evaluated on a case-by-case basis.

Permitted off-road use is not causing many new problems because permitted use is relatively light and does not result in loss of vegetative cover.

Unpermitted off-road travel is a violation of federal regulation and can be cited by law enforcement. Unpermitted off-road travel is more likely than permitted travel to result in new, user-created roads and erosion problems. This is because permitted travel is controlled in regards to where, when and how often people will drive, while unpermitted travel may occur at inappropriate times and locations such as on wet or sensitive soils.

The creation of new two-track roads in the northeastern portion of the Sheyenne Ranger District in the sandhills (East and West I allotments) is becoming a significant resource issue. In these sandy soils new vehicle two-tracks become erosion problems when located on slopes. Problems are exacerbated when combined with other uses such as grazing. Similar problems occur in the Hankinson Hills and in the Arntson and Jones Allotments where existing two-tracks lead to erosion problems.

On the McKenzie District unpermitted off-road use by all-terrain vehicles (ATVs) and motorcycles is creating new two-tracks and motorcycle trails in the Horse Creek area, located in the northwest portion of the District. These user-created roads can become erosion problems, especially on the steeper slopes. This unpermitted use is also occurring in the Red Wing area where user-created roads and motorcycle trails are cropping up along road 833. Unpermitted travel by ATVs and motorcycles is especially problematic because operators tend to want to take these types of vehicles on steeper, more erosive terrain.

On the Medora District existing two-track use is a problem in and around the town of Medora. Traffic of all kinds in this area is causing some erosion problems as well as user conflicts.

While some off-road use is occurring on the Grand River District, it has yet to result in significant problems.

Travel management planning, travel restrictions on some vehicle roads and two-tracks, adequate road maintenance, and enforcement are ways to address problems associated with these uses.

TVL2. To what extent are site-specific maps and road closures/restrictions effective in preventing off-road vehicle travel?

Frequency of Reporting: Two Years
Monitoring Type: Effectiveness

The Grasslands Plan includes several travel restrictions associated with different management areas (MAs). Because of the newness of the Grasslands Plan, travel restrictions resulting directly

from the plan were not yet implemented on the Dakota Prairie Grasslands in 2002. During the summer of 2003, non-motorized travel restrictions will be implemented within MA1.2a, 1.31, 2.2, 3.64, and the "Bog" Special Interest Area. Signs will be erected and special orders will be issued. The Dakota Prairie Grasslands plans to issue a special map, orders, and other information to notify the public of these restrictions.

The Off-Highway Vehicle Record of Decision and Plan Amendment for Montana, North Dakota and portions of South Dakota (OHV Decision) was signed in January 2001 by former Regional Forester Dale Bosworth. The OHV Decision prohibited wheeled motorized cross-country travel on the grasslands, where cross-country travel is defined as travel off existing roads and two-tracks. The OHV Decision does not close any existing roads, or prohibit construction of new roads. It does not apply to private and states lands, or affect persons having existing access rights. It contains exemptions for wheeled cross-country motorized travel for the military, fire, search-and-rescue, law enforcement, official administrative business, lessees and permittees, and for travel to a campsite within 300 feet of an existing road. For the most part this decision appears to be fairly effective in limiting off-road use. TVL1, above, reports some of the problems that have occurred with unauthorized off-road travel. The OHV Decision was incorporated into the Grasslands Plan.

All recreation trails on the Dakota Prairie Grasslands are restricted to nonmotorized use, including hiking, bicycling and horseback riding. The motorized traffic closures on these trails are working and accepted by most people.

Administration

ADM1. Are the action plans identified in the objectives being completed on schedule?

Frequency of Reporting: Annually
Monitoring Type: Implementation

This question refers to the many different strategies and plans that the Dakota Prairie Grasslands is to develop over the life of the Plan to help attain goals. Table 8 outlines these plans and identifies our progress.

Table 8: Action plans identified in the Grasslands Plan and completion progress.

Action Plan Commitment	Plan Page	Time Given (Years)	Year Due	Progress and Comments
Develop conservation and recovery strategies for federally threatened or endangered species with the U.S. Fish and Wildlife Service and other agencies.	1-2	As information becomes available	NA	A recovery strategy for the threatened western prairie fringed orchid was completed in 2002. Implementation of this strategy began in FY2003. We did no such wildlife work in 2002. Note that the black-footed ferret, bald eagle, gray wolf, whooping crane all have such strategies already. The piping plover and interior least tern do not occur on the DPG. No other T/E wildlife species is noted as "known or suspected to occur" on the DPG by the Regional Forester.

Action Plan Commitment	Plan Page	Time Given (Years)	Year Due	Progress and Comments
Develop and implement conservation strategies for Forest Service sensitive species.	1-3	As technical information becomes available	NA	A conservation strategy was initiated for the sensitive plant, Dakota buckwheat in FY02. This will be completed in FY03. No such wildlife work was completed in 2002.
Develop management strategies to conserve rare plant and wildlife communities.	1-3	As such communities are identified	NA	An assessment of rare plant communities on the Sheyenne Ranger District is planned for FY03-FY04. This will assist with development of management strategies. No such wildlife work was completed in 2002.
Establish scientifically credible monitoring programs that contribute to our ability to determine viability of threatened and endangered species, species at risk, and MIS.	1-3	Over life of Plan	NA	The DPG monitoring handbook, which will be completed in FY03, provides a plan for scientifically credible inventory and monitoring methods. In 2002, we worked with NDSU to develop a monitoring strategy for sharp-tailed grouse.
Complete conservation strategies for globally rare plant species and other high priority species in cooperation with other conservation organizations and agencies.	1-3	Over life of Plan	NA	A conservation strategy was initiated for the sensitive plant, Dakota buckwheat in FY02. This will be completed in FY03. No such wildlife work was completed in 2002.
Assess potential impacts of the construction of impoundments in upper watersheds on hydrologic flows and patterns on downstream habitat on the sturgeon chub and other sensitive native fish species.	1-3	Over life of Plan	NA	No such wildlife work was completed in 2002. Note that sturgeon chub were evidently extirpated from the Little Missouri River by the drought in the late 1980's. Attempts to reintroduce the species there have been made, but the success of those efforts is unknown. No other sensitive native fish species occurs on the DPG.
Develop and maintain cooperative noxious weeds and invasive species management plans in consultation with appropriate partners and agencies.	1-3	5 years	2007	Cooperation is ongoing with grazing associations, county weed boards and the state of North Dakota. Formal plans have not been worked on but grants have been given to many agency partners in 2003 to help control weeds on al larger scale.
Develop and implement a certified noxious weed-free forage program in consultation with appropriate state agencies	1-3	3 years	2005	Implemented in 2001as a large multi-agency effort of state and federal partners.
Implement an integrated prevention and pest control management program for noxious weeds and invasive plant species	1-4	10 years	2012	This is an ongoing process on all ranger districts.
Complete site and recreation plans, including rehabilitation and re-vegetation strategies.	1-4	10 years	2012	Completed December 2002.

Action Plan Commitment	Plan Page	Time Given (Years)	Year Due	Progress and Comments
Implement a science and marketing-based interpretive program strategy that uses a variety of communication media	1-4	5 years	2007	Interpretive Plan programmed for 2004.
Develop and implement a heritage inventory strategy to survey and evaluate sites, in support of management actions and activities as agreed upon with SHPO and THPO	1-5	5 years	2007	SCEP Archaeologist Masters Thesis project due for completion May 2004.
Assess identified sites eligible for the National Register of Historic Places in conjunction with SHPO and THPO and provide interpretation for NRHP sites where appropriate and consistent with developed preservation plans.	1-5	5 years	2007	On going, Initial Rock is planned to be completed in 2004.
Identify and protect traditional cultural properties in consultation with federally recognized American Indian tribes	1-5	3 years	2005	On going, Major Ethnographic Overview effort completed in 1995.
Update prehistoric, ethnographic, and historic overviews	1-5	10 years	2012	Gathering reference material.
Develop and implement a management and monitoring plan for each RNA**********TIME STARTS AT DESIGNATION	1-5	5 years		Formal designation of RNAs is planned for FY04. Management plans will be completed after designation.
Revise allotment management plans (AMPs) to meet desired condition described in Geographic Area direction.	1-5	As needed	NA	The DPG has a schedule for updating all allotment management plans by 2010. Due to delayed implementation of the grazing portion of the Grasslands Plan, allotment planning continues, but no decisions will be made until the Sample AMP process is completed.
Develop and implement conservation plans for significant geological and paleontological sites as information becomes available	1-6	15 years	2017	Will initiate GPS surveys of known geological and paleontological sites in 2003. The data will be transferred to a GIS layer for inventory purposes. Data will be added as it becomes available.
Identify, develop, manage, and interpret important watchable wildlife and plant viewing sites	1-6	10 years	2012	No such wildlife or plant work was completed in 2002.
Establish and implement credible inventory and monitor systems, develop survey methods, and initiate baseline and trend surveys to provide scientific information and decision support across all land ownerships.	1-7	Over life of Plan	NA	The DPG monitoring handbook, which will be completed in FY03, provides a plan for scientifically credible inventory and monitoring methods. In 2002, we cooperated with Northern Prairie Wildlife Research Center and Rocky Mountain Bird Observatory to survey grasslands birds on the DPG. These data will be used to supplement the USGS's Breeding Bird Surveys, which occur across all land ownerships. The DPG also conducted a Breeding Bird Survey, for the USGS.

Action Plan Commitment	Plan Page	Time Given (Years)	Year Due	Progress and Comments
Assess potential habitat capability at the local level for management Indicator species by identifying existing or establishing new reference areas and implementing long-term monitoring.	1-7	Over life of Plan	NA	The DPG monitoring handbook provides the inventory and monitoring schedule for management indicator species. For the western prairie fringed orchid, population surveys and monitoring occur on an annual basis. No such wildlife work was completed in 2002.
Identify travel opportunities and restrictions; including designating motorized travelways and areas, to meet land management objectives	1-7	5 years	2007	Non-motorized areas to be marked on the ground by 2003 and special orders written to enforce it. Site specific travel management planning will be initiated on the Sheyenne in 2004 and other priority areas will be identified in 2004.
Provide site-specific maps and information showing closures, restrictions, and opportunities for motorized and nonmotorized use.	1-7	Over life of Plan	NA	Maps of nonmotorized areas to be prepared in 2003.
Identify the minimum Forest service road system for administration, utilization, and protection of national grasslands resources using a science-based roads analysis process.	1-7	Over life of Plan	NA	Completed as part of the LRMP revision. Updates ongoing as inventory of level 2 roads continues.
Develop and implement an approved land ownership adjustment plan in response to resource management and public needs. Coordinate, review and update every 3 years	1-8	3 years	2005	Land adjustment plan scheduled to be completed in 2003. May be updated annually...will be a dynamic document.
Develop and implement a 5-year Rights-of-Way Acquisition program in response to resource management programs and access needs. Coordinate, review and update annually.	1-8	3 years	2005	DPG priority for FY03. Development and implementation of a 5-year ROW acquisition plan. 5-Year ROW acquisition plan scheduled to start in FY04. May be able to complete in FY04.
Develop 64 sample AMPs to be reviewed by a Scientific Review Team to determine if the grazing portion of the Grasslands Plan can be implemented and to verify that grazing levels are similar to those projected in the Revised Grasslands Plan FEIS.	ROD	2 years	2004	Preparations for this process were made in 2002, and the process began in 2003.

Implementation

IMP1. Have site-specific decisions implemented the Land and Resource Management Plan direction?

Frequency of Reporting: Annually
Monitoring Type: Implementation

This question is basically asking whether the Standards and Guidelines in the Grasslands Plan have been implemented for on-the-ground projects.

Standards are actions that must be followed or are required limits to activities in order to achieve Grassland objectives. Site-specific deviations from Standards must be analyzed and documented in amendments to the Grasslands Plan.

Guidelines are advisable actions that should be followed to achieve Grassland goals and objectives. Deviation from guidelines must be analyzed during project-level analysis and documented in a project decision document, but do not require an amendment to the Grasslands Plan.

Because of the "phased" decision on livestock grazing described on page 5, standards and guidelines related to grazing may not be implemented until a final decision is made in 2004.

District planning coordinators were consulted to determine whether Standards and Guidelines not related to grazing were implemented on projects that occurred in 2002

The Grasslands Plan ROD was signed late in 2002. Therefore, there was little chance to implement the new Plan's management direction. Project decisions that were made under the new plan included appropriate Standards and Guidelines. No plan amendments were requested for deviation from Standards, and there was no deviation from Guidelines.

Outputs

OUT1. Are the projected annual outputs and services being met annually and at anticipated costs?

Frequency of Reporting: Annually
Monitoring Type: Implementation

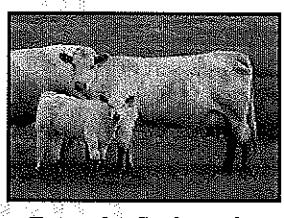


Figure 9: Cattle on the Dakota Prairie Grasslands.

The outputs tracked for this monitoring report include forage provided to domestic livestock and the number of oil and gas wells, as these are the two primary outputs of the Dakota Prairie Grasslands.

Livestock

In 2002 the Dakota Prairie Grasslands provided forage for 432,956 Animal Unit Months, or AUMs. One AUM is the equivalent of a 1,000-pound cow and her calf grazing for 1 month. This number was down on the Grand River and Medora Ranger Districts due to drought reductions made near the end of the season in 2002.

The grazing information for 2002 really does not reflect implementation of the Grasslands Plan. As indicated in the Introduction under the heading "Delayed Implementation of Grazing Portions of the Grasslands Plan", implementation of the grazing portion of the Grasslands Plan is being delayed pending the development and review of 64 sample Allotment Management Plans. Therefore, it will probably be at least two years until changes in grazing due to the Grasslands Plan are initiated, and it may be several years after that until effects of the changes can be determined through monitoring.

Oil and Gas

In 2002, the Dakota Prairie Grasslands had output and budget targets associated with Geological/Paleontology reports, Energy Operations Processed and Energy Operations Administered to Standard. In regard to reports, four were completed at a cost of $31,000. This was 100% of targeted outputs. Energy Operations Processed were 71, which is slightly greater than the 68 targeted. These outputs include Applications for Permit to Drill or Re-enter a well (APD), Sundry Notices, Geophysical Permits, Operations on Outstanding/Reserved mineral

leases and Mineral Related Special Use Permits. Cost of processing Energy related Operations was $414,000. Energy Operations Administered to Standard were 1,004, which is slightly greater than the targeted output of 998. These operations include oil/gas wells under APD/Surface Use Plan of Operations (SUPO), wells on outstanding/reserved minerals, existing geophysical permits and mineral related special use permits. Cost of administering these operations was $471,000, making the total expenditures $916,000 for all operations and reports. These costs were less than the allocated budget of $1,080,000.

Appeals and Litigation

Grasslands Plan Level Appeals

The Grasslands Plan itself was appealed by several entities. Appeals are at the Forest Service Washington Office and no decisions on them have yet been made.

Project Level Appeals

There were no appeals in fiscal year 2002 of projects that were signed under the new Grasslands Plan.

Litigation Involving the Grasslands Plan

In 2002, there was no litigation involving the Grasslands Plan.

Grasslands Plan Amendments (or Implemented Changes)

There were no amendments to the Grasslands Plan in 2002, which would be expected considering that the Plan was signed late in the fiscal year.

Contacts and Information

Following is a list of Grasslands personnel who can be contacted for more information about this monitoring and evaluation report.

Table 9: Names and telephone numbers of people who contributed to the monitoring and evaluation report for fiscal year 2002 and/or are members of the Dakota Prairie Grasslands Monitoring Team.

Name	Telephone Number	Resource Area(s) Addressed
Grasslands NEPA Coordinator* (position vacant at printing)	(701) 250-4443	Implementation, Plan Amendments, Appeals and Litigation
Jeff Adams	(701) 225-5151	Streams, Woody Draws
Curt Glasoe*	(701) 225-5151	Engineering, Trails
Darla Lenz*	(701) 250-4443	Botany
Sheila McNee*	(701) 250-4443	Range, Noxious Weeds

Table continued on page 31.

Table 9 continued.

Name	Telephone Number	Resource Area(s) Addressed
Kurt Hansen	(605) 374-3592	Range, Noxious Weeds
Bernadette Braun	(701) 683-4342	Range, Noxious Weeds
Larry Melvin*	(701) 250-4443	Oil and Gas, Paleontology
Phil Sjursen*	(701) 250-4443	Geographic Information Systems (GIS)
Dan Svingen*	(701) 250-4443	Wildlife, Fisheries
Tom Turck*	(701) 250-4443	Archeology, Recreation
Jennifer Berger	(701) 225-5151	Recreation
Steve Williams*	(701) 250-4443	Travel Planning, Economics
Mark Gonzalez*	(701) 250-4443	Soils and Hydrology
Debbie Johnson*	(701) 250-4443	Lands
Maure Sand*	(701) 250-4443	Fire

* Indicates the person is a member of the Dakota Prairie Grasslands Monitoring Team.

Copies of the Grasslands Plan, the associated Final Environmental Impact Statement, and its Record of Decision can be found on the Web at http://www.fs.fed.us/ngp/docs.html. They can also be obtained from the Dakota Prairie Grasslands offices listed below:

Table 10: Dakota Prairie Grasslands offices with contact names and addresses.

Office	Line Officer	Address	Telephone Number
Dakota Prairie Grasslands	**Dave Pieper, Grasslands Supervisor**	**240 Century Avenue Bismarck, ND 58503**	**(701) 250-4443**
Grand River Ranger District	**Jack Isaacs, District Ranger**	**1005 5th Avenue West PO Box 390 Lemmon, SD 57638**	**(605) 374-3592**
McKenzie Ranger District	**Frank Guzman, District Ranger**	**1901 South Main Street Watford City, ND 58854**	**(701) 842-2393**
Medora Ranger District	**Ron Jablonski, District Ranger**	**161 21st Street West Dickinson, ND 58601**	**(701) 225-5151**
Sheyenne Ranger District	**Bryan Stotts, District Ranger**	**701 Main Street PO Box 946 Lisbon, ND 58054**	**(701) 683-4342**

The Dakota Prairie Grasslands website, http:/www.fs.fed.us/r1/dakotaprairie, contains information and documents related to monitoring, evaluation and other aspects of Grasslands management.

Grasslands Supervisor Approval

I have reviewed this annual Grasslands Plan Monitoring and Evaluation Report for fiscal year 2002. This report meets the intent of the Grasslands Plan, Chapter 4, and 36 CRF 219.

This report is approved.

David M. Pieper — September 30, 2003

DAVID M. PIEPER — Date