

**BLACK HILLS NATIONAL FOREST**

**MONITORING AND EVALUATION REPORT**

**FOR**

**FISCAL YEAR 1998**

# TABLE OF CONTENTS

Monitoring Item 1: Air Quality.....	3
Monitoring Item 9: Vegetative Diversity - Snag Retention.....	4
Monitoring Item 11: Down/Dead Woody Material .....	6
Monitoring Item 13: Regeneration.....	8
Monitoring Item 14: Timber Production.....	9
Monitoring Item 17: Forage Utilization.....	10
Monitoring Item 20:	
Sub-Item 20a: Pine Beetle Susceptibility .....	12
Sub-Item 20b: Pine Beetle Levels and Trends.....	13
Sub-Item 20c: Insect and Disease Evaluations .....	14
Monitoring Item 21: Exotics.....	15
Monitoring Item 22: Fuel Loading Hazard.....	16
Monitoring Item 23: Fuel Treatment .....	17
Monitoring Item 24:	
Sub-Item 24a: Fire Suppression.....	18
Sub-Item 24b: Fire Prevention.....	19
Monitoring Item 25: Wildlife - Threatened and Endangered Species .....	21
Monitoring Item 26: Wildlife - Habitat Capability Relationships Including Management Indicator Species (MIS) .....	22
Monitoring Item 27: Scenic Integrity .....	23
Monitoring Item 28: Heritage Resources.....	24
Monitoring Item 30: Recreation Opportunities.....	25
Monitoring Item 31: Recreation Use, Trends and Demographics .....	28
Monitoring Item 32: Road Mileage .....	36
Monitoring Item 33: Off-Road Vehicle Access.....	37
Monitoring Item 34: Trail Opportunities .....	38
Monitoring Item 35: Right-Of-Way Acquisition.....	39
Monitoring Item 36: Land Adjustment .....	40

Monitoring Item 37: Budget .....	41
Update Research Needs .....	45
Appendix:	
Public Monitoring Trips.....	47
Implementation of Goals And Objective .....	48
Standard Compliance .....	55

# LIST OF PREPARERS

<b>Item #</b>	<b>Monitoring Item</b>	<b>Preparer</b>
1	Air Quality	Dean Berger
9	Snag Retention	Barry Parrish
11	Down/Dead Woody Material	Dean Berger
13	Regeneration	Blaine Cook
14	Timber Production	Blaine Cook
17	Forage Utilization	Terry Padilla
20a	Pine Beetle Susceptibility	Blaine Cook
20b	Pine Beetle Levels and Trends	Blaine Cook
20c	Insect and Disease Evaluations	Blaine Cook
21	Exotics	Blaine Cook
22	Fuel Loading Hazard	Dean Berger
23	Fuel Treatment	Dean Berger
24a	Fire Suppression	Dean Berger
24b	Fire Prevention	Dean Berger
25	Threatened and Endangered Species	Barry Parrish
26	Wildlife - Habitat Capability Relationships	Barry Parrish
27	Scenic Integrity	To Be Completed
28	Heritage Resources	Dave McKee
30	Recreation Opportunities	Gene Singsaas
31	Recreation Use, Trends and Demographics	Gene Singsaas
32	Road Mileage	Tom Rath
33	Off Road Vehicle Access	John Rupe
34	Trail Opportunities	Tom Rath
35	Right-of-Way Acquisition	Glenn Kostelecky
36	Land Adjustment	Glenn Kostelecky
37	Budget	John Rupe

# **Black Hills Forest Plan**

## **Monitoring and Evaluation Report**

### **Fiscal Year 1998**

**(October 1997 through September 1998)**

#### **What This Document Is:**

This is the annual monitoring and evaluation report for the Black Hills Land and Resource Management Plan (Forest Plan.) A revision of the Forest Plan was completed in June 1997. There have been no subsequent amendments.

The basis for the annual monitoring report is in chapter four of the Forest Plan. This report does not discuss all of the inventory and monitoring which occurs in the Black Hills, but only monitoring information related to the Forest Plan. More detailed studies may occur in association with individual projects which implement the Forest Plan. When relevant to Forest-wide trends, information from these site-specific projects are incorporated into Forest-wide monitoring.

There are several different environmental factors which are monitored each year, but not every item is scheduled for evaluation and reporting on an annual basis. Chapter four of the Forest Plan indicates how often each item is reported. Since Fiscal Year 1998 is the first full year of implementation under the newly revised Plan, this report contains only those items intended for reporting on an annual basis.

There are three major purposes for Forest Plan monitoring: checking its implementation, assessing its effectiveness, and validation of the assumptions used in its development.

The implementation of the Forest Plan is discussed in the appendix of this Report. The goals and objectives of the 1997 Revised Forest Plan are listed along with accomplishments in Fiscal Year 1998 (FY 1998). A review of compliance with standards and guidelines is also discussed in the appendix.

For those items reported on an annual basis, this report provides an initial look for some environmental factors regarding the effectiveness of the Forest Plan and validation of its assumption.

Supporting documentation for this report is located in the Supervisor's Office, Black Hills National Forest.

#### **Major Conclusions:**

This is the first reporting year for monitoring information under the newly revised Forest Plan. Therefore, no conclusions can be drawn from much of the data at this point. However, several amendments to the Forest Plan may be necessary in the coming year. If any amendment efforts were to be initiated this year, a proposed action would first be developed for public review. Possible amendments or corrections include:

- Modification of the deer and elk habitat effectiveness guidelines.
- Corrections to three watershed standards to reflect recent changes in the Regional Watershed Conservation Practices handbook.
- Modifications to snag requirements in large recreational developments.  
The need for this amendment arises from an error in development of the final Forest Plan and would implement the original intent of the planning team.



## **Monitoring Item 1: Air Quality**

The Black Hills National Forest continued to provide representation at the quarterly Pennington County Air Quality Board meetings during 1998.

The Forest experienced no violations of the Clean Air Act on the Black Hills National Forest in 1998 nor were there any air quality complaints from individuals or other entities attributed to National Forest project activities (South Dakota - Administrative Rules - Article 34:10; Wyoming - Environmental Quality - Chapter 9.1).

Prescribed burning including burning of forest residue piles on the Black Hills National Forest, remain the single greatest potential air degradation activity. The recently revised Land and Resource Management Plan directs the Forest to increase prescribed burning activity to a level of 8000 acres annually. The increase in burning activity of this nature is likely to be offset by a reduction in the amount of other types of burning that occur including wildfire and forest residue disposal.

The following mitigation actions are implemented on the Black Hills National Forest during prescribed burning activities to minimize air quality degradation.

- 1) Receptors such as subdivisions, roads, towns and other air-quality sensitive areas are identified during the prescribed burning planning process.
- 2) Burning prescriptions are identified in the "prescribed burn plan" to ensure that the air quality standards are maintained in receptor areas.
- 3) Prior to implementation of an approved prescribed burn project, weather conditions (predicted and current) including smoke dispersal predictions, are assessed to insure that smoke management criteria can be met.
- 4) Air quality is monitored on site and at receptor areas during burn implementation to insure that air quality remains within identified parameters.

The Black Hills region has no non-attainment areas identified at this time. Rapid City, South Dakota remains the key area of concern in that it is close to being designated as a non-attainment area for PM-10 which is a pollutant often produced by smoke and dust. The concern for air quality in the Rapid City area has resulted in the Forest working out guidelines jointly with the Rapid City Air Quality Office for all National Forest burning activities. This 1995 guideline places more restrictive measures for all forms of open burning planned on National Forest land in the Rapid City air shed. The Forest continues to work with the Pennington County Air Quality Office in mitigating all potential air quality impacting activities.

The raw data air quality monitoring information for the Rapid City area is being assimilated into report form as of this date (3/25/99) by the State of South Dakota. A copy will be attached to this report when available (April 99).

A significant improvement to air quality monitoring within the Black Hills interior region will occur as a result of establishing a new monitoring station at Wind Cave National Park in the southern Black Hills (State proposed, late 1999). This station, together with the intense monitoring done in the Rapid City area, will provide valuable air quality information for the Black Hills region.

## **Monitoring Item 9: Vegetative Diversity - Snag Retention**

The Forest Plan Monitoring Implementation Guide calls for establishing permanent snag transects across the Forest. However, it is more efficient and more meaningful to tie snag density estimates to timber sales since these areas generally are susceptible to fuelwood harvest. The data for this report comes from Environmental Assessments prepared by Districts for timber sales.

Forest Plan Standard 2301 calls for a per acre average of 1.08 hard snags at least 10 inches diameter at breast height, and 15 feet tall in conifer forest habitat. Snag density estimates for 13 project areas are presented in the following table. Based on this information several areas of the Forest have a hard snag deficiency. The three Districts reporting more than one Project Area had at least two that did not meet the standard. Snag densities are influenced by two principal factors: proximity to a population center and vehicular access. Many people prefer to cut standing snags for fuelwood. Unfortunately, the best firewood snags also are prime habitat for cavity dependent wildlife such as woodpeckers. Obligate cavity nester populations can be suppressed in areas without sufficient snags well distributed across the landscape.

Mitigation is included in Environmental Assessment Decision Notices for areas with low snag numbers. Typically these consist of leaving sufficient live tree replacements for future snags, road closures which reduce the likelihood of harvest for fuelwood, marking snags with either leave-tree paint or signs to prohibit cutting and/or closing areas to fuelwood harvest. Beginning in 1999 motorized skidding of fuelwood will be restricted. All of these mitigation measures should serve to increase snag numbers through time; however, it will be several years before the influence is detectable. Because of these low numbers, it may be necessary for the Forest to consider additional mitigation measures to bring snag levels up to the required standard.

In the future, project snag data will be supplemented with density estimates from recently closed timber sales. This should yield information on conditions following harvest.

<b>PROJECT AREA</b>	<b>DISTRICT</b>	<b>HARD SNAG DENSITY (SNAGS PER ACRE)</b>
Coyote	Bearlodge	2.19
Crawford	Custer/Elk Mountain	1.44
Goat	Custer/Elk Mountain	0.08
Binford MA-5.1	Custer/Elk Mountain	0.2-0.63
MA-5.4		1.18
MA-5.43		2.82
Big Mac	Custer/Elk Mountain	1.05
Reddog	Pactola/Harney	0.90
Slice	Pactola/Harney	2.90
Crooked	Pactola/Harney	0.70
Uncle	Pactola/Harney	0.75
Lemming	Pactola/Harney	0.90
Boxelder	Spearfish/Nemo	1.01
Veteran/Boulder	Spearfish/Nemo	1.20



# Monitoring Item 11: Down/Dead Woody Material

## Current Condition:

Commercial harvest occurred on 14,307 acres of the Forest in 1998. Mechanized harvest in the form of whole-tree-removal occurred on approximately 60 percent of the area, or about 8,584 acres. Within these areas the majority of waste material, both three-inch and larger in diameter, is deposited at central processing points where it is either disposed of or removed. The only residue left on-site following whole-tree-harvest activities would be from small amounts of breakage which occurred during the activity, and any existing materials. Within these harvest areas, existing down woody material would be expected to average four tons per acre (Photo Series For Quantifying Forest Residues in the Black Hills, A-89-6-82). Depending on the site, the amount of material would range from 1.6 to 7.4 ton per acre.

Conventional harvest activities occurred on 5,723 of the above 14,307 acres. Within these areas waste material was lopped and scattered across the landscape. The amount of three-inch and larger material deposited by harvest activities averaged three tons per acre, ranging from .7 to 12.3 tons depending on the site and the harvest prescription. The average total amount of three-inch-plus material remaining on-site following harvest within this acreage, would be seven tons per acre (includes four tons of pre-harvest material).

There were 8,150 acres of pre-commercial thinning activity on the Forest in 1998. With few exceptions, all waste material generated by this activity is lopped and scattered within the treatment area. Existing three-inch and larger material is estimated at 2.8 tons per acre in these areas. The amount of three-inch and larger material added to this total through thinning treatments amounts to an additional three tons per acre on-average ranging from 1.8 to 12 tons depending on stocking inventory on the site. The total of three-inch and larger material left on-site on the 8,150 acres would average 5.8 tons per acre.

The locations of commercial and pre-commercial harvest activities are inventoried in Timber Sale Project Folders, the Forest Resource Information database, and other project files. Specific information related to three-inch and less in diameter residues created by commercial harvest activities is contained in the Brush Disposal Plans for each harvest project. Site-specific information and recommended fuel treatment is contained on the individual Stand Fuel Assessment Data Sheets filed with respective plans.

## Field Validation of Monitoring Techniques:

Although no timber sales planned under the newly revised plan were harvested in FY1998, the proposed monitoring methods were tested on a timber sale prepared under the previous plan. The indicators are simple: dead woody material on the forest floor greater than three-inch in diameter. A planar intersect sampling method using 100 foot transects to estimate down woody material was used (personal and written communication with Russ Graham, Intermountain Research Station).

Review of this sale was to determine the amount of dead woody material following harvest, and to monitor based on Forest Plan monitoring requirements. Realizing that this active sale was planned prior to the Forest Plan revision, and coarse, down woody debris volumes were not part of the original Forest Plan, coarse woody debris objectives were not included in this sale.

The sampled unit was randomly selected. Ten 100-foot transects were sampled. The end of each transect was the starting point of the next transect. A random starting point direction was used for each of the transects. Photos were taken at the start of each transect line. Sound logs three-inch and

greater (created by timber activities and resulting from natural drop) were recorded along the transect. The information collected was compared to the chart provided by Russ Graham to get an estimate of down woody material per acre.

Results were that down woody material ( three-inch and less), based on an average of the 10 transects, equaled 5.1 tons per acre. This compares favorably with the Revised Forest Plan requirement to maintain 5-10 tons per acre.

## **Monitoring Item 13: Regeneration**

Surveys for natural regeneration were done on 11,499 acres in FY1998. Out of the total acres surveyed, 9,050 acres were certified for regeneration. The remaining 2,449 acres will be surveyed next year to determine certification.

Surveys (first-year, third-year and fifth-year) are conducted before certification is established; certification may be established at any point in the three surveys that regeneration is verified.

## Monitoring Item 14: Timber Production

The Black Hills National Forest timber offer in FY1998 was 148,138 ccf. This includes sawtimber (regular program and salvage sales), products other than logs (POL), small commercial sales and personal use permits (firewood).

The Black Hills National Forest timber harvest volume in FY 1998 was 114,151.81 ccf of sawtimber and 2,050.91 ccf of products other than logs, for a total of 116,202.72 ccf.

The allowable sale quantity in the Forest Plan is based on the total during the decade from fiscal year 1997 to fiscal year 2006. (Record of Decision, page ROD-35). The 10-year allowable sale quantity expressed on an average annual basis:

	Million Cubic Feet (MMCF)	Hundred Cubic Feet (ccf)
Sawtimber	18.1	181,000
POL	2.1	21,000
Total ASQ	20.2	202,000

The following table compares the total for these 1998 project decisions with the estimates for the decade as shown in the 1996 Final Environmental Impact Statement. Since this is the first year of monitoring, it is too early to identify conclusions from this data.

Forest Plan Harvest Method	Decade Total Acres from Alt G in the FEIS, (page II-36)	Project Decision Acres in FY 1998
TOTAL	255,000	47,710

## Monitoring Item 17: Forage Utilization

The following information reflects Forest progress toward implementing and validating Forest Plan Goal 301a. relative to annual projected livestock forage use and Guidelines 2505 and 2506 relative to livestock grazing use of Forest rangeland (including riparian areas) during Fiscal Year 1998.

Developed AMPs and attendant Annual Operating Instructions (AOIs) are the primary means of implementing and evaluating Forest Plan direction for rangeland management on the Black Hills National Forest. Forest AMPs include site-specific monitoring plans and schedules developed to evaluate grazing effects against prescribed management objectives over the planning horizon of the Forest Plan.

During FY 1998, actual grazing use on the Forest was 118,452 AUMs (approximately 93 percent of the annual projected Forest grazing capacity of 128,000 AUMs available for livestock utilization identified in the Forest Plan). Forage utilization relative to livestock grazing was monitored and evaluated on approximately 93,000 acres of suitable rangeland. This assessment represents approximately nine percent of the suitable acres available for livestock grazing Forest-wide. Following, is a breakdown of acres and grazing allotments monitored by Ranger District:

ITEMS MONITORED	CUSTER/ ELK MTN	HARNEY/ PACTOLA	SPEARFISH/ NEMO	BEARLODGE
Acres Monitored and Evaluated for Livestock Forage Utilization	14,000	60,000	10,000	9,000
Grazing Allotments Evaluated	6	9	6	6

Forage utilization data was obtained through on-sight evaluation of forage use on portions of 27 grazing allotments Forest-wide. Methodologies for gathering data included ocular estimation and direct measurements generated through located sampling points and transects. Estimations of forage utilization over assessed portions of the allotments were obtained through extrapolation by estimating utilization on unmeasured areas based on measurements from the sampled areas. Livestock forage utilization was evaluated by comparing estimated forage use with allowable use guidelines incorporated in the Forest Plan and proper use guidelines incorporated in Allotment Management Plans (AMPs) for the allotments of interest. Following are findings and conclusions relevant to the evaluation:

1. While forage availability and resultant use may vary annually dependent on climatic conditions, actual livestock forage use occurring in FY 1998 fell within projected forage availability documented in the Forest Plan.

2. Measured forage utilization exceeded proper allowable use guidelines on some areas within the allotments investigated. However, this use represented a small percentage of the overall livestock use throughout the allotments investigated. In all cases, forage utilization occurring throughout the allotments investigated were determined to fall within Forest Plan utilization standards and allotment management objectives.

3. Variations in the amount of monitoring completed among districts reflects inconsistency in standards and application of methods for utilization monitoring Forest-wide. The Forest needs to standardize monitoring methods for the range program Forest-wide to better reflect Forest Plan grazing effects. The Forest has attempted to address this need in FY 1999 through the issuance of the Black Hills National Forest Monitoring Guide for Grazing Permittees.

4. Investigation of forage utilization on the allotments sampled revealed a need for the Forest to step-up efforts toward fostering cooperative monitoring among grazing permittees. Again, the Forest has attempted to address this need in the permittee monitoring guide.

5. Forage utilization methods applied in FY 1998 investigated short-term use. These assessments did not evaluate actual use with Goals and Objectives of long-term management.

## **Monitoring Item 20**

### **Sub-Item 20a: Pine Beetle Susceptibility**

The Forest Health Management staff at the Rapid City Service Center (Regional Office unit), conducted surveys on the Black Hills National Forest to assess insect and disease problems.

#### **1998:**

Stands in the Black Hills can be hazard-rated for mountain pine beetle. The most current and well-tested system is based on Schmid et al. 1994. In this system each stand is rated, based on average diameter and stand density. Stands that have an average diameter of less than 7.0 inches are rated as low hazard. Stands that have an average diameter of greater than 7.0 inches are then broken down based on density. Low hazard stands have a density of less than 80 square feet of basal area per acre, moderate hazard stands have between 80 and 120 square feet of basal area per acre, and high hazard stands have a density of more than 120 square feet of basal area per acre. All stands Forest-wide were rated using data from the frozen 1995 RMRIS (Rocky Mountain Resource Information System) database. This data indicated there were 1,056,000 acres of susceptible-type (ponderosa pine) on the Forest. Of this, about 621,000 acres (59 percent) were rated as low hazard, 277,000 acres (26 percent) were rated as moderate hazard, and 158,000 acres (15 percent) were rated as high hazard. We would estimate that this rating is skewed towards the low hazard category, based on the age of the rating and the age of the data available in the RMRIS system. Most of the stands rated as low risk are due to low basal areas, a factor that can change significantly in 15-20 years. It is our opinion that the overall percents have shifted to have more, perhaps the majority of the acres, in the moderate hazard category.

## Monitoring Item 20

### Sub-Item 20b: Pine Beetle Levels and Trends

#### 1997:

An aerial survey was conducted in August of 1997 to estimate damage caused by bark beetles, mountain pine beetle and Ips, in ponderosa pine type. Sketch mapping indicated that 5,219 trees were killed on 10,578 acres throughout the Black Hills. This includes all ownerships, although more than 95 percent of the damage was concentrated on National Forest lands. The corresponding estimated volume loss from these insects was 94 thousand cubic feet. This was about four times the amount of damage detected in 1996. Areas of concentrated damage were between Bulldog Gulch and Tilford Gulch, around Steamboat Rock, areas west of Pactola Reservoir, an area by Williams Gulch, and in Spearfish Canyon. On-the-ground surveys were conducted in most of these areas, and a biological evaluation was completed of the Steamboat Rock area.

The remainder of the damage was mostly scattered small spots or single trees. These small spots were probably endemic pockets of mountain pine beetle or Ips beetles, which are impossible to differentiate from the air. Spots located near recent logging, burns, or sawmills are likely Ips. Ips usually build up in drought years when trees are stressed; whereas mountain pine beetle are primarily associated with dense, mature stands of ponderosa pine, and largely regulated by winter temperatures.

In addition to insect activity detected in the aerial surveys, there was a noticeable decrease in areas surrounding the National Forest in populations of pine sawflies and pine butterfly, both defoliators of ponderosa pine.

#### 1998:

An aerial survey was conducted in August 1998 to estimate damage levels caused by bark beetles, mountain pine beetle and Ips, on ponderosa pine. The survey indicated that there were 10,726 trees killed on National Forest land on 10,062 acres. This amounts to an estimated 190 thousand cubic feet of volume lost. An additional 657 trees on 715 acres were killed on lands surrounding the National Forest. This represents nearly a doubling in the level of damage in the Black Hills compared with 1997. Most of the tree mortality was scattered in small groups or as single trees. However, large areas of concentrated mortality were detected in Forbes and Beaver Gulches by Bethlehem Cave and near Steamboat Rock; other areas of concentrated mortality included areas around Silver City/Pactola Reservoir, the Sand Creek, and Spearfish Canyon and areas east of the canyon. In addition, about 239 acres of aspen discoloration and 45 acres of discolored spruce were detected on the National Forest.

Silvicultural stand treatments are continuing to reduce risk from mountain pine beetle infestations.



## **Monitoring Item 20**

### **Sub-Item 20c: Insect and Disease Evaluations**

#### **1997:**

Evaluations of mountain pine beetle populations were done in the Steamboat Rock area and in Pactola and Sheridan Lake Campgrounds. An initial evaluation was also done in the Beaver Park area. The evaluations led to a suppression project getting started in the Steamboat Rock area, which involved sanitation harvest of green, infested trees. Green, infested trees were also removed from both campgrounds in the late spring.

#### **1998:**

Biological evaluations of mountain pine beetle-caused mortality were conducted in the Sundance sale area, the Steamboat Rock, and Beaver Park areas, the Blackhawk area and the Pactola/Sheridan Lake Recreation areas. These evaluations consisted of on-the-ground surveys to estimate the level of infestations and how they have changed over the past three years. In all cases, there is a definite upward trend in beetle populations. Beetle populations appear to be increasing at about a three-fold rate based on these evaluations. In addition, Armillaria root disease was evaluated in conjunction with mountain pine beetle damage in the Sundance Timber Sale area. The biological evaluations have, or will be sent to the Supervisor's and District Offices on the Black Hills National Forest.

The evaluations have led to suppression projects being underway in the Blackhawk area along with continued work in the Steamboat Rock area and the campgrounds.

In 1998, the six permanent root-disease plots in ponderosa pine stands were re-measured in the Black Hills. Data from these plots is being used to validate and calibrate west-wide root-disease models for tree-growth loss and mortality.

## **Monitoring Item 21: Exotics**

### **1997:**

Detection surveys for gypsy moth, an introduced species, were conducted at 33 recreation or administrative sites on the Black Hills National Forest. There were no positive catches on federal lands in 1997. There were four gypsy moth catches made in private campgrounds around the Black Hills, indicating the need to continue monitoring this situation.

### **1998:**

Detection surveys for the gypsy moth were continued at recreation and administrative sites on the Forest in 1998. No moths were caught in these traps; however, moths were caught in surrounding areas near the National Forest. There were three gypsy moth catches made in private campgrounds around the Black Hills. The need for continued monitoring of this introduced pest is warranted.

## **Monitoring Items 22: Fuel Loading Hazard**

The combination of all fuels influencing activities accounted for an estimated 166,000 tons of activities' slash being treated in accordance with Forest Plan required treatment standards.

All activities which generate fuels (reference Monitoring Item 23: FIRE - Fuel Treatment) require an assessment to determine appropriate fuel treatment as outlined by Land and Resource Management Plan (LRMP) Guideline 4110 (page II-55, LRMP). This assessment and prescribed treatment insure that on-site fuel hazards either remain at pretreatment levels or are reduced as necessary based on risk and/or values present.

No fuel-generating activities occurred on areas of the Forest where existing fuel "hazards" were rated low by the Black Hills National Forest Fire Protection Assessment (FPA). Of the 26,455 acres of fuel treatment, approximately 60 percent of it occurred in areas identified in the FPA as having a high hazard index. Prescribed treatments in these areas reduced the hazard index to moderate or low levels. Fuel treatment on the balance of the activity acres occurred on areas identified by the FPA as having a moderate hazard index. Prescribed treatment in these areas either reduced the hazard index or resulted in no change to the hazard index based on the fire "risk" or "values" present.

## Monitoring Item 23: Fuel Treatment

The Forest accomplished fuel treatment related activities on a total of 26,455 acres of the National Forest in FY1998. Included in this work were activities as listed below:

<b>FUEL TREATMENTS</b>	<b>ACRES</b>
Pile Creation: Activity Fuels	1,454
Pile Burning: Natural Fuels	476
Activity Fuels	2,230
Prescribed Burning	1,633
Slash Removal	201
Urban Interface Thinning and Piling	28
Lop and Scatter (force account)	1,467
Pine Encroachment and Disposal	2,208
Precommercial Thinning and Associated Fuel Treatment	9,247
Hardwood Release (pine removal)	470
Purchaser Contribution - Lop and Scatter/Removal	7,041
Fuel Break Construction - associated with and included in the above acres	354

(See 1998 Forest Summary Silva Report as extracted from Rocky Mountain Resource Information System [RMRIS] data base).

Much of the above acreage is associated with the Forest's active timber sale program.

## **Monitoring Item 24**

### **Sub-Item 24a: Fire Suppression**

The Black Hills National Forest experienced a significantly below-average fire occurrence year. Timely and record-level precipitation promoted early containment of most fires. There were 66 fires during the year of which 35 were lightning caused. The total number of fires was well below the Forest average of 139 and the number of lightning fires fell short of the normal 100. The abnormally wet year is further evidenced by the fact that only 33.3 acres of the National Forest were burned by wildfire.

Current National Fire Management Analysis System (NFMAS) data and associated fire modeling places projected annual losses at 2,850 acres. Recorded losses as identified above were significantly below the norm and well below the NFMAS projections. The suppression program was funded at approximately 20 percent under the most efficient level (MEL). All fire reports have been submitted and entered into the FIRESTAT Database at Kansas City.

## **Monitoring Item 24**

### **Sub-Item 24b: Fire Prevention**

The Forest continues to play a lead role in interagency fire training by providing qualified instructors, financial support and course coordination for much of the fire training offered in the Black Hills each year. The Forest again provided overall leadership in coordination of the 7th annual Hardy Exercises. This year's exercises were at two proficiency levels (basic and advanced) and included extension of the training exercise to Saturday to accommodate cooperating volunteer fire departments. Incident Commander Type 4 (ICT4) trainees were put through the paces with realistic challenges associated with type 4 incidents in transition to more complex scenarios. The entire training exercise was conducted as a simulated incident involving a complex of fire activity. Managing the exercise as an incident provided an opportunity for individuals key to the Black Hills Initial Management Group (IMG) to train for interim management of a real incident. The Hardy Exercise has evolved over the years to become the primary medium for interagency fire training. All training was again patterned after the Crew Resource Management (CRM) technique as outlined in the Findings From the Wildland Firefighters Human Factors Workshop (5100-F&AM). Instructors for the exercise represented the Forest Service, National Park Service, South Dakota Division of Resource Conservation and Forestry, Custer State Park, Rapid City Fire Department, local Volunteer Fire Departments and the Pennington County Fire Coordinators Office.

Other wildland fire training hosted by the Forest and made available to cooperators at no cost included S-290, S-230, and S-270. The Forest also played a major role in the annual Basic Fire School (S-190,130 etc.) by providing the bulk of instructors and paying for all training material and classroom space.

The Forest played a major role in organizing the joint fire management booth at the Annual Black Hills Stock Show in partnership with the South Dakota Interagency Fire Council (SDIFC). Prevention material and wildland fire information were displayed and made available at all other shows (ie., Black Hills Sports Show) as well as at all office locations throughout the year.

The Forest is a member of the SDIFC and an ad hoc member of the Black Hills Fire Advisory Board (BHFAB). Both of these organizations provide interagency coordination of prevention, pre-suppression and suppression activities in the Black Hills and surrounding areas. The Forest participates in and provides representation to various committees and task groups of these two active organizations.

All cooperator agreements and annual operating plans were reviewed and signed as required.

The Black Hills National Forest continues to work toward chartering the Custer Interagency Dispatch Center as a fully functioning sub-geographic component of the National Interagency Dispatch system. A final draft of a charter has been circulated through the user membership for review and comments. At this time, revisions have been made to this draft and a final will be circulated for line authority signature in the near future. Discussions concerning regional initial attack dispatching as it would relate to the Center's current functional role are ongoing. A panel of subject-matter-specialists may convene in 1999 to assist the Forest and cooperators in addressing this issue.

Activities at the Center this year included a flurry of filling early season resource orders to meet the National fire emergency in Florida. Overall activities at the center were below normal due to lower-than-average fire activity across the nation. No large fire activity occurred in the geographic area and consequently the Center did not figure into any individual fire reviews.

No complaints or dissatisfaction with activities at the Center were registered with the Center Manager by any user member or customer in 1998. On several occasions the Center Manager interviewed cooperator agency fire management officers (FMO) to ascertain satisfaction of service. Respective FMO's to an individual indicated no shortcomings. The general consensus was that minor glitches or inefficiencies in operation were dealt with in a timely and satisfactory manner through discussions with the lead or assistant dispatcher at the time of occurrence.

## Monitoring Item 25: Wildlife - Threatened and Endangered Species

This monitoring item is designed to track winter bald eagle trends on the Forest. There are no known traditional winter roosts nor nests in the Black Hills. The Monitoring Implementation Guide calls for one transect per District between December and March. In actuality District Biologists record bald eagle sightings throughout the winter during normal work activities. Bald eagle sightings up to January 31, 1999 are presented below by District. All sightings are presented regardless of landownership.

Bald eagle monitoring will occur each year to develop a winter population database. Through time the information will be used to assess changes in numbers and spatial distribution. No conclusion can be drawn from this data, because this is the first reporting year.

<b>DISTRICT</b>	<b>DATE</b>	<b>LOCATION</b>	<b>NUMBER</b>
Custer/Elk Mountain	12/2/98	Four Mile Road near Highway 16	1
Custer/Elk Mountain	12/8/98	Highway 16 at the state line	1
Custer/Elk Mountain	12/26/98	Stockade Lake	1
Custer/Elk Mountain	1/7/99	Harry Mills Picnic Ground	2
Custer/Elk Mountain	1/6/99	Cicero Peak	1
Custer/Elk Mountain	11/98	Stockade Lake	5
Custer/Elk Mountain	1/15/99	East of Linde Sawmill off Highway 385	1
Custer/Elk Mountain	1/15/99	East of Highway 16/385 near Crazy Horse	1
Pactola/Harney	12/4/98	Rapid Creek near Placerville	1
Pactola/Harney	12/14/99	Bald Hills	6
Pactola/Harney	1/18/99	Bald Hills	5
Pactola/Harney	1/20/99	Bald Hills	5
Spearfish/Nemo	11/98	Nemo area	1
Spearfish/Nemo	11/98	Nemo area	1
Spearfish/Nemo	11/19/98	Spearfish Canyon	1
Spearfish/Nemo	12/17/98	Spearfish Canyon	1
Spearfish/Nemo	1/19/99	Whitewood Creek	3



## **Monitoring Item 26: Wildlife - Habitat Capability Relationships Including Management Indicator Species (MIS)**

Item 26 is not scheduled for reporting in 1999. This is a summary of how the Forest is currently monitoring MIS species.

**Rocky Mountain Elk** - The Forest is involved in a cooperative elk study being conducted by the Rocky Mountain Research Station. Other partners include South Dakota Department of Game, Fish and Parks and The Rocky Mountain Elk Foundation. A principal objective of the study is to validate the habitat relationship model which will yield better predictive information on the effects of habitat change on elk use and numbers. Field work is scheduled through 2002.

**Land Snails** - Dr. Terrence Frest will conduct a Forest-wide survey of land snails during 1999. Dr. Frest will resurvey colonies he first found in the early 1990s to assess population changes and sample areas not included in the first study. This information will yield trends in size and vigor for these colonies.

**Breeding Bird Surveys** - Each year qualified volunteers work under partnership with the Forest to complete Breeding Bird Surveys as part of a national program administered by the US Geological Survey. Results are available on their web site. The Forest will report on population trends every 3 years.

**Brown Creeper, Black-backed and Three-toed Woodpeckers** - The Forest is working with the Rocky Mountain Research Station to develop a study plan to evaluate habitat relationships, validate the ARC-HABCAP model for local Black Hills conditions and assess species abundance.

**Regal Fritillary Butterfly** - The Forest is evaluating two means to monitor populations. First, District biologists would locate suitable habitats and existing populations. These sites would be surveyed on a regular schedule to determine trends. Another possibility being considered is to contract with a qualified butterfly specialist to complete initial surveys and establish a monitoring protocol.

## **Monitoring Item 27: Scenic Integrity**

The Forest Landscape Architect position is currently vacant. This section of the report will be completed after the position is filled.

## Monitoring Item 28: Heritage Resources

Monitoring items for heritage resources measure two areas of emphasis for the program. Monitoring items 1 through 4 reflect our responsibility to comply with Federal law and regulation for the protection of heritage resources under Section 106 of the National Historic Preservation Act (NHPA). Monitoring items 5 through 7 reflect our responsibility to preserve and interpret heritage resources for public benefit under Section 110 of the NHPA. The relatively large numbers exhibited in monitoring items 1 through 4 are in themselves a reflection of the large number of undertakings conducted on the Black Hills National Forest each year. The relatively low numbers exhibited in monitoring items 5 through 7 indicate a need to increase efforts in the Section 110 portion of the heritage resource program.

1. Heritage resources compliance process completed prior to signing of environmental decision document (comply with NEPA, NHPA, and Chiefs Direction).

The compliance process was completed in FY1998 for 229 projects.

2. Avoidance or mitigation requirements effectively implemented prior to, during, and after project (comply with NHPA/NEPA).

A total of 32 mitigation or avoidance projects were monitored.

3. Inventories conducted to comply with the Archaeological Resource Protection Act, as amended 1988.

A total of 76 field inventories covering 93,873 acres were completed.

4. Protection of heritage resources listed in, or eligible for listing on the National Register of Historic Places. May or may not be associated with project specific activities (comply with NHPA).

A total of 106 sites were monitored.

5. Number of heritage resource interpretive sites provided (including sites, signs, roadside pullouts, brochures, public participation opportunities, sponsorship of heritage activities, etc.).

A total of two public outreach projects were conducted including a Passport In Time project on the Spearfish/Nemo District, and an interpretive moonwalk on the Forest concerning historic mining.

6. Number of heritage resource stabilization and rehabilitation projects conducted (comply with NHPA).

One rehabilitation project, at the historic Bob Marshall Camp was conducted.

7. Increase in heritage resources listed on the National Register of Historic Places (comply with NHPA).

There were no sites nominated to or listed on the NRHP in FY1998.

## Monitoring Item 30: Recreation Opportunities

### ROS:

There were no changes in FY 1998 to the Recreation Opportunity Spectrum (ROS) as mapped in the Revised Forest Plan.

### Recreation Activity:

ACTIVITY OUTPUTS	UNITS	1997	1998
Developed Recreation	Recreation Visitor Days	365,800	342,600
Downhill Skiing	Recreation Visitor Days	5,300	4,500
Dispersed Recreation	Recreation Visitor Days	2,920,000	2,820,400
Off-road Vehicle Use	Recreation Visitor Days	77,400	74,400
Wilderness Use	Recreation Visitor Days	36,900	28,300

### Detailed Recreation Use:

The following table displays recreation use which is estimated for each of the individual types of recreational activities.

#### Black Hills National Forest Recreation Use by Activity 1993-1998

Source: RIM Output Document 2300-1k.

Recreation use in thousands of recreation visitor days.

RECREATION ACTIVITY	1993	1994	1995	1996	1997	1998
01.1 Viewing Scenery	168	171.3	176.6	179.4	200.5	192.9
01.3 Viewing Activities	13.5	13.8	14.3	14.5	14.5	13.9
01.4 Viewing Works	0	0	0	0	0.4	0.4
11.1 Auto Travel	1953.3	2005	2063.7	2096.3	2017.8	1941.1
11.2 Motorcycle Travel	69.1	70.2	72.3	73.4	73.4	70.6
11.3 Snow Travel	157.3	212.3	139.5	164.7	164.7	141.3
11.5 Bus Touring	0.6	0.6	0.7	0.7	0.7	0.7
12.2 Boat, Powered	15.4	15.7	10	9.3	7.9	7.9
13.2 Aerial Trams	0.3	0.3	0.3	0	0	0
14.1 Hiking and Walking	122.9	125.3	137.3	141.4	168.5	168.5
14.2 Bicycle	22.5	22.9	25.1	25.8	25.8	25.8
14.3 Horseback	48.5	49.5	54.3	55.9	56.5	56.5
14.5 Trailhead/Snowpark	0	0	0	0	11.9	11.9
15.1 Canoeing	2	2	2.2	2.1	2.2	2.2
15.2 Sailing	1	1	1.1	1	1	1
15.3 Other watercraft	10.5	10.7	11.8	11	8.3	8.3
21.1 Team Sports	1	1	1.1	1.1	0	0
21.2 Individual Sports	3.5	3.5	3.8	3.9	0	0
21.3 Games and Play	0.8	0.8	0.9	0.9	7.4	7.4
22.1 Swimming & Waterplay	17.7	19.1	23.8	22.1	14.7	14.7
22.2 Diving	1.2	1.2	1.5	1.4	0	0
22.3 Waterskiing & Other	0	0	7.2	6.7	6.7	6.7
31.1 Fishing, Cold Water	60.2	131.7	155.9	150.4	150.4	147.7
31.2 Fishing, Warm Water	1.9	0	0	0	0	0
31.4 Fishing, Ice	2.2	7.6	8.6	8.2	8.2	8.1
41.1 Camping, General Day	58.6	73.7	91.8	85.4	97.5	92.9
41.2 Camping, Auto	31.2	29.9	37.2	34.6	37.5	35.7
41.3 Camping, Trailer	47.7	59.8	74.4	69.2	79.3	75.6

<b>RECREATION ACTIVITY</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
41.4 Camping, Tent	38.2	35.9	44.7	41.5	43.9	41.8
41.5 Organ. Camping, Day	0.6	0.6	0.7	0.7	3	2.9
41.6 Organ. Camping, Night	15.8	15.8	19.6	18.2	3.2	3
43.1 Picnicking	29.5	32.2	40.2	37.3	32.6	31.1
46.1 Resort, General	14.1	14.1	14.1	14.1	8.3	8.3
46.2 Resort Lodging	3.6	3.6	3.6	3.6	0	0
46.3 Recreation Cabin Use	81.7	81.7	81.7	81.7	89.5	89.5
51.1 Ice Skating	0.1	0.1	0.1	0.1	0.5	0.4
51.3 Skiing, Downhill	7.4	7	4.5	5.3	5.3	4.5
51.4 Snow Play	5.8	7.6	5.1	6	5	4.3
51.5 Cross-country Skiing	6.3	8.5	5.6	6.6	6.6	5.7
61.1 Hunting, Big Game	94.9	104.6	87.4	79.6	46.8	50.1
61.2 Hunting, Small Game	0.2	3.1	3.8	3.5	7.4	7.9
61.3 Hunting, Upland Game	0.3	5.1	6.9	6.5	10.6	11.3
61.4 Hunting, Waterfowl	0.1	1.8	1.9	1.7	2	2.1
62.1 Nature Study - Wildlife	6.6	14.9	16.3	16.8	16.7	16.7
62.2 Nature Study - Hobby	7.5	0	8.2	8.4	8.3	8.3
63.1 Mountain Climbing	0.9	0.9	1	1.1	3	3
64.1 Gathering Forest Products	44.4	23.9	22.2	22.5	22.5	21.7
81.1 Viewing Interp. Exhibits	0.8	0.8	0.8	0.8	2.5	1.9
81.2 Attending Talks	16.4	16.9	17.5	16.8	5	3.8
81.3 Touring, Guided	1.9	2	2.1	2	0	0
81.4 Touring, Unguided	10.3	10.6	11	10.5	0	0
81.5 Walking, Guided	7	7.2	7.4	7.1	0	0
81.6 Walking, Unguided	20	20.6	21.3	20.4	0	0
81.7 Viewing Interp. Signs	10.5	10.8	11.2	10.7	10.9	8.4
81.8 Listening Audio Programs	0.3	0.3	0.3	0.3	0.1	0.1
81.9 General Information	16.3	16.8	17.4	16.7	19.9	15.3
<b>TOTAL =</b>	<b>3252.4</b>	<b>3476.3</b>	<b>3572</b>	<b>3599.9</b>	<b>3509.4</b>	<b>3373.9</b>
Wilderness Use (Included in Total Above)	19.1	12.9	33.9	38.4	36.9	28.3
<b>SUMMARY FOR FOREST PLAN MONITORING</b>						
Developed - Public Sector	326.4	356.9	422.7	397.2	365.8	342.6
Developed - Private Sector	116.1	116.1	120	118.3	104	103.7
Total Developed	442.5	473	542.7	515.5	469.8	446.3
Downhill Skiing	7.4	7	4.5	5.3	5.3	4.5
Dispersed	2708.6	2906.6	2911.9	2960.4	2920	2820.4
ORV	74.8	76.8	79	80.3	77.4	74.4
Wilderness	19.1	12.9	33.9	38.4	36.9	28.3
Developed - Public Sector = Add Recreation Activities 1.3 + 21.1 + 21.2 +21.3 + 22.1 + 22.2 + 41.1 + 41.2 + 41.3 + 41.4 + 43.1 + 81.1 thru 81.9.						
Developed - Private Sector = Add Recreation Activities 13.2 + 41.5 + 41.6 + 46.1 thru 46.3.						
Total Developed = Public Sector plus Private Sector.						
Downhill Skiing = Recreation Activity 51.3.						
Dispersed = Total Use minus Developed Use minus Downhill Skiing minus ORV Use minus Wilderness Use.						
ORV = Add Recreation Activities 11.1 + 11.2 and multiply by .037.						
Wilderness = Actual Use from Wilderness Report.						

# **Monitoring Item 31: Recreation Use, Trends And Demographics**

## **Condition and Use of Recreation Facilities:**

The lack of adequate operation and maintenance (O&M) funding continues to be a problem in meeting Forest Plan standards for maintaining developed recreation sites. The deferred maintenance backlog for recreation facilities on the Forest is estimated at \$25,900,000. These funds are needed for four categories of backlog work:

Category 1: \$9,780,000 of backlog for facility repair and reconstruction and resource treatment needed to comply with health and safety standards.

Category 2: \$5,950,000 of backlog for resource treatment needs including vegetation treatment, soil and surface treatment, and cultural resource site protection and mitigation.

Category 3: \$9,990,000 of backlog for facility repair and reconstruction and resource treatment needed to keep a site open in compliance with planned management standards.

Category 4: \$180,000 of backlog for facility repair to return to a user fee system previously charged or to continue a user fee system.

The Forest has used the campground concession program as much as possible to help free up the funding needed to take care of all of our recreation facilities. In addition, almost \$3 million dollars of Capital Investment Projects have been identified and approved for future funding to deal with major rehabilitation or reconstruction work in our developed recreation facilities.

## **Hazard Tree Analysis:**

An analysis was made of trees which potentially could be hazards to the public for each developed site prior to opening in FY 1998. All necessary corrections were made.

## **Amount of Use:**

In the 1980s, there was a gradual decline in camping use on the Black Hills National Forest, going from a high of 42 percent occupancy to a low of 31 percent occupancy in 1990. In 1991, camping occupancy increased to 34 percent, reversing the downward trend. In 1992 camping use declined again, but rebounded in 1993 and 1994 and stabilized at about 42 percent in 1995 through 1998 (approximately back to where it was in 1982).

Since 1982, the Forest has steadily raised its campground fees to be comparable with similar increases in private sector fees. There appears to be some relationship to our increasing camping fees and the decreasing occupancy rates as discussed in the preceding paragraph. This relationship was thoroughly reviewed in 1993. In consultation with the private sector campgrounds, a new campground evaluation rating system was developed and applied to all the Forest Service campgrounds and 23 private campgrounds which volunteered to be a part of the study. Based upon a complete re-analysis of the point system and comparable private sector fees, a new fee schedule was implemented in 1994. The new fees were somewhat less than those developed by the old system. The following tables show campground fees and percent occupancy.

**BLACK HILLS NATIONAL FOREST  
CAMPGROUND FEES AND PERCENT OCCUPANCY  
1994 - 1998**

YEAR	AVERAGE UNIT FEES			FEE CAMPGROUNDS			NON-FEE CAMPGROUNDS			ALL CAMPGROUNDS		
	FOREST SERVICE	PRIVATE SECTOR	TOTAL FEES COLLECTED	OCCUPIED UNITS	AVAILABLE UNITS	PERCENT OCCUPANCY	OCCUPIED UNITS	AVAILABLE UNITS	PERCENT OCCUPANCY	OCCUPIED UNITS	AVAILABLE UNITS	PERCENT OCCUPANCY
1994	\$9.97	\$18.49	\$316,823.91	35,011	79,941	44%	3,495	5,610	62%	38,506	85,551	45%
1995	\$10.05	\$19.41	\$314,679.37	32,581	77,395	42%	3,210	5,610	57%	35,791	83,005	43%
1996	\$10.37	\$19.89	\$328,033.00	33,354	78,652	42%	1,985	4,182	47%	35,339	82,834	43%
1997	\$10.63	\$20.88	\$335,280.88	32,395	78,465	41%	1,284	3,366	38%	33,679	81,831	41%
1998	\$11.13	\$21.84	\$355,460.24	33,036	77,486	43%	1,717	3,366	51%	34,753	80,852	43%

As shown by the fee collection information in the following table, nearly 25 percent of all the recreation use in fee areas was processed through the reservation system. This is an increase over previous years.

**BLACK HILLS NATIONAL FOREST  
CAMPGROUND OCCUPANCY AND FEE DATA - 1998**

	NUMBER CAMPING UNITS	FEE CAMPGROUNDS						NON-FEE CAMPGROUNDS		PERCENT RESERVED
		UNIT FEE	FEE SEASON	DAYS IN SEASON	TOTAL FEES COLLECTED	PAID UNITS	OCCUPANCY RATE	SAMPLE STUDY OCCUPANCY RATE	OCCUPIED UNITS (5/22-9/7)	
BEARLODGE DISTRICT										
1. Bearlodge	8	~	~	~	~	~	~	37%	302	
2. Cook Lake (\$6/\$10)	34	8.00	5/22-9/7	109	9,824.21	1266	34%	~	~	9.9%
3. Reuter	24	8.00	5/22-9/7	109	2,527.00	348	13%	~	~	5.4%
4. Sundance	10	10.00	5/22-9/7	109	1,724.80	174	16%	~	~	65.2%
DISTRICT TOTAL	76				14,076.01	1788			302	15.9%
SPEARFISH/NEMO DISTRICT										

	FEE CAMPGROUNDS							NON-FEE CAMPGROUNDS		
	NUMBER CAMPING UNITS	UNIT FEE	FEE SEASON	DAYS IN SEASON	TOTAL FEES COLLECTED	PAID UNITS	OCCUPANCY RATE	SAMPLE STUDY OCCUPANCY RATE	OCCUPIED UNITS (5/22-9/7)	PERCENT RESERVED
1. Boxelder Forks*	14	9.00	5/22-8/31	101	6,769.50	823	58%	~	~	0.0%
2. Dalton Lake*	8	8.00	5/22-9/9	111	2,719.00	356	40%	~	~	0.0%
3. Hanna	13	8.00	5/22-9/8	110	3,529.00	644	45%	~	~	0.0%
4. Rod and Gun	7	5.00	5/22-9/8	110	2,200.00	481	62%	~	~	0.0%
5. Roubaix*	56	13.00	5/22-9/7	109	29,900.50	2478	41%	~	~	18.3%
6. Timon	7	8.00	5/22-9/8	110	3,888.00	506	66%	~	~	0.0%
DISTRICT TOTAL	105				49,006.00	5288				11.2%
PACTOLA/HARNEY DISTRICT										
1. Bear Gulch *	8	7.50	5/17-9/12	119	1,575.00	210	22%	~	~	100.0%
2. Black Fox	9	~	~	~	~	~	~	64%	588	
3. Castle Peak	9	~	~	~	~	~	~	67%	615	
4. Custer Trails *	16	5.00	5/22-9/7	109	1,005.50	214	12%	~	~	0.0%
5. Ditch Creek *	13	9.00	5/22-9/7	109	5,181.00	609	43%	~	~	0.0%
6. Dutchman *	45	9.00	5/22-9/7	109	13,963.22	1650	34%	~	~	17.6%
7. Horsethief (\$15/\$17) *	36	16.00	5/15-9/12	121	47,247.50	3334	77%	~	~	19.2%
8. North Cove Group *	54	5.28	5/15-9/13	122	5,990.50	1135	17%	~	~	66.7%
9. Oreville *	26	14.00	7/2-9/7	68	13,055.00	1104	62%	~	~	4.1%
10. Pactola *	80	13.00	5/17-9/12	119	61,850.18	5116	54%	~	~	29.0%
11. Sheridan *	129	13.00	5/15-9/13	122	82,450.58	6676	42%	~	~	28.6%
12. Whitetail *	17	9.00	5/22-9/7	109	10,259.75	1218	66%	~	~	24.9%
13. Willow Creek Group *	16	15.00	5/26-9/13	111	11,472.00	765	43%	~	~	75.0%
DISTRICT TOTAL	458				254,050.23	22031			1203	27.7%
CUSTER/ELK MOUNTAIN DISTRICT										
1. Beaver Creek	8	8.00	5/22-9/7	109	1,481.00	213	24%	~	~	0.0%
2. Bismarck*	23	12.00	5/22-9/6	108	18,324.00	1725	69%	~	~	32.7%
3. Comanche*	34	10.00	5/22-9/6	108	15,275.00	1788	49%	~	~	7.0%
3. Iron Creek*	9	16.00	5/22-9/15	117	3,248.00	203	19%	~	~	68.5%
4. Moon	3	~	~	~	~	~	~	20%	61	
5. Redbank Spring	4	~	~	~	~	~	~	37%	151	
DISTRICT TOTAL	81				38,328.00	3929			212	24.2%
FOREST TOTAL OR AVERAGE	720	11.13			355,460.24	33036	43%	51%	1717	24.6%
*Fees Collected by Concessionaire. Reservation Collections = \$87,333.28 or 24.6% of Total. Average Forest Occupancy = 43%.										



As shown in the following table, the amount of use through Golden Age/Golden Access Permits is significant, comprising 14 percent of total use.

**BLACK HILLS NATIONAL FOREST 1998  
SUMMARY OF GOLDEN AGE/GOLDEN ACCESS PERMITS**

	<b>FULL PRICE</b>	<b>HALF PRICE</b>	<b>TOTAL PAID UNITS</b>	<b>PERCENT GOLDEN AGE</b>
<b>BEARLODGE DISTRICT</b>				
Cook Lake	1190	76	1266	6.0%
Reuter	284	64	348	18.4%
Sundance	170	4	174	2.3%
<b>DISTRICT TOTAL</b>	<b>1644</b>	<b>144</b>	<b>1788</b>	<b>8.1%</b>
<b>SPEARFISH/NEMO DISTRICT</b>				
Boxelder Forks*	684	139	823	16.9%
Dalton Lake*	323	33	356	9.3%
Hanna	482	162	644	25.2%
Rod and Gun	399	82	481	17.0%
Roubaix*	2123	355	2478	14.3%
Timon	462	44	506	8.7%
<b>DISTRICT TOTAL</b>	<b>4473</b>	<b>815</b>	<b>5288</b>	<b>15.4%</b>
<b>PACTOLA/HARNEY DISTRICT</b>				
Bear Gulch *	210	0	210	0.0%
Custer Trails *	188	26	214	12.1%
Ditch Creek *	542	67	609	11.0%
Dutchman *	1452	198	1650	12.0%
Horsethief *	2707	627	3334	18.8%
North Cove Group *	1135	0	1135	0.0%
Oreville *	761	343	1104	31.1%
Pactola *	4400	716	5116	14.0%
Sheridan *	6008	668	6676	10.0%
Whitetail *	1060	158	1218	13.0%
Willow Creek Group *	765	0	765	0.0%
<b>DISTRICT TOTAL</b>	<b>19228</b>	<b>2803</b>	<b>22031</b>	<b>12.7%</b>
<b>CUSTER/ELK MOUNTAIN DISTRICT</b>				
Beaver Creek	158	55	213	25.8%
Bismarck*	1329	396	1725	23.0%
Comanche*	1267	521	1788	29.1%
Iron Creek*	203	0	203	0.0%
<b>DISTRICT TOTAL</b>	<b>2957</b>	<b>972</b>	<b>3929</b>	<b>24.7%</b>
<b>FOREST TOTAL OR AVERAGE</b>	<b>28302</b>	<b>4734</b>	<b>33036</b>	<b>14.3%</b>
* Concessionaire Operated Campground				

## Wilderness Resource:

Based on a regression analysis of the existing-use data from 1981 to 1998, it is projected that the estimated annual carrying capacity of 32,100 RVDs would be reached in the year 2004. It should be noted, however, that wilderness use did exceed its capacity for the first time in 1995 with 33,900 RVDs, followed by 38,400 RVDs in 1996, 36,900 RVDs in 1997, and 28,300 in 1998 - nine years sooner than predicted by regression analysis. It needs to be determined if these years are an anomaly or if the trend data is indicating a significant trend change.

Our records show that nearly 60 percent of the wilderness use occurs on two trails. These are the two main trails to Harney Peak, one from Sylvan Lake and the other from Willow Creek.

Other identified problems include the lack of fire in the ecosystem, public uses of the wilderness that could be accommodated elsewhere, inadequate trail maintenance, inadequate wilderness management funding, and outfitters who do not contribute to trail maintenance.

No recreation fee demo projects were undertaken this year.

## Cumulative Trends of Recreation Use in the Black Hills:

The following tables display recreation use in the Black Hills National Forest.

<b>AVERAGE ANNUAL TRENDS</b>		
	<b>Last 5 Years 1994-1998</b>	<b>Last 18 Years 1981-1998</b>
<b>Selected National Forest Activities:</b>		
Black Hills Visitor Center	-1.3%	+2.8%
Black Elk Wilderness	+9.4%	+5.0%
Terry Peak Ski Area	-7.0%	+6.7%
Firewood Permits	-0.2%	-4.9%
Christmas Tree Permits	-4.7%	-2.3%
Fishing	+2.2%	+0.2%
Hunting	-9.7%	-0.2%
Motorized Travel	+1.0%	+4.0%
Campgrounds - Black Hills National Forest	-2.4%	+0.5%

**RECREATION USE IN THE BLACK HILLS  
SELECTED NATIONAL FOREST ACTIVITIES**

<b>Black Hills Visitor Center</b>		<b>Black Elk Wilderness</b>		
<b>Year</b>	<b>Visitors</b>	<b>Year</b>	<b>Visitors</b>	<b>Visitor-Days</b>
1995	58752	1995	63483	33900
1996	74079	1996	69227	36900
1997	56893	1997	64702	34500
1998	58018	1998	53098	28300
Annual Trend	+2.76%	Annual Trend	+4.96%	+11.46%

<b>Terry Peak Ski Area</b>		<b>National Forest Campgrounds</b>			
<b>Skier Year</b>	<b>Lift Tickets</b>	<b>Year</b>	<b>Fee</b>	<b>Non-Fee</b>	<b>All</b>
1994-95	71291	1994	35011	3495	38506
1995-96	84128	1995	32581	3210	35791
1996-97	92702	1996	33354	1985	35339
1997-98	79541	1997	32395	1284	33679
1998-99		1998	33036	1717	34753
Annual Trend	+6.70%	Annual Trend	+1.54%	-4.11%	+0.53%

<b>Year</b>	<b>Firewood and Free Use Permits</b>			<b>Christmas Tree Permits</b>		
	<b>Firewood MBF</b>	<b>Free Use MBF</b>	<b>Total</b>	<b>Individual</b>	<b>Commercial</b>	<b>Total</b>
1994	3471	284	3755	7092	530	7622
1995	3394	243	3637	7026	872	7898
1996	3278	258	3536	6211	348	6559
1997	3821	238	4059	5761	341	6102
1998	3463	266	3729	6079	113	6192
Annual Trend			-4.85%			-2.34%

## **Monitoring Item 32: Access- Road Mileage**

The following was the status of the Forest Development Road (FDR) System at the end of FY1998:

FDR maintenance levels 1,2,3,4,5	5,219 miles
FDR miles constructed	13.3 miles
FDR miles reconstructed	102.0 miles
FDR miles under Forest Service jurisdiction	4,655 miles
FDR miles under local government jurisdiction	564 miles
FDR miles obliterated	0 miles
FDR miles open year long, seasonally for low clearance vehicles	687 miles
FDR miles open year long, seasonally which are accessible to high clearance vehicles only	3,274 miles

The Forest Service has recently increased emphasis on management of the transportation system. The Black Hills National Forest participated as a pilot Forest in developing assessment methods. Current Forest Plan direction emphasizes closing all newly constructed roads; and recent project decisions continue to close roads that are no longer needed and review access needs to private lands.

## **Monitoring Item 33: Access- Off-Road Vehicle Access**

No new travel orders restricting off-road vehicle access were issued in FY1998. Travel opportunities remain unchanged.

The following decisions affecting vehicle access were made through project NEPA documents in FY1998, although none have been implemented.

An existing 3,000 acre area closure was expanded to about 10,000 acres under the Binford project decision to protect resources in a previous wildfire area. Travel in this area is limited to designated roads and most roads are closed year around.

The Reddog/Slice project decision has designated a 10,250 acre closure to protect wildlife.

## Monitoring Item 34: Access- Trail Opportunities

The following was the status of the trail system at the end of FY1998:

• Forest development trail miles constructed	-0- miles
• Forest development trail miles reconstructed	70.1 miles
• Forest development trail miles obliterated	-0- miles
• Forest development trail miles by user type:	
Hiking, biking, horse, skiing, motorized:	17.7 miles
Hiking, biking, skiing, motorized:	6.9 miles
Hiking, biking, horse, skiing:	345.3 miles
Hiking, biking skiing:	6.8 miles
Hiking, horse, skiing:	30.8 miles
Hiking, skiing:	22.2 miles
Hiking:	2.6 miles
TOTAL:	435.7 miles

• Through monitoring, the following trails were identified where user conflicts exist or where user-type constraints are not effective, or where unacceptable resource damage is occurring:

1. Centennial Trail #89
2. Deerfield Lake Loop #40L
3. Deerfield Trail #40
4. Harney #9

## Monitoring Item 35: Access- Right-Of-Way Acquisition

TYPE	CASES	MILES	ACRES
Acquired	6	1.4	11.04
FLPMA* Forest Road Easements Conveyed	2	1.48	11.87
FLPMA Private Road Easements Conveyed	5	1.21	7.99
FRTA* Easements Conveyed <sup>1</sup>	2	13.45	244.80

\*FLPMA - Forest Land Policy Management Act

\*FRTA - Forest Road and Trail Act

<sup>1</sup>Previously under special use permit that was converted to easements in 1998.

## Monitoring Item 36: Land Adjustment

<b>LAND ADJUSTMENT COMPLETED FY1998</b>	<b>ACRES</b>
Land Acquired through Exchange	414
Land Acquired through Donation	105
TOTAL ACQUIRED	519
LESS:	
Land Conveyed Out	255
NET CHANGE:	+264

<b>LAND ADJUSTMENT BEING PROCESSED FY1998</b>	<b>ACRES</b>
Land Acquiring through Exchange	479
Land Acquiring through Donation	0
TOTAL ACQUIRING	479
LESS:	
Land Conveying Out	498
NET CHANGE:	-21

The BHNF has continued to foster communication with several conservation groups and state agencies with the objective of completing land adjustment exchanges and/or conservation easements for everyone's benefit.



## Monitoring Item 37: Economic Efficiency - Cost

### Budget:

FUND CODE	FUND	DOLLARS
	RECREATION, WILDERNESS AND HERITAGE RESOURCES	
NF	OPERATIONS	
NFRM	Recreation Management	834,916
NFWM	Wilderness Management	78,751
NFHR	Heritage Resources	74,859
CN	INVESTMENTS	
CNRF	Recreation Construction	0
CNTR	Trail Construction	222,355
	WILDLIFE AND FISH	
NF	OPERATIONS	
NFWL	Wildlife	196,696
NFIF	Inland Fish	62,134
NFTE	Threatened, Endangered and Sensitive Species	27,602
	RANGE	
NF	OPERATIONS	
NFRG	Livestock Grazing Management	317,095
NFRV	Noxious Weeds	246,997
RBRB*	Range Betterment	52,356
	TIMBER	
NF	OPERATIONS	
NFTM	Timber Management	4,933,227
NFFV*	Forest Land Vegetation Management	467,386
CN	INVESTMENTS	
CNTM	Timber Road Construction/Reconstruction	654,739
SSSS	SALVAGE	
SSSS	Timber Salvage	348,838
	WATER, SOIL, AND AIR	
NF	OPERATIONS	
NFSO	Watersheds	76,101
NFSI	Soil Improvement	132,478
TRTR*	Ten Percent Road and Trail Fund	458,485
	MINERALS	
NF	OPERATIONS	
NFMG	Minerals	205,991
	INFRASTRUCTURE	
NF	OPERATIONS	
NFFA	Facilities Maintenance	238,714
QMQM*	Quarters Maintenance	31,782
NFRD	Roads Maintenance	843,256
HTER*	Flood Repair	65,546

<b>FUND CODE</b>	<b>FUND</b>	<b>DOLLARS</b>
HWHW*	Hazardous Waste Management (Nemo)	379,568
CN	INVESTMENTS	
CNFA	Facility Construction	0
CNGP	Road Construction	105,245
CNRN	Road Construction	5,630
	REAL ESTATE, PLANNING, AND LAW ENFORCEMENT	
NF	OPERATIONS	
NFLP	Land Management Planning	239,824
NFIM	Inventory and Monitoring	81,756
NFLE	Law Enforcement	94,554
NFLA	Real Estate Management	321,826
NFLL	Landline Location	201,910
LALW*	Land Acquisition, Land and Water	31,706
SPEP*	Economic Action Program (Community Assistance)	34,110
	GENERAL ADMINISTRATION	
NF	OPERATIONS	
NFGA	General Administration	1,287,152
	TRUST FUNDS	
CWKV	Knudson-Vandenburg	3,320,403
RTRT	Reforestation	164,242
	FIRE MANAGEMENT	
BDBD	Brush Disposal	169,500
WFPR	Fire Pre-suppression	1,676,096
WFHF	Hazardous Fuel Reduction	362,015
WFSU	Emergency Suppression and Rehabilitation	812,099
	PURCHASER CREDIT	
	TOTAL	\$19,693,698

\*New fund codes not in original Forest Plan documents.

## Receipts:

Gross receipts before payments to counties:

<b>DESCRIPTION</b>	<b>DOLLARS</b>
Timber	16,680,806
Grazing	117,983
Recreation - Special Uses (recreation residences)	74,499
Recreation - User Fees (admissions, outfitter guide permits)	31,213
Utility Special Use Permits	73,400
Minerals	7,294
Special Uses other than Recreation, Utilities, and Minerals	40,587
<b>TOTAL</b>	<b>17,025,782</b>

# Update Of Research Needs

The following additional research needs were identified in FY1998:

1. Wildlife habitat relationships model (HABCAP) validation:

- Brown Creeper
- Black-Backed Woodpecker
- Three-Toed Woodpecker
- Pygmy Nuthatch

2. Wildlife distribution and abundance

- Regal Fritillary

3. Northern Goshawk population dynamics

# Appendix

- Public Monitoring Trips
- Goal and Objective Implementation
- Standard Compliance

# Public Monitoring Trips FY1998

A new program was begun to involve the public in monitoring the Forest resources and activities. As part of implementing the 1997 Revised Forest Plan, the public was invited to observe and participate in monitoring efforts.

The new monitoring program established approximately ten days throughout the summer and fall months when the public could help the Forest employees complete specific monitoring activities. The scheduled trips were well attended. The attendance increased as the summer progressed. Going by attendance it appeared that public interest was heavy in the areas of grazing and range. We also had representation from county agencies, state agencies and other federal agencies on most trips.

## 1998 Schedule:

<b>DATE</b>	<b>MONITORING ITEM</b>	<b>RANGER DISTRICT</b>
June 26	Snag Transects	Custer/Elk Mtn.
July 10	Regeneration Surveys	Spearfish/Nemo
July 24	Wilderness Use	Custer/Elk Mtn.
July 31	Noxious Weeds	Spearfish/Nemo
August 14	Stream Health	Pactola/Harney
August 21	Timber Sale Project Review	Bearlodge
August 28	Grazing Allotment Administration	Custer/Elk Mtn.
September 11	Visuals, Recreation Use	Pactola/Harney
September 18	Range Condition and Trend	Pactola/Harney

# **IMPLEMENTATION OF GOALS AND OBJECTIVES**

---

This section of the report describes progress in FY1998 towards meeting the goals and objectives in the 1997 Revised Forest Plan. Included objectives are those that correlate with the Monitoring Items in this report.

**Planned** - The *Planned* designation represents activities planned in FY1998. These activities will not be implemented for several years. They do not relate to *Accomplished*.

**Accomplished** - The *Accomplished* designation represents activities planned under earlier project decisions and actually carried out in FY1998. These projects were planned under the 1983 Forest Plan and may not contribute toward the 1997 Revised Forest Plan Goals and Objectives. We include them for information.

**Current Conditions** - Acres of habitat reported in the RMRIS Database as of April 19, 1999. Normally this information would be obtained through the Geographic Information System (GIS). The acres reported in the 1996 Final Environmental Impact Statement (FEIS) are GIS acres. However, GIS acres were not available for the FY1998 Monitoring Report. Subsequent years will reflect GIS acres.

## **GOALS AND OBJECTIVES**

### **GOAL 1: Protect basic soil, air, water and cave resources.**

#### **Objectives:**

101. Maintain air quality standards in accordance with state implementation plans.

*The Forest received no violations of the Clean Air Act on the BHNF in FY1998.*

### **GOAL 2: Provide for a variety of life through management of biologically diverse ecosystems.**

#### **Objectives:**

201. During the planning period conserve existing hardwood communities and restore historic hardwood communities by 10 percent over 1995 conditions on sites capable of supporting these communities.

*Planned - Approximately 1,859 acres will be treated to conserve and restore hardwood communities.*

*Accomplished - 758 acres of existing aspen treated.*

*Accomplished - 5 acres of burr oak treated.*

*Current Condition (from RMRIS - see note above):*

	1995 RMRIS Acres	1999 RMRIS Acres
<b>Hardwoods</b>	<b>59,734</b>	<b>59,450</b>

205. Restore grassland (meadow and prairie) communities across the Forest by 10 percent over 1995 conditions. Determine the restoration potential on a site-specific basis based on landform and soils.

***Planned - Project treatment may increase grasslands by approximately 1,600 acres .***

***Current Condition (from RMRIS - see note above):***

	<b>1995 RMRIS Acres</b>	<b>1999 RMRIS Acres</b>
<b>Grasslands</b>	<b>101,861</b>	<b>104,341</b>

209. Manage at least 5 percent of a timber harvest project area for the grass/forb structural stage. Grass/forb openings should be 1 acre in size or larger. In accounting for openings, include those created by wildfire or other natural disturbance events. Also include grass/forb openings greater than 1 acre within low density stands.

***Planned - treatment is planned on approximately 848 acres.***

***Accomplished - In FY1998 239 acres of patchcuts were completed to provide the grass/forb structural stages.***

211. In conifer forested portions of a planning unit (diversity unit, watershed, or landtype association), maintain an average of 1.08 hard snags per acre, well dispersed across the conifer forested portion of the planning area through the rotation. Calculate as a per acre average for the planning unit; some acres may have no snags while others may exceed the average.

***Planned - the following table lists snag density at decision signing. Where density is below the standard, mitigation measures should serve to increase the density at project implementation:***

<b>PROJECT AREA</b>	<b>HARD SNAG DENSITY (SNAGS PER ACRE)</b>
Coyote	2.19
Crawford	1.44
Goat	0.08
Binford MA-5.1	0.2-0.63
MA-5.4	1.18
MA-5.43	2.82
Big Mac	1.05
Reddog	0.90
Slice	2.90
Crooked	0.70
Uncle	0.75
Lemming	0.90
Boxelder	1.01
Veteran/Boulder	1.20



221. Conserve or enhance habitat for sensitive species and species of special interest (management indicator species) listed in Chapter Two.

*Planned - Currently involved in a cooperative elk study with the objective to validate the habitat relationship model.*

*A Forest-wide survey of land snails is scheduled for 1999 which will assess a previous survey and add new areas to determine trends in size and vigor.*

223. Use management ignited fires and prescribed natural fires to achieve desirable vegetative diversity and fuel profiles on 8,000 acres per year for the next decade. Use natural fire on a limited basis under specifically prescribed conditions.

*Planned - A total of approximately 11,791 acres will be treated through prescribed burning.*

*Accomplished - 1,633 acres treated through prescribed burning.*

227. Manage 28,900 acres of activity fuels and 4,000 acres of natural fuels each year during the next decade, consistent with the need to protect life, property and natural resources from the threat of wildfire. This acreage includes acres specified in Objective 223.

*ACCOMPLISHED: Fuel treatment activities on 26,455 acres.*

229. Using analyses of insect and disease populations, determine where suppression strategies are needed to meet management objectives and minimize value loss of tree vegetation affected by outbreaks of insect and disease pests.

*Decisions were signed and projects implemented to salvage mountain pine beetle infestations in the Pactola Campground area covering over three acres (approximately 29 ccf), and on the Spearfish/Nemo District covering approximately 10,105 acres (approximately 338 ccf). Other areas showing infestation (see Monitoring Item 20) are currently within project areas and will be treated through project activities.*

**GOAL 3: Provide for sustained commodity uses in an environmentally acceptable manner.**

**Objectives:**

301. Produce on a sustained basis and make available up to 233 million pounds of forage for livestock and wildlife use each year (weather permitting). The location and amount of forage produced under the forest canopy will vary with the density of the overstory. This may necessitate changes in where and how both livestock and wildlife grazing takes place on a local basis over the rotation of a stand of timber.

a. Livestock use will be up to 127 million pounds of forage per year or approximately 128,000 AUMs.

*1998 calendar year - permitted AUMs were 119, 593 AUMs and authorized (actually grazed) were 118,565 AUMs.*

303. Offer the following allowable sale quantity (ASQ) of timber on suitable and available timber lands in the next decade:

1997 REVISED FOREST PLAN		FY1998					
ALLOWABLE SALE QUANTITY FROM SUITABLE LANDS: (DECADE TOTAL)		AVERAGE ANNUALLY		PLANNED	ACCOMPLISHED		
				FY1998	OFFERED FY1998	SOLD FY1998	HARVESTED FY1998
SAWTIMBER		MILLION CUBIC FEET (MMCF)	HUNDRED CUBIC FEET (ccf)	HUNDRED CUBIC FEET (ccf)	HUNDRED CUBIC FEET (ccf)	HUNDRED CUBIC FEET (ccf)	HUNDRED CUBIC FEET (ccf)
Million Cubic Feet	181	18.1	181,000	206,767**	148,138*	161,880	140,759
(Million) Board Feet	838						
ROUNDWOOD							
Million Cubic Feet	21	2.1	21,000				
(Million) Board Feet	N/A						
TOTAL							
Million Cubic Feet	202	20.2	202,000				
(Million) Board Feet	838						

\* Includes regular program volume and salvage sale volume.

\*\*Planned - estimated volume from signed NEPA project decisions.

309. Provide the following changes to the Forest Development Road system (FDR) in support of long-term sustainable production of commodities.

	1997 Revised Forest Plan	Planned FY1998	Accomplished FY1998
Road Construction	280 miles/decade	35 miles	13.3 miles
Road Reconstruction	870 miles/decade	301 miles	102.0 miles
Road Obliteration	140 miles/decade	*	
Two-track Obliteration	270 miles/decade	*	24.8 miles

\*Road and/or two-track obliteration - 84.6

#### **GOAL 4:**

**Provide for scenic quality, a range of recreational opportunities, and protection of heritage resources in response to the needs of the Black Hills National Forest visitors and local communities.**

#### **Objectives:**

403. Improve the management of heritage resources and integrate them with recreation and education while providing for compliance with all applicable laws and regulations.

a. Increase numbers and types of heritage resource interpretive sites and opportunities. Provide five projects per year during the plan period.

*Accomplished - Heritage Sites Interpreted - 2 site.*

c. Nominate eligible sites (approximately five per year in the plan period) to the national Register of Historic places.

*No sites were nominated in FY1998.*

d. Inventory 50,000 acres each year in the plan period for heritage resource sites.  
***Accomplished - Heritage Inventory - 93,875 acres***

407. Provide the following Recreation Opportunity Spectrum (ROS):

RECREATION OPPORTUNITY SPECTRUM (ROS) (Thousands of Acres)	
Primitive	11
Semi-Primitive Non-Motorized	18
Semi-Primitive Motorized	12
Roaded Natural	1107
Roaded Natural Non-Motorized	95
Rural	1

***There were no changes to ROS in FY1998.***

408. Manage recreation use to stay within the capacity for the ROS class:

ROS CLASS	CAPACITY RANGE RECREATION VISITOR DAYS (RVDs/ACRE)		
	Low	Moderate	High
Primitive	0.25	0.5	0.75
Semi-Primitive Non-Motorized	1.00	2.0	3.00
Semi-Primitive Motorized	1.50	3.0	4.50
Roaded Natural Non-Motorized	1.50	3.0	4.50
Roaded Natural	3.00	6.0	9.00
Rural	<<<< Design Capacity >>>>		

(See glossary for ROS capacity classes)

***There were no changes to ROS in FY1998.***

411. Correct or minimize potential risks to human lives or property in developed recreation sites. As annual inspections are done, schedule maintenance activities to correct or minimize identified problems.

***Accomplished: An analysis was made of hazardous trees in developed recreation sites and corrections were made.***

416. Maintain and construct trails as displayed in the following table:

1997 REVISED FOREST PLAN		<b><i>FY1998 ACCOMPLISHED</i></b>
Non-motorized Trails (1996)	293 miles	<b><i>411.1<sup>3</sup></i></b>
Motorized Trails (1996)	14 miles	<b><i>24.6<sup>3</sup></i></b>
Non-motorized Trail Construction	204 miles <sup>1</sup>	<b><i>0</i></b>
Motorized Trail Construction or Conversion from Road to Motorized Trail	15 miles <sup>1</sup>	<b><i>0</i></b>
Total Forest Trail System	526 miles <sup>2</sup>	<b><i>435.7<sup>3</sup></i></b>
Reconstruction	100 miles <sup>1</sup>	<b><i>70.1<sup>4</sup></i></b>

<sup>1</sup>Per decade

<sup>2</sup>Total Miles at End of Decade

<sup>3</sup>Inventoried miles at end of FY1998.

<sup>4</sup>Miles reconstructed in FY1998.

**GOAL 5:**

**In cooperation with other landowners, strive for improved landownership and access that benefit both public and private landowners.**

**Objectives:**

501. Conduct approximately 500 to 1000 acres of land exchange each year over the decade, such as through purchase, exchange or donation, whenever lands meet land-adjustment criteria in Guidelines 8101 through 8104.

<b>LAND ADJUSTMENT COMPLETED FY1998</b>	<b>ACRES</b>
<i>Land Acquired through Exchange</i>	<b>414</b>
<i>Land Acquired through Donation</i>	<b>105</b>
<b>TOTAL ACQUIRED</b>	<b>519</b>
<b>LESS:</b>	
<i>Land Conveyed Out</i>	<b>255</b>
<b>NET CHANGE:</b>	<b>+264</b>

<b>LAND ADJUSTMENT BEING PROCESSED FY1998</b>	<b>ACRES</b>
<i>Land Acquiring through Exchange</i>	<b>479</b>
<i>Land Acquiring through Donation</i>	<b>0</b>
<b>TOTAL ACQUIRING</b>	<b>479</b>
<b>LESS:</b>	
<i>Land Conveying Out</i>	<b>498</b>
<b>NET CHANGE:</b>	<b>-21</b>

503. Acquire approximately 25 rights-of-way each year to improve Forest access.  
*Accomplished - Six rights-of-way were acquired in FY1998.*

**GOAL 6:**

**Improve financial efficiency for all programs and projects.**

**Objectives:**

602. Maintain the ability to respond to budget reductions by keeping overhead and fixed costs, including salaries, at less than 70 percent of the Forest budget.

*Fixed costs are currently approximately 74 percent of the Forest budget.*

# Standard Compliance

Except for the following, all standards/guidelines were incorporated into project decisions in FY1998.

The following Guidelines are acknowledged in several decision documents as not being met. We are considering a Forest Plan amendment on this guideline which will involve changes to the HABCAP program. Until this is decided, we are maintaining the habitat effectiveness values and not allowing projects to decrease these values.

5.1-3201. Deer and elk habitat effectiveness in a planning unit should at least meet the following values. Projects in planning units currently below these values should result in increased habitat effectiveness.

Elk Summer = 50 percent

Elk Winter = 45 percent

Deer Summer = 50 percent

Deer Winter = 45 percent

## **GUIDELINE**

5.4-3203. Deer and elk habitat effectiveness in a planning unit should at least meet the following values. Projects in planning units currently below these values should result in increased habitat effectiveness.

Elk Summer = 60 percent

Elk Winter = 55 percent

Deer Summer = 55 percent

Deer Winter = 50 percent

## **GUIDELINE**