Thunder Basin National Grassland

2004 Monitoring and Evaluation Report

October 1, 2003 through September 30, 2004

United States Forest Service
Rocky Mountain Region

February, 2006

Forest Certification

The Thunder Basin National Grassland Land and Resource Management Plan (Thunder Basin Plan) was approved on July 31, 2002. The Plan is a dynamic document, subject to change based on annual monitoring and evaluation as we implement it. Monitoring is intended to provide me with information necessary to determine whether the Plan is sufficient to guide management of the Thunder Basin National Grassland for the subsequent year or whether modification of the plan or modifications of management actions are necessary.

Overall, the 2004 Monitoring and Evaluation results indicate that the management of the Thunder Basin Grassland meets goals, objectives, standards and guidelines, and management area prescriptions. I have reviewed the 2004 Annual Monitoring and Evaluation Report that was prepared by the Forest Interdisciplinary Team. It contains limited data and monitoring results. A technical team of experts is assisting the ID team in developing monitoring protocols that will be implemented in future years.

The Forest ID Team has not identified any modifications to the Plans or adjustments to management actions. The Thunder Basin Plan is sufficient to continue to guide management of the National Grassland.

Please contact Frank Romero at the Medicine Bow-Routt National Forests and Thunder Basin National Grassland, 2468 Jackson Street, Laramie, Wyoming, 82070, or call (307) 745-2300, if you have any specific concerns, questions, or comments about this report.

_____ */s/ Mary H. Peterson*_____ _2/2/2006_____
MARY H. PETERSON Date
Forest Supervisor

Introduction

The Thunder Basin National Grassland (TBNG) is located in northeastern Wyoming in the Powder River Basin between the Big Horn Mountains and the Black Hills. The Grassland ranges in elevation from 3600 feet to 5200 feet and the climate is semi-arid. Land patterns are very complex because of the intermingled federal, state and private lands. The Grassland abounds with wildlife year-round, provides forage for livestock and is underlain with vast mineral resources. There are opportunities for recreation including hiking, sightseeing, hunting and fishing.

The Thunder Basin National Grassland Plan was revised as part of the Northern Great Plains Management Plans Revision process. The revision issued a combined EIS for the revision of 10 national grasslands and national forests in the northern Great Plains. Separate Records of Decision (ROD) were then signed for each unit, with the TBNG ROD being issued in July, 2002. The documents associated with the plan revision and ROD can be viewed at: http://www.fs.fed.us/ngp/docs.html

This Monitoring Report is organized according to the Government Performance and Results Act of 1993 (GPRA) goals where practicable. These goals are: Ecosystem Health, Multiple Benefits to People, Scientific and Technical Assistance, and Effective Public Service.

Scientific Technical Review Committee

As outlined in the Record of Decision, dated July 31, 2002, the Regional Forester realized that there are still concerns by some that the projected effects in the EIS underestimate what the real effects will be and that there is uncertainty about the effects of implementing the revised standards and guidelines. In an attempt to address this concern, the Regional Forester directed the Forest Supervisor to establish a scientific technical review committee composed of representatives from Wyoming Game and Fish Commission, University of Wyoming, Office of the Governor, USDA Forest Service, and Wyoming Department of Agriculture and Oil and Gas Conservation Commission.

The purpose of the committee is to develop a monitoring implementation plan that will describe the methods of monitoring needed to determine how well we are implementing the direction in the Revised Plan, to determine how effective implementation of Revised Plan direction is in meeting desired conditions, and to help us validate assumptions and direction used in the Revised Plan.

On May 21, 2004 individuals from the participating agencies met at the Medicine Bow – Routt National Forest and Thunder Basin National Grassland Supervisor Office in Laramie, WY (see box on the following page):

The purpose of this meeting was to establish the need, purpose and interest of agency representatives to serve on the committee, and to discuss the expectations of what the product outcome would be.

An example of a Monitoring and Implementation Guide was presented that displayed the monitoring questions, measures and protocols. The group also reviewed Chapter Four of the Thunder Basin National Grassland Land and Resource Management Plan - Monitoring and Evaluation.

From this chapter, the group decided to use a format for their Monitoring and Implementation Guide that displays the Monitoring Question, Monitoring Items, Protocols, Frequency of measure, Cost and Responsibility.

On August 5, 2004 an MOU was signed between the Medicine Bow – Routt National Forest and Thunder Basin National Grassland and the State of Wyoming to formalize the Scientific Technical Review Committee.

Scientific Technical Review Committee Participating Agencies

- University of Wyoming:
  - College of Agriculture
    - Dept. of Agriculture and Applied Economics
    - Dept. of Renewable Resources
    - Wyoming Natural Diversity Database
- Office of Governor:
  - Planning and Policy
  - Endangered Species Coordinator
- State of Wyoming:
  - Wyoming Dept. of Agriculture
  - Wyoming Game and Fish
  - Department of Environmental Quality
    - Water Quality Division
    - Air Quality Division
  - Oil and Gas Conservation Commission
- USDA Forest Service
  - Medicine Bow – Routt NFs and TBNG
  - US Forest Service Research

During 2005, the Scientific Technical Review Committee will work with the Thunder Basin Grassland Plan Monitoring and Evaluation Interdisciplinary Team to finalize the monitoring methods to provide an adaptive management approach to make changes and/or evaluate the effectiveness of changes made to the 2002 Revised Plan.

Recommendations

The monitoring methods have not been completed, but selected monitoring did occur in 2004. Based on the information in this report, the Interdisciplinary team recommends no modifications to the Thunder Basin Plan and no adjustment to management actions at this time.

Forest Plan Appeals

Sixteen appeals were filed by a variety of groups and individuals who disagreed with the decisions made as a result of the Northern Great Plains Management Plan Revision Process. The Thunder Basin National Grassland Land and Resource Management Plan Revision was upheld in a decision by the Chief of the Forest Service on February 6, 2004. This appeal decision can be viewed at:

http://www.fs.fed.us/ngp/plan/appeals/appeals.html

Administrative Changes to the Forest Plan

Amendment 1: Dakota, Minnesota, and Eastern Railroad Corporation (DM&E)

One amendment to the TBNG plan has been completed to date. This amendment was signed on September 4. 2003 by the Regional Forester and authorizes rail line construction, operation and maintenance on the Thunder Basin National Grassland, Wyoming. The amendment is in response to a proposal from the DM&E railroad to expand rail operations into the Powder River Basin. The USFS participated as a Cooperating Agency with the Surface Transportation Board in the analysis and preparation of the final Environmental Impact Statement (EIS) for the DM&E proposal.

The EIS concluded that there was a need for the DM&E to construct and operate a rail line across portions of the Thunder Basin National Grassland. It also concluded that approval of the project on NFS lands would be inconsistent, in some instances, with the standards and guidelines in the revised Land and Resource Management Plans (LRMP).

This amendment modifies specific standards and guidelines for the railroad corridor and adjacent areas. The amendment can be found on the forest website:

http://www.fs.fed.us/r2/mbr/projects/specper/adobepdf/appxEdoc.pdf

New Laws, Regulations and Policies

Planning Regulations

On January 5, 2005, a final planning rule was published in the Federal Register. This rule supercedes the 2000 rule and implements the 1976 National Forest Management Act (NFMA). The 2005 Rule contains direction for modifying Forest and Grassland Plans that were developed under previous planning rules. We initiated this review prior to publication of the new rule. If this review results in a decision to correct, amend or

revise the 2002 Plan, the Forest will adhere to the 2005 rule, specifically 36 CFR 219.14 to accomplish that work.

Roadless Area Conservation

Roadless Area Conservation, also known as the roadless rule, has undergone many challenges and changes over the past several years. Currently, the previous interim roadless direction was extended with slight changes on January 16, 2006. This direction guides the current management of the Forest's roadless areas until such time as this direction is removed or enjoined.

This roadless direction established the State Petitions Rule, which is a process to provide Governors an opportunity to establish or adjust management requirements for National Forest System inventoried roadless areas within their States. USDA will accept state petitions until November 13, 2006. Wyoming had not filed a petition as of January, 2006.

The current interim direction and other information regarding roadless area direction and management can be found at the following website:

http://www.roadless.fs.fed.us/

Monitoring items

The National Forest Management Act (NFMA) requires specific legally required monitoring items for forest and grassland plan implementation as well as additional monitoring that will be conducted based on the availability of funding and personnel. The discussion and results of the monitoring items are given below. These items are listed in Chapter 4 in the TBNG Plan

Ensure Sustainable Ecosystems

Aquifer Protection

Goal 1.a, Objective 5
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring items asks the question:

> ***To what extent have aquifers been protected from contamination from abandoned wells?***

Monitoring protocol/ data collected: Compliance monitoring is conducted to determine if wells currently being abandoned are plugged properly. Monitoring to determine if past abandoned wells have been plugged occurs infrequently.

Results / Evaluation: Groundwater aquifers on the Grassland provide water for domestic and livestock uses. Abandoned wells, if not properly sealed, can provide a direct conduit for surface water carrying pollutants to groundwater. Groundwater contamination could limit or increase the costs of water use for domestic or livestock purposes.

Figure 1. Cottonwoods along the Cheyenne River.

Oil and Gas Wells

There are an estimated 727 abandoned conventional oil wells on the Grassland. Of the conventional oil wells abandoned from 2003 to 2004, 100 percent were found to be properly plugged based on monitoring conducted by Douglas Ranger District Minerals Staff. The Wyoming Oil and Gas Conservation Commission regulates plugging of oil and gas wells in part to prevent pollution of freshwater supplies. Since standard procedures are in place to ensure oil wells are plugged before they are abandoned, it is assumed that most of the 727 abandoned oil wells have been properly plugged.

Water Wells

The number of abandoned domestic and livestock water wells has not been summarized, but efforts are underway to update this information. WYDEQ regulations require the plugging of abandoned stock and municipal wells, but it is unknown to what extent these regulations have been followed on the Grassland. There are no known incidents of aquifer cross contamination on the Grassland.

Recommendations: Continue efforts to monitor oil and gas wells currently being closed to ensure they are properly plugged to prevent contamination of freshwater supplies. A comprehensive effort to determine if historic abandoned wells have been properly plugged could be adopted when funding allows. Efforts should continue to update information related to abandoned stock and domestic water wells on the Grassland.

Black Footed Ferret

Goal 1.b, Objective 2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***To what extent are NFS lands and their management contributing to the recovery and viability of black-footed ferrets?***

Monitoring Protocol/Data Collected: Acres of active prairie dog colonies; Acres planned for ferret reintroduction; progress toward such a reintroduction effort.

Results/Evaluation: Thunder Basin is currently managing 47,890 acres for the potential reintroduction of the black-footed ferret. Currently this area has an increasing population of black-tailed prairie dogs which are the primary preybase of ferrets. Within the entire National Grassland there are 9,550 acres of active prairie dog colonies.

Figure 2. Black Footed Ferrets. (Photo courtesy of USFWS)

In 2004, the District began work on a Prairie Dog Management Strategy, and assisted in the on-going work (such as prairie dog surveys) towards reintroducing black-footed

ferrets as an experimental and non-essential population in eastern Wyoming. All of this effort is designed to eventually contribute to the recovery of the black-footed ferret.

Recommendations: Continue to manage for increasing prairie dog numbers – especially in and around the Black-footed Ferret Reintroduction Management Prescription area.

Continue work with the U.S. Fish and Wildlife Service to permit the reintroduction of ferrets on Thunder Basin. In FY06, work with Wyoming Game and Fish to reintroduce black-footed ferrets on Thunder Basin National Grassland.

Bald Eagle

Goal 1.b, Objective 2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***To what extent are NFS lands and their management contributing to the recovery and viability of bald eagle?***

Monitoring Protocol/Data Collected: Number of winter-roost and nest sites of bald eagles.

Results/Evaluation: Thunder Basin is currently monitoring and managing habitat around 12 known bald eagle winter-roost sites and 1 bald eagle nest site on National Forest System Lands within the Thunder Basin Grassland. We currently manage for 2 additional bald eagle nests located adjacent to NFS lands.

Recommendations: Consider mitigation measures, including burying powerlines, to minimize effects of new powerlines on bald eagles and other avian species at risk. The TBNG Grassland Plan Special Use Guideline P3 directs burial of all electrical utility lines of 33 KV or less in most areas. Exceptions to burying of powerlines may occur where the protection of human health or safety would be better accomplished with an above ground line, where the line would be in existence for less than five years, or where the line is within five miles of an active coal mine and is in the direction of the mine development.

Mountain Plover

Goal 1.b, Objective 2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***To what extent are NFS lands and their management contributing to the recovery and viability of mountain plovers?***

Monitoring Protocol/Data Collected: Acres of active prairie dog colonies that provide suitable habitat for plovers. Number of projects incorporating design features to reduce adverse effects to the mountain plover.

Results/Evaluation: Three Coal Bed Methane (CBM) wells were modified in location, and a protective timing stipulation was placed on 5 CBM wells to protect mountain plover nesting habitat. In addition, black-tailed prairie dog colonies provide suitable habitat for plovers on TBNG. Prairie dog populations continue to recover from the Sylvatic Plague epidemic of 2001, which has led to an increase in active black-tailed prairie dog colonies by 76% since 2003 with a current total area of 9,550 acres of active colonies.

Recommendations: Continue to manage for increased acres of prairie dog colonies as suitable habitat for mountain plover. Continue to design projects to minimize or eliminate adverse effects to mountain plover. Initiate annual plover surveys using the USFWS protocol.

Multiple Benefits to People

Effects of Off Road Vehicles

Legally Required Monitoring Item
Goal 2.a and 4.a
Frequency of Measurement: Two Year
Reporting Period: Two Year

This monitoring item asks the question:

> ***What are the effects of vehicle use off roads?***

Monitoring protocol/ data collected: No organized on-site monitoring was conducted during 2004 for this monitoring item. However, in 2004, a Grassland-wide Roads Analysis Report (RAP) was completed which addressed the effects of roads on resources, including vehicle use off designated roads. The following synthesis of the effects to various resources as presented in the Thunder Basin Roads Analysis will give an overview, while more site specific monitoring is developed for subsequent years.

Results / Evaluation: Prior to the 2002 Revision of the Thunder Basin National Grassland Plan, vehicle use was allowed both on and off roads on most portions of the Grassland. The 2002 Thunder Basin Grassland Plan, "prohibits all motorized cross-

country travel off existing roads and trails, except for authorized emergency service and administrative use." (Thunder Basin National Grassland Plan, Standard Q #1). A Travel Management Order was issued in June, 2003 in order to begin implementing that decision. This travel management direction is a significant change for many Grasslands users.

The 2004 RAP identified effects of roads on various resources. While the analysis focused on higher-use roads, many of the impacts resulting from roads are similar whether the road is a designated National Forest System Road (NFSR) or the road is user-created and the use takes place illegally off the designated routes.

Some issues specific to vehicle use off designated roads that were addressed during the Thunder Basin Road Analysis include:

1) Higher road densities and ineffective road closures may promote illegal use of existing unclassified roads, which may increase road densities by the creation of new unclassified roads and additional illegal use. This use can:

    - Fragment or isolate habitat.
    - Disturb wildlife nesting and rearing.
    - Reduce habitat effectiveness.
    - Degrade the quality of big game hunting.
    - Increase sediment yield to streams.
    - Increase the spread of noxious weeds.
    - Modify hydrologic processes and restrict movement of aquatic species.

2) Ineffective road closures can result in illegal use, which can adversely impact resources. Road closure efforts in the open terrain of the Grassland are difficult.

3) Increasing demand for motorized trail opportunities is not being met with the existing road and trail system, leading to illegal off-road use.

Additional issues were raised in the RAP that speak more specifically to OHV use on existing roads. These include:

1) Mixed use traffic is a safety concern.
2) Inconsistent regulations across jurisdictions regarding OHV use cause confusion and potential safety issues.

Travel management planning should address the safety concerns of OHV use on existing roads and trails. Traffic safety studies involving such mixed use is being developed and will be part of the new manual direction for OHV use on designated routes.

Recommendations: The following recommendations for addressing vehicle use off designated roads are taken from the 2002 Thunder Basin Roads Analysis Report:

Access Needs: *General Transportation Opportunities*

- Inform road users of the type of travel permitted on TBNG roads through

appropriate signing and education, especially when the road crosses through multiple jurisdictions.
- Develop a cost effective plan for conducting an inventory of unclassified roads.
- Monitor high road density areas for illegal off-road use or the signs thereof.

Environmental Concerns:

Opportunities for Addressing Risks to Wildlife/Sensitive Species

- Develop an education program regarding the adverse effects of both off-road travel and motorized use of closed roads on wildlife and aquatic resources. Education may be the best tool to discourage additional development and use of unclassified roads.
- Develop a strategy to inventory unclassified roads.

Opportunities for Addressing Risks to Aquatic Communities

- Develop an education program regarding the adverse effects of both off-road travel and motorized use of closed roads on aquatic resources
- Conduct a survey of roads with potential to impact wetland habitats, particularly playas. (See question AQ(8) for a list of potential survey targets.)

Opportunities for Addressing Noxious Weed Risks

- Restrict travel through areas with active noxious weed infestations until they can be treated.
- Monitor those areas with high road density and high road use for invasive species establishment and spread.

Illegal Use and Road Safety Concerns: *Recreation Opportunities*

- Develop an education program regarding the adverse effects of both off-road travel and motorized use of closed roads on vegetation, wildlife, and aquatic resources.
- Develop educational material and signage to help users understand appropriate motorized and non-motorized uses, as well as restrictions to motorized use.
- Monitor inventoried roadless areas for illegal off-road use, and potential for user created roads.
- Monitor visitor use for the TBNG to determine the overall current and likely future demands on the road system from recreation.
- Inventory and evaluate low value, low risk roads for their potential as motorized trails. Work with user groups from Gillette, Newcastle, Upton and Moorcroft.

Outdoor Recreation

Goal 2.a Objectives 1 and 7
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

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

Monitoring protocol/ data collected: Miles of trail maintained to standard, reports of conflicts among trail users.

Results/Evaluation: The Thunder Basin National Grassland has 20 miles of single track motorized trail. This trail is maintained annually by a local volunteer group – The Inya Kara Riders. They maintain the trail to meet or exceed regional standards and also run an annual enduro race over this trail network. There are no conflicts with hikers, however there are starting to be conflicts with a few ATV riders who are attempting to ride the single track trail with ATVs.

Recommendations: Continue to work with volunteer groups to help accomplish trail maintenance. Develop methods to deter unauthorized use by ATVs on single track trails.

Community Relations

Goal 2.c
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***What are the effects of National Forest System Management on adjacent communities?***

Monitoring protocol/ data collected: The monitoring design for this question would include: 1) National Forest System related jobs and income, 2) Community tourism receipts, 3) Federal receipts and 4) Federal revenue sharing with state and local governments.

Results/Evaluation: During 2004, the five counties that include NFS lands received payments of $1,082,726 from National Grassland receipts. The distribution for each county follows:

Campbell County	$287,141
Converse County	346,567
Crook County	595
Niobrara County	1,656
Weston County	446,767

Given the cost, the lags in data availability and annual variability, conducting this type of monitoring on an annual basis may not be feasible. That is particularly true of the NFS related jobs and income monitoring item.

Recommendations: Consider in 2005 on whether to conduct this monitoring on a five year basis or to continue monitoring this item annually.

Comparison of Estimated and Actual Outputs and Services

Legally Required Monitoring Item
Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***Are the projected annual outputs and services being met annually and at anticipated costs?***

The outputs tracked for this monitoring report include forage provided to domestic livestock; noxious weed control, terrestrial wildlife habitat, and minerals permit processing and operations, as these are the primary outputs of the Thunder Basin National Grassland. Due to changes in how we do budget and finance, costs are not tracked in this report, however, costs and outputs will be tracked in the 2005 and future monitoring reports.

Rangeland Outputs

Year 2004 was the fifth consecutive year of this extended drought, and following 2002 – the driest year since Wyoming became a state (in 1890). Up until 2004, the Grassland had received scattered, moderate amounts of winter and spring moisture, and conditions had been somewhat better than other areas of the state.

However, this year it became the Grassland's turn as the Thunder Basin had probably the worst climatic conditions to be found anywhere across the state and the Region; some areas, particularly along the Antelope Creek and Cheyenne River drainages, had little winter, no spring moisture, and much of that area did not ever green up.

Figure 3. Cows and Elk on the Thunder Basin National Grassland.

Table 1. Livestock Grazing Use for 2004

Livestock Grazing	2004 Output (animal unit months)
Cattle	89,580
Sheep	3,881
Total Use	93,461

Grazing use is measured using animal unit months (AUMs) which is a standard unit for each type of livestock, for example, 1 AUM for cattle is the amount of forage that one cow would eat in one month.

Non-use of animal numbers for resource protection was about 25%, with the total amount of grazing use at about 81% of the projected TBNG Plan level of 115,430 AUMs. State-wide, ranchers have now sold off about 40% of their base herds; the economic effects are rippling throughout the local and state economies.

Noxious Weed Control
In 2004, the primary noxious weed species treated were leafy spurge, diffuse knapweed, saltcedar (tamarisk), and Canada thistle, with a total of 327 acres treated.

Terrestrial Wildlife
In Fiscal Year 2004, habitat conditions were generally affected by another year of extended drought. This had varying affects on species of concern.

For instance, the habitat suitability of the plains sharp-tailed grouse appeared to improve as shrubs continued to give way to increased grass cover. This upland bird appears to do well in a primarily grass-dominated cover type. Correspondingly, we found previously unknown leks of the plains sharp-tailed grouse in FY04.

Recovery from the plague has increased acreage of active prairie dog colonies by about 76%, from about 5,400 acres of active prairie dog towns in 2003 to about 9,550 acres in 2004. This, combined with a 72,500-acre shooting closure for prairie dogs and no prairie dog poisoning, bodes well for a potential reintroduction of black-footed ferrets in future years, for which we continue to plan on 47,890 acres of grassland.

Figure 4. Sharp Tailed Grouse

However, drought and mineral development reduced the habitat suitability of sage grouse. Across the grassland, drought reduced the cover of sagebrush on which this upland bird depends for food and shelter. Whereas in the highly industrialized mineral development area of the Grassland, habitat alteration, disturbance, and powerline construction has further reduced the habitat suitability of the sage grouse. Correspondingly, sage grouse numbers appear to be declining in this section of the Grassland. Similarly, drought has reduced the quality of deer habitat.

Minerals
The following administration and permit processing was accomplished on the TBNG during 2004.

Energy Operations Processed: In 2004, 253 Energy Operations were processed, and are broken down as follows:

- 235 Oil/gas
- 10 Oil/Gas Sundry Notices
- 5 Mineral Related Special Use Permits (tank batteries, powerlines to wellsites, pipelines, etc)
- 3 Coal Mine Plans
- 4 Coal Lease by Applications processed for 4076.4 acres
- 7 Mineral Material Permits processed (1,183,865 tons for $591,932.00)

Figure 5. Loading a coal truck at a coal mine on TBNG.

Operations Administered to Standard: In 2004, 520 operations were administered to standard, including:

- 2 Bonded Mineral Material Sales
- 470 Oil/Gas wells
- 5 Surface Coal Mine Plans
- 5 Mineral related special Use Permits
- 3 Geologic Resources

Oil and Gas Wells: There were 13 new oil/gas wells drilled, in addition to 2 wells plugged and abandoned and 2 spills inspected and administered.

Geologic Resources: 14 Geologic Permits and Reports were prepared.

Scientific and Technical Assistance

Administration

Goal 3, Objectives 1,2 & 3
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***Are the action plans identified in Goal 3 - Scientific and Technical Assistance, being completed on schedule?***

Monitoring Protocol/Data Collected: A review of the schedule for action item implementation and a description of action items implemented.

Results/Evaluation: Objective 1; Inventory and Monitoring: Inventories were conducted for nesting raptors, breeding sage grouse, breeding sharp-tailed grouse, foraging bats, and presence/absence of frogs. Monitoring was conducted for known raptor nests, in addition to known sage and sharp-tailed grouse leks.

Figure 6. Sage Grouse.

Objective 2; Provide Research Results: Both an interim report on the Tri-National Investigation of Ferruginous Hawk Migration and an annual report on sylvatic plague monitoring and prairie dog monitoring were provided during 2004. A demographic study on burrowing owls was completed in 2004 by a graduate student.

Objective 3: Establish new monitoring, and implement existing monitoring for MIS: Monitoring was continued for all known sage and sharp-tailed grouse leks. New leks were added into the established monitoring plan. Black-tailed prairie dogs continued to be monitored for activity levels and new towns were entered into monitoring plans.

We are participating in the development of Northeast Wyoming Sage Grouse Conservation Plan with Wyoming Game and Fish. This plan will establish new management recommendations for the conservation of this species.

Recommendations: Continue to monitor, inventory, and pursue administrative studies, as appropriate, especially maintain inventory and monitoring of sensitive species, MIS, and species of local interest. Report results of these studies in future monitoring reports.

Effective Public Service

Threatened and Endangered Species

Goal 4b
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***Are actions identified in national recovery plans for threatened and endangered species being implemented where opportunities exist on the national grasslands and forests?***

Monitoring Protocol/Data Collected: A review of the opportunities to implement national recovery plans and a description of any actions taken in support of a National Recovery Plan.

Wildlife
Results/Evaluation: There is an opportunity to implement actions in support of the Black-footed Ferret Recovery Plan. In 2004, the District began work on a Prairie Dog Management Strategy, and assisted in the on-going work towards reintroducing an experimental and non-essential population of black-footed ferrets in eastern Wyoming.

In 2004, no opportunities were identified to implement any action items in the Bald Eagle Recovery Plan on TBNG.

Recommendations: Continue to plan for a ferret reintroduction through continuing to work with the U.S. Fish and Wildlife Service and Wyoming Game and Fish. In FY06, work with Wyoming Game and Fish as they apply for black-footed ferrets from the USFWS for reintroduction on Thunder Basin National Grassland. Continue to manage for increasing prairie dog numbers – especially in and around the Black-footed Ferret Reintroduction Management Prescription area.

Continue to conduct nesting raptor inventories, including nesting Bald Eagles.

Plants
Results/Evaluation: There are no documented occurrences of Threatened or Endangered Plant Species on the Thunder Basin National Grassland at this time. There are documented occurrences of Ute Lady's Tresses Orchid (*spiranthes diluvialis*), a threatened plant species, near to the TBNG, and potential habitat for this plant species exists on the TBNG.

Recommendations: Continue to conduct inventories for Utes Lady's Tresses.

Implementation Monitoring

Implementation of Standards and Guidelines

Legally Required Monitoring Item
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

> ***Have site-specific decisions successfully implemented the Land and Resource Management Plan Direction?***

Monitoring Protocol/Data Collected: There was no interdisciplinary field review of projects that implement the Plan in 2004.

Recommendations: Schedule field reviews for 2005 and future years. Field reviews were conducted during the summer of 2005, and the results will be incorporated into the 2005 monitoring report.

Interdisciplinary Team

Carol Purchase	Monitoring and Evaluation Team Leader
Jena Hickey	Terrestrial Wildlife Biologist
Greg Eaglin	Fisheries Biologist
John Proctor	Botanist
Dave Gloss	Hydrologist
Derek Milner	Soil Scientist
Ann Marie Verde	Transportation Planner
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Tom Florich	Minerals Specialist
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