

BLACK HILLS NATIONAL FOREST

MONITORING AND EVALUATION REPORT

FOR

FISCAL YEAR 2000

Black Hills National Forest

Update Research Needs..... 51

Appendix:

Public Monitoring Trips..... 53

Implementation of Goals And Objective..... 54

Standard Compliance 63

LIST OF PREPARERS

Item #	Monitoring Item	Preparers
Introduction	What This Document Is	
1	Air Quality	Dean Berger
9	Snag Retention	Kerry Burns
10	Thermal Cover	Kerry Burns
11	Down/Dead Woody Material	Deanna Reyher
13	Regeneration	Blaine Cook
14	Timber Production	Blaine Cook
17	Forage Utilization	Terry Padilla
18	Sensitive Species: Animal	Kerry Burns
18	Sensitive Species: Plants	Deanna Reyher
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	Wildlife – Threatened and Endangered	Kerry Burns
26	Wildlife – Habitat Capability and MIS	Kerry Burns
27	Scenic Integrity	Steve Keegen
28	Heritage Resources	Dave McKee
30	Recreation Opportunities	Rick Hudson
31	Recreation Use, Trends and Demographics	Rick Hudson
32	Access: Road Mileage	Tom Rath
33	Access: Off Road Vehicle Access	Peggy Woodward
34	Access: Trail Opportunities	Paul Bosworth
35	Access: Right-of-Way Acquisition	Glenn Kostecky
36	Real Estate: Land Adjustment	Glenn Kostecky
37	Economic Efficiency - Cost	Peggy Woodward
	Public Monitoring Trips	Peggy Woodward
	Implementation of Goals and Objectives	Peggy Woodward
	Standard Compliance	Peggy Woodward

Black Hills Forest Plan Monitoring and Evaluation Report Fiscal Year 2000

(October 1999 through September 2000)

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. The first amendment to this Forest Plan was completed in May 2001.

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

There are several different environmental factors monitored each year; however, 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.

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 2000 (FY2000).

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

Major Conclusions:

This is the third reporting year for monitoring information under the newly revised Forest Plan. At this point, no conclusions can be drawn from much of the data.

Upcoming Plan Amendments/Revisions:

The Forest has undertaken changes to our 1997 Revised Forest Plan. These changes, or amendments, are in response to direction from the Chief of the Forest Service, in his decision of October 1999 on various appeals of the Revised Plan, and to the settlement agreement stemming from the Veteran Salvage Timber Sale lawsuit. These changes are being accomplished in two phases.

The Forest has completed the analysis and documentation of the Phase I amendment to the Revised Forest Plan and a decision from the Regional Forester was signed in May 2001. The primary focus of this amendment is protection for a variety of wildlife and plant species. This

Black Hills National Forest

amendment will allow the Forest to proceed with some limited project decisions for the next two to five years.

The Phase II amendment process is about to begin. The focus of this amendment is broader than that of Phase I, and includes review of protections for a variety of plant and animal species; land management allocations and direction for certain areas of the Forest, including evaluating and designating research natural areas as appropriate, and a review of goods and services to be provided over the remaining years of the revised Plan, including timber volumes to be harvested. This amendment is expected to be significant and anticipated to take two to five years to prepare.

Settlement Agreement - In late August 2000 the Forest Service signed an agreement with several groups settling a lawsuit filed in November 1999. The lawsuit challenged implementation of certain projects on the Forest. As a result of the settlement agreement changes must be made to certain timber sales under contract, and certain sales not yet sold, which are covered in the scope of the agreement. The Forest is continuing to make these changes as required.

Visit the Black Hills National Forest website at www.fs.fed.us/r2/blackhills for ongoing information.

John C. Twiss
JOHN C. TWISS
Forest Supervisor

August 2, 2001
Date

Monitoring Item 1: Air Quality

The Black Hills National Forest continued to provide representation at the quarterly Pennington County Air Quality Board meetings during the year 2000.

The Forest experienced no violations of the Clean Air Act on the Black Hills National Forest for the period year 2000; nor was 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 on the Black Hills National Forest, which includes burning of forest residue piles, remains the single greatest potential air degradation activity. The Forest increased its prescribed burning activities in FY2000 to 2,600 acres. The revised Forest Plan establishes an annual objective of 8,000 acres of this type of activity. Increased prescribed burning activity 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 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 jointly with the Rapid City Air Quality Office on guidelines 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 State of South Dakota is currently developing a long range Air Quality Monitoring Database that will assimilate air-monitoring data, air quality influencing events and weather data from 1990 to the present. The Forest assists the State by providing information on the occurrence of wildfires and prescribed fire activities on the Forest to keep the database current. In addition to activities on the National Forest, information from other area land management agencies including the Bureau of Land Management, Fish and Wildlife Service Bureau of Indian Affairs and South Dakota State is entered in the database. Air monitoring data will come from the three area monitoring sites currently established at Rapid City, the Badlands and Pine Ridge. This

Black Hills National Forest

database once established will represent a comprehensive resource available to land management agencies in monitoring air quality trends and in determining air quality links with various resource management activities and or weather phenomena.

Monitoring Item 9: Vegetative Diversity – Snag Retention

Forest Plan Standard 2301 calls for an average of 1.08 hard snags at least 10 inches in diameter at breast height, and 15 feet tall in conifer forest habitat. Snag monitoring is typically done where timber sales are planned, since these areas generally are susceptible to fuelwood harvest. No timber sales were prepared in FY 2000 due to the appeal decision on the Forest plan and subsequent amendment work. Therefore, little was done to monitor snag densities.

The Mystic Ranger District replicated 27 transects in one project area to assess the effects of the April 2000 snowstorm on snag density. Snag density increased in the area to almost two snags per acre. The April snowstorm mostly affected the central and southern Black hills. The heaviest effect was on southeast facing aspects.

The Jasper Fire, approximately 83,500 acres in size, also created abundant snags within its perimeter. No transects were done in the fire, but visual inspection indicates that abundant snags are present throughout the fire.

Outside the areas affected by the Jasper Fire and the April snowstorm, snag densities are likely similar to past results. Past results have shown several project areas with snag deficiencies. Snag densities are influenced by two principal factors: proximity to a community and vehicular access. Many people prefer to cut standing snags for fuelwood. Unfortunately, the best snags are also 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.

The Forest currently has a prohibition on cutting standing dead trees (snags) to protect cavity dependant species habitat until the snag standards in the Forest Plan can be re-evaluated. Mitigation is included in environmental assessments 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. All of these mitigation measures should serve to increase snag numbers through time, however, it will likely be several years before the influence is detectable.

Monitoring Item 10: Vegetative Diversity – Thermal Cover

Objective 5.4-205: Provide thermal cover for elk, deer and winter turkey habitat on at least 20 percent of the forested portion of this management area.

This objective applies only to Management Area 5.4 that encompasses 394,393 acres of the Forest.

Thermal cover is defined as stands with crown cover 70 percent or greater and the tallest 40 trees in the stand must be 40 feet or taller. This equates roughly to structural stages 3C, 4C, and 5 (Revised Forest Plan EIS, 1996, Appendix B). Only 80 percent of structural stage 3C was included as described in the Forest Plan FEIS (1996, Appendix B).

The amount of thermal cover in Management Area 5.4 has increased from approximately five percent in 1995 to approximately eight percent in 2000. Even with the fire that covered 10 percent of the management area, we are moving toward the above objective.

Within the Jasper fire area, there are 39,959 acres within Management Area 5.4, or about 10 percent of the total of Forest Management Area (5.4). Prior to the fire, there were approximately 3,703 acres of thermal cover (based upon RMRIS queries of ponderosa pine stands with greater than 70 percent canopy closure) or 9 percent of the forested portion of the management area. As a result of the fire there are now only 135 acres of thermal cover within the Jasper fire, or less than one percent of the forested portions of the 5.4 Management Area.

Management Area 5.4 394,393 Acres	Thermal Cover Acres	Percentage of Thermal Cover
1995 RMRIS Database	19,047	5%
2000 RMRIS Database (2/2000)	30,938	9%
Less: Jasper Fire (9/2000)	27,235	8%
Pre-Fire Jasper Fire RMRIS Database	3,703	9%
Post-Fire Jasper Fire RMRIS Database	135	Less than 1%

Monitoring Item 11: Down/Dead Woody Material

Monitoring Item 11: Down/Dead Woody Material

Objective 212 (Forest Plan, page I-12). In conifer forested portions of a planning unit, provide at least once during a rotation (approx. 100 yrs.) an average of 5-10 tons per acre of down, dead woody material at least 3” in diameter, provided there is no conflict with fire or pest management objectives. In the shelterwood silvicultural system, accomplish this through commercial and pre-commercial treatments. Provide this tonnage no later than the removal cut (overstory removal) or a combination of removal cut and pre-commercial thinning of the established stand (thinning to be accomplished within 10 years of the removal cut).

Coarse woody debris data was gathered on active sales planned under the 1983 Forest Plan and on active sales planned under the revised Forest Plan (1997). Coarse woody debris objectives were not included in the 1983 Plan. Review of these timber sales was to find out what remained following harvest, and to monitor based on the 1997 Forest Plan monitoring requirements. Harvesting on sales planned under the revised Forest Plan (1997) began prior to this monitoring season. Those that were sampled are identified in *italics* in the table below.

The sampled units were randomly selected. Ten 100-foot transects were sampled for cutting units on Beagle and Blackhawk Salvage (due to the size, Blackhawk Unit 3 was sampled in two areas). The end of each transect was the starting point of the next transect. A random starting point direction was used for each transect. Sound logs 3” and greater (created by timber activities and resulting from natural drop) were recorded along transects. The information collected was compared to the chart provided by Russ Graham (Rocky Mountain Research Station) to get an estimate of down woody material per acre. Down woody material transect data was gathered in much the same way for cutting units on Dumbuk, Duck and Baldman timber sales, with the exception that a grid system had been used, with random transects starting from the grid points.

DOWN WOODY MATERIAL ESTIMATE			
District	Sale	Cutting Unit	Ton/Acre
Mystic	<i>Beagle</i>	1	5.4
Mystic	<i>Beagle</i>	11	3.4
Mystic	Blackhawk*	3	3.5
Mystic	Blackhawk*	3	1.3
Hell Canyon	<i>Dumbuk</i>	33	14.9
Mystic	Duck	1	12.8
Bearlodge	Baldman	1	30.9

*Blackhawk was planned under the 1983 Forest Plan, but incorporated standards and guidelines from the revised Forest Plan (this was one of the planning units that was in transition from the original to the revised plan).



Beagle Timber Sale, Cutting Unit 1

Coarse Woody Debris Sampling, Transect #3, October 24, 2000

Transect information provided an estimate of 3 T/A of coarse woody debris
(>3 inches in diameter)



Beagle Timber Sale, Cutting Unit 11

Coarse Woody Debris Sampling, December 5, 2000.



Beagle Timber Sale, Cutting Unit 11
Coarse Woody Debris Sampling, December 5, 2000



Blackhawk Timber Sale, Cutting Unit 3

Coarse Woody Debris Sampling, Transect 1, November 15, 2000

Transect information provided an estimate of 6.4 T/A of coarse woody debris
(>3 inches in diameter)



Blackhawk Timber Sale, Cutting Unit 3

Coarse Woody Debris Sampling, Transect 3, November 15, 2000

Transect information provided an estimate of 0 T/A of coarse woody debris
(>3 inches in diameter)

Monitoring Item 13: Regeneration

Surveys for natural regeneration were done on 17,684 acres in FY 2000. Out of the total acres surveyed, 7,762 acres were certified for regeneration. The remaining 9,922 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.

The Jasper fire killed an estimated 59,000 acres of previously forested lands. An analysis and decision will specifically address regeneration needs, methods, and locations where aggressive regeneration efforts should occur. Regeneration will be accomplished either naturally or by artificial means such as direct seeding or planting. Natural regeneration is the most desirable from an economic standpoint if favorable conditions can be achieved.

Monitoring Item 14: Timber Production

No timber sales were offered (advertised) on the Black Hills National Forest in FY2000 due to the October 1999 Forest Plan Appeal Decision and settlement negotiations for the Veteran timber sale lawsuit. Timber sales offered near the end of FY1999 were sold (awarded) in FY2000, totaling 76,307 ccf. This includes sawtimber (regular program and salvage sales), products other than logs (POL), and small commercial sales.

The Black Hills National Forest timber harvest volume in FY2000 was 127,356 ccf of sawtimber and 3,725 ccf of products other than logs, for a total of 131,081 ccf. See Implementation of Goals and Objectives, Objective 303, for a table display over time.

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 following table displays the 10-year allowable sale quantity expressed on an average annual basis:

Forest Plan	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 acres for 1998 through 2000 project decisions with the estimates for the decade as shown in the 1996 Final Environmental Impact Statement.

	DECADE TOTAL ACRES From Alt.G in the FEIS (page II-36)	PROJECT DECISION HARVEST ACRES		
		FY1998	FY1999	FY2000
TOTAL	255,000	47,710	32,773	-0-

No timber sale decisions were signed in FY2000. From the October 1999 Chief's decision on appeals of the 1997 Revised Forest Plan, it was determined that changes to forest plan direction for protection of species viability were needed before issuing further project decisions. The Forest is presently in the planning process addressing Washington Office Interim Direction.

Monitoring Item 17: Forage Utilization

During fiscal year 2000, the Forest Rangeland Management Program continued implementation of the Black Hills National Forest Permittee Monitoring Guide to assess short/long-term effects of livestock grazing on the Forest. Although the occurrence of wildland fire on the Forest resulted in a decreased level of monitoring and assessment from the annual program, district range managers and Forest permittees conducted short-term monitoring on approximately 4,000 acres of National Forest System land during FY2000. This monitoring, including stubble-height measurement, focuses on annual assessment of grazing practices and management plans in achieving allotment management objectives. Within this acreage, range managers also established long-term photo points on 35 (approximately one-third of the Forest's grazing allotments) to assess long-term changes in forest habitat resulting from grazing.

In addition to the Forest's permittee monitoring program, during the 2000 field season, range managers conducted ocular assessment on portions of all the Forest's 134 grazing allotments in association with permit administration.

In FY2000, the Forest randomly assessed approximately 30 of the Forest's 134 grazing allotments for compliance with Forest Plan utilization standards. Of this sampling, utilization on two of the allotments was found to be excessive. In both cases, corrective actions including grazing relief and alteration of grazing practices were used to obtain necessary rest for affected rangeland.

Monitoring Item 18: Sensitive Species- Animals

Northern Goshawk

The Hell Canyon District monitored 15 historic goshawk nests in FY2000. Two nests were active. This may be due to the late spring snowstorm, which occurred after nest initiation. The heavy snowfall damaged stand integrity and could have caused some nest abandonment. The Northern Hills District monitored 12 goshawk territories and 4 were active. One other nest was possibly active – an adult male was seen close to the nest, but a female was not seen on the nest. The Bearlodge District monitored 4 territories in FY2000. Three active nests were found and one new nest was found. They surveyed six other areas, but found no other nests. The Mystic District monitored 11 territories in FY2000. Two active nests were found. The nest in one territory was not found. A total of 42 territories were monitored and 12 were active (29%). In 1997, 15 of 44 territories (34%) were active. In 1999, seven of 12 territories (58%) were active. Goshawk nesting activity appears to fluctuate annually and may be dependent on weather and other random or variable events. Nine nests were lost in the Jasper Fire in FY2000.

Pygmy Nuthatch

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. Total number of birds and species counted is consistent with data collected since 1992. The pygmy nuthatch has only been recorded once on the Black Hills survey routes and trends cannot be derived from this information.

The Black Hills National Forest initiated an agreement with the Rocky Mountain Bird Observatory in 2000. This agreement would be initiated in 2001 and would include additional efforts to monitor populations of the pygmy nuthatch.

Lewis', Black-backed and Three-toed Woodpeckers

The Forest is working with the Rocky Mountain Research Station and the University of Wyoming on a study to evaluate habitat relationships; validate the ARC-HABCAP model for local Black Hills conditions; and assess species abundance. The study was initiated in FY2000 and will continue through May 2002.

Osprey

The Black Hills National Forest hosted four known, active osprey nests on the Forest in 2000. The number of nests and evidence of nesting attempts continues to increase on the Forest. All of the known nests sites were observed to be active in 2000. All of the active nest sites were visited during the nesting period to track nesting activities.

Land Snails

Dr. Terrence Frest conducted a Forest-wide survey of land snails during 1999. Dr. Frest resurveyed colonies he first found in the early 1990s to assess population changes and sample areas not included in the first study. The Forest has not received the final report to date. This information will yield trends in size and vigor for these colonies.

Marten

Marten surveys were conducted in FY2000 to better assess where marten occur. Twenty four-square-mile blocks were surveyed. Marten were found in four of the twenty blocks. All of the blocks with marten hits were located on the Northern Hills District. One marten hit was in a hardwood stand with no spruce habitat nearby. Marten are typically associated with spruce in the Black Hills.

Regal Fritillary Butterfly

As the Black Hills is on the periphery of the regal fritillary butterfly range, populations of this species would be difficult to assess and/or monitor. Currently the South Dakota Heritage Database tracks all confirmed sightings of this species within the Black Hills National Forest. Sightings records for this and other species were obtained from the State Database for use in current and future planning efforts.

Bats

The Fringed-tailed myotis and the Townsend's big-eared bat are two species known to hibernate in caves and abandon mines on the Black Hills National Forest. Forest biologists visited known hibernaculums in 2000 to assess the use of sites previously used by hibernating Townsend's. While no trends in populations can be assessed with this information it was noted that the two Forest caves known to provide hibernacula for these species were used.

The Black Hills National Forest coordinates winter bat monitoring with Jewel Cave National Park, cave and mine surveys with the South Dakota Game Fish and Parks, and uses this information in current and future planning efforts.

Monitoring Item 18: Sensitive Species (Plants)

Survey for sensitive plants has occurred on planning area projects to support NEPA analyses, and new population information has been submitted to the State Heritage Programs.

Summary of FY1998 Sensitive Plant Monitoring

In 1998 sensitive plant monitoring occurred on the Rednose Timber Sale Area (Bearlodge) and on the North Custer Allotment. Species located in those areas, along with general monitoring information follows.

Scirpus cyperinus: Six populations were revisited. All populations increased or remained the same when compared to the original data sheet. None of the populations appears to have decreased since the original survey. Some populations increased extensively. In areas revisited wherever habitat existed, *Scirpus* was present.

Two monitoring periods occurred on the Bearlodge District. During the first, livestock were present in most of the *Scirpus* sites. When the populations were revisited at a later date, there did not appear to be a significant impact caused by livestock, however, some clumps were grazed.

The increase in size of populations is believed to be due to the succession of wetter than average years.

Lycopodium dendroideum: One population was relocated, and there was one new population noted. The population that was relocated was extensive and healthy. There was no population estimate during the previous survey, so it is unknown whether the population has increased, or remained the same.

Adenocaulon bicolor: Several sites were relocated. Once again, there were no population estimates for the sites that were revisited, but the populations were very extensive. Some sites had new population estimates of well over 500 individuals. All populations were flowering and very healthy.

Viola selkirkii: One site was revisited. The population estimate was approximately the same as the estimate from the previous survey.

Carex intumescens: Population appeared to have increased over the previous survey.

General comments by the person doing the monitoring: In general, the stability of the populations monitored is very possibly moisture related. Most populations monitored were in grazing allotments. There was little evidence of impact caused by livestock grazing or trampling. Some grazing by wildlife was also noted. During a succession of drier years this could change.

Summary of FY1999 sensitive plant monitoring on the North Custer Allotment

Carex intumescens: One new population was located during this monitoring season that was not known from previous seasons. The new population appeared to be healthy. All individuals that were noted were flowering with up to 30 individuals per clump. The population count was larger and more extensive than data indicated in 1995. This was likely due to a difference in moisture in the 1999 season. The species composition and major/minor habitats were similar to the previous data. There was no indication of

damage from livestock, wildlife or mechanical means to the habitat or to the population.

Attempts were made to relocate another population, but it was not found (this population was also not relocated in 1998). It is possible that the original location information was incorrect.

Scirpus cyperinus: Two populations were revisited. The populations occur in moist meadows along creeks. Both occurrences were much more extensive than the previous years with over 800 individuals in Population 1. *Scirpus* occurs abundantly in the moist areas, but not saturated. There were some signs of seedhead depredation by wildlife or livestock. However, the population was more extensive than it was during the 1998 season and much more extensive than information gathered in 1995. This was likely due to the succession of wet seasons.

Viola selkirkii: The population had increased since the monitoring in 1998. There were more individuals in more areas than in 1998. During this season it was noted growing on moist shady benches and moist mossy rock crevices. There was no evidence of mechanical damage or depredation to the population. However, a large spruce tree had fallen in the population, and will likely cause more sites for the species to grow. Higher moisture than at the time of the original survey is believed to be the reason for the spread of the population.

In addition to monitoring on the North Custer Allotment, the Mystic District monitored two plant populations: an *Equisetum scirpoides* population on Spring Creek, and a “hot spot” for State Species on Nugget Creek. Both population areas appeared stable.

Summary of FY2000 Sensitive Plant Monitoring

In October 1999, the Washington Office directed that a more quantifiable approach be used for sensitive plant monitoring for those where there was determined a need to monitor. Following review of much of the sensitive plant site information on the Forest it was determined that sites needed to be revisited to gather additional baseline data to support more quantitative monitoring methods.

Therefore, sensitive plant monitoring for fiscal year 2000 was to collect baseline data for the previously known locations of selected species and get better location information using a global positioning system (GPS). Baseline data was gathered for the following species at previously recorded sites:

Species	Number of Previously Recorded Sites Revisited
<i>Adiantum capillus-veneris</i>	2
<i>Epipactis gigantean</i>	1
<i>Equisetum scirpoides</i>	25
<i>Lycopodium complanatum</i>	1
<i>Muhlenbergia glomerata</i>	13
<i>Platanthera orbiculata</i>	31
<i>Salix serrisima</i>	2

Black Hills National Forest

Species	Number of Previously Recorded Sites Revisited
<i>Scirpus cyperinus</i>	37
<i>Viola Selkirkii</i>	6
Totals	118

The *Equisetum scirpoides* number does not include three additional populations found in Cole Canyon this year.

Platanthera orbiculata numbers reflect three sites where the plant was not relocated, one in Bearlodge, and two in the Northern Hills.

Monitoring Item 20

Sub-Item 20a: Pine Beetle Susceptibility

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 RMRIS database, that was available in 2000 for this year's report. This data indicated that there were 1,040,000 acres of susceptible type (ponderosa pine) on the forest. Of this, about 610,340 acres (59%) were rated as low hazard, 333,320 acres (32%) were rated as moderate hazard, and 96,340 acres (9%) 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.

Low basal areas caused most of the stands that were rated low risk, a factor that can change significantly in 15-20 years.

The one area where mountain pine beetle risk has obviously gone down is in the area burned by the Jasper Fire. Areas where tree mortality was extensive are no longer at risk to mountain pine beetle.

	1998 Acres	Percent of Total Forested Acres	1999 Acres	Percent of Total Forested Acres	2000 Acres	Percent of Total Forested Acres
*Total Forested Acres	1,056,000	100%	1,043,898	100%	1,040,000	100%
Acres Rated Low Hazard	621,000	59%	590,841	57%	610,340	59%
Acres Rated Moderate Hazard	277,000	26%	347,117	34%	333,320	32%
Acres Rated High Hazard	158,000	15%	105,940	11%	96,340	9%

* Ponderosa pine forested acres

Monitoring Item 20

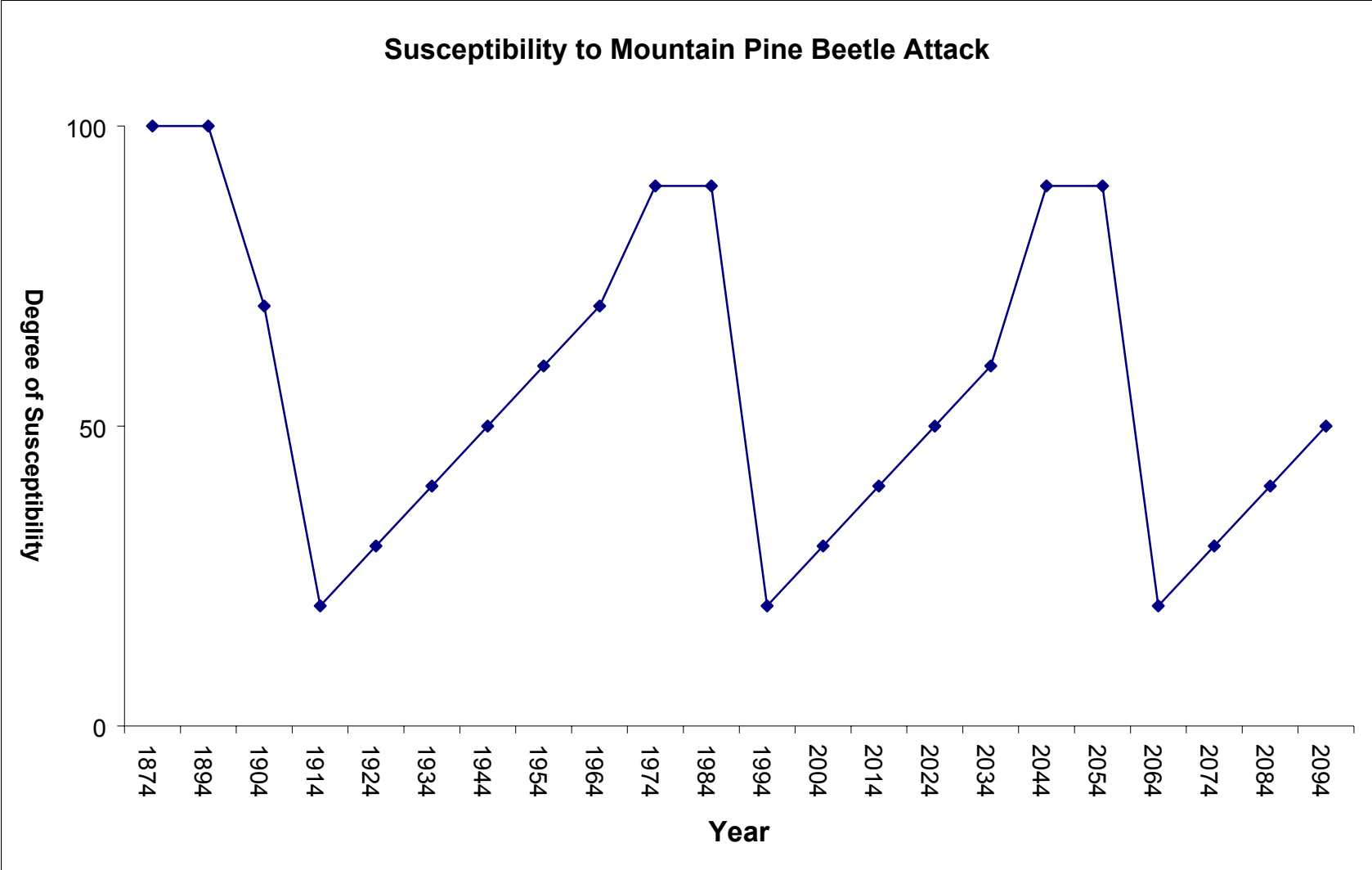
Sub-Item 20b: Pine Beetle Levels and Trends

An aerial survey was conducted in September 2000 to estimate damage levels caused by bark beetles, mountain pine beetle and Ips, on ponderosa pine. The survey indicated that there were 36,737 trees killed on National Forest land on 17,630 acres. This amounts to an estimated 664 thousand cubic feet of volume lost. An additional 1,538 trees on 1,459 acres were killed on lands surrounding the National Forest. This represents an increase of 12,500 trees killed in the Black Hills compared with 1999.

Most of the tree mortality was scattered in small groups or as single trees. However, large areas of concentrated mortality were detected in Beaver Park, Kirk Hill, near Steamboat Rock, areas south and west of Bear Mountain, around the Ditch Creek area, areas west of Deerfield, and the Boles Canyon area. In addition, about 2,000 acres of hail damaged pine were detected along Sheridan Lake Road west and south of Rapid City.

	FY1998	FY1999	FY2000
Trees killed	10,726	25,332	36,737
Acres Affected	10,062	17,396	17,630
Thousand Cubic Feet Of Volume Lost	190	450	664

The graph on the next page depicts the trend between the beetle epidemics and the time it takes the forest to become susceptible again. This graph was originally used in the Final Environmental Statement for the Timber Management Plan for the Black Hills National Forest FY76. It has been extended forward to include current information. It is based on historical ups and downs and assumptions that the same type of pattern could hold into the future.



Monitoring Item 20

Sub-Item 20c: Insect and Disease Evaluations

Biological evaluations of mountain pine beetle-caused mortality were conducted in the Beaver Park area, Steamboat Rock area, Bear Mountain area, and Pactola/Sheridan/Deerfield 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. Based on the ground surveys, beetle-caused mortality seems to be increasing in the Beaver Park and surrounding area, Bear Mountain area and Steamboat Rock area. Beetle populations in these areas seem to be increasing at the rate of at least a 2- to 3- fold rate.

In addition to these evaluations on bark beetles, we have initiated a long-term study to examine the flight periods of adult mountain pine beetle and pine engraver beetle. Baited funnel traps were checked weekly throughout much of 2000 to determine when the beetles began flying and when they stopped. This study will take several years to account for the year-to-year variation in flight periods caused by environmental factors.

The biological evaluations will be sent to the Supervisor's and the District Offices on the Black Hills National Forest. The evaluations have led to suppression projects being underway in the Kirk Hill area along with continued work in the Steamboat Rock and Blackhawk areas and the campgrounds.

Also in 2000, studies looking at alternative control measures for mountain pine beetle were initiated. One involves the use of mountain pine beetle anti-aggregation pheromones and the other involves using lethal baiting. Both of these projects are ongoing.

Significant hail damage caused defoliation and branch dieback of all tree species and ages along Sheridan Lake Road in the summer of 2000. The damage appeared as a dramatic browning of the crowns and branches, with most of the damage occurring on the same tree sides indicating directional weather damages. Most of the trees that sustained this damage will likely recover in 2001; however, there is a concern for Sphaeropsis tip blight occurring in this area. This disease frequently follows hail events and causes widespread infection through the wounds caused by the hail. Typically, this disease is of minor importance in forested areas, however, with the widespread hail damage, it could be cause for concern in the year 2001. The aspen and paper birch in the area were also damaged by the hail and appeared to have more dead branches and top-kill than usual.

Hail damage that occurred in the Kirk Hill area in 1999 was also re-evaluated. Most of the trees that had been damaged had recovered and appeared to be completely healthy; however, some of the most heavily damaged trees had died.

Monitoring Item 21: Exotics

Detection surveys for the gypsy moth were continued at recreation and administrative sites on the forest in 2000. No moths were caught in recreation sites on the National Forest; however, moths were caught in surrounding private campgrounds near the National Forest and at Mt. Rushmore. 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 179,000 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.

Of the 28,475 acres of fuel treatment, nearly 60 percent of it occurred in areas identified in the Black Hills National Forest Fire Protection Assessment (FPA) as having a high hazard index. Prescribed treatments in these areas reduced the hazard index to moderate or low levels. Less than 5 percent of fuel treatment activities occurred on areas of the Forest where the FPA rated existing fuel "hazards" low. 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. Significant wildland fire activity occurred on the Forest in 2000. In all, 92,679 acres of the Forest were burned. This acreage which accounts for greater than 10 percent of the total Forest significantly reduced fuel hazard ratings in the burned over areas. Based on the combined effects of fuel treatment and wildland fire activity an estimated 64,000 acres of the Forest moved from a high hazard index to a low hazard fuel profile. In addition, 34,000 acres of the Forest moved from a moderate to low hazard fuel index. In any given year, untreated or unburned areas of the Forest that are currently rated as being in a moderate fuel loading index will move into a high hazard rating. However, the net decrease of high hazard fuel acres on the Forest in 2000 was approximately 58,500 acres.

High Hazard Acres:

LRMP Baseline (Decade 1)	LRMP Baseline (Decade 2)	1998	1999	2000
580,434	519,274	564,561	547,744	489,244

Monitoring Item 23: Fuel Treatment

The Forest accomplished fuel treatment related activities on a total of 28,475 acres of the National Forest in FY2000. Included in this work were activities as listed below:

	FY1998	FY1999	FY2000
FUEL TREATMENTS	ACRES		
Pile Creation: Activity Fuels	1,454	595	1,056
Pile Burning:			
Natural Fuels	476	262	855
Activity Fuels	2,230	1,430	1,116
Prescribed Burning	1,633	1,830	2,600
Slash Removal	201	76	47
Urban Interface Thinning and Piling	28	111	560
Lop and Scatter (force account)	1,467	1,687	1,456
Pine Encroachment and Disposal	2,208	1,220	431
Pre-commercial Thinning and Associated Fuel Treatment	9,247	4,579	7,003
Aspen Regeneration	470	520	409
Purchaser Contribution - Lop and Scatter/Removal	7,041	6,027	12,967
Fuel Break Construction - associated with and included in the above acres	354	524	384

(See 2000 Forest Summary Silva Report as extracted from Rocky Mountain Resource Information System [RMRIS] database).

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 above-average fire occurrence year in 2000. There were 203 fires during the year of which 134 were lightning caused. The total number of fires was well above the Forest average of 139 and the number of lightning fires exceeded the normal 100. The abnormally dry year is further evidenced by the fact that an all time record of 92,679 acres of the National Forest were burned by wildfire. The wild fire season was highlighted by the 83,500 acre Jasper arson fire.

The Forest completed a revision of its National Fire Management Analysis System (NFMAS) data in 1999. The revised analysis and associated fire modeling places projected annual losses at 3,253 acres with a suppression budget funded at the Most Efficient Funding Level (MEL). Recorded losses as identified above were significantly above the norm and well above the NFMAS projections. The suppression program for FY 2000 was funded at approximately 40 percent of the revised MEL budget level. All fire reports have been submitted and entered into the FIRESTAT Database at Kansas City.

Monitoring Item 24

Sub-Item 24b: Fire Prevention

Indicators: Interagency involvement and or assessment of the following items:

- **Status of fire management agreements with partner agencies;**

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

- **Involvement in interagency fire training exercises;**

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 9th annual Hardy Exercises. Building on the prior years success exercises were again developed 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. Although some Cooperators elected to host separate Basic Fire School (S-190, 130 etc.) sessions in 2000 the Forest did elect to host one large session at the Box Elder Job Corp Administrative site that was open to all cooperators.

- **Involvement in pre-suppression and prevention activities;**

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 (i.e. Black Hills Sports Show) as well as at all office locations throughout the year.

- **Involvement in South Dakota Interagency Fire Council meetings and activities;**

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

Black Hills National Forest

prevention, pre-suppression and suppression activities in the Black Hills and surrounding areas. The Forest has representation at all meetings and participates in and provides representation to various committees and task groups of these two active organizations.

- **Effectiveness of the Custer Interagency Dispatch Center as assessed by fire management partners;**

Activities at the Center this year included a flurry of filling early season resource orders to meet the National fire emergency in Florida. Late season activities were associated with the fire situations in Region 5. This was a record year for activity at the Center due in part to the fire activity on Regional and National fronts as well as the flurry of local fire activity beginning in July.

The Center Manager received no complaints or dissatisfaction with activities at the Center in 2000.

- **Assessment of suppression support afforded partners through ICS process and as might be identified through post fire reviews, reports or exit conferences;**

and

- **All other information, which might cast light on the Forest's record of performance related to efficiency of operation in the fire management arena through interagency cooperation and prevention activities.**

Major fire activity in the Black Hills Region prompted reviews of the Centers effectiveness and ultimately increased interest in bringing the Center to a truer Inter-agency operational process. Efforts began in late 2000 to locate a more suitable Center location as well as to bring all cooperators into the dispatching process. This work is ongoing and status/progress will be available in 2001.

Monitoring Item 25: Wildlife – Threatened and Endangered species

This monitoring item is designed to track winter bald eagle trends on the Forest. There are neither known traditional winter roosts nor nests in the Black Hills. The Monitoring Implementation Guide calls for district biologists to record bald eagle sightings throughout the winter during normal work activities. Bald eagle sightings in FY2000 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.

District	Location	Number FY1998	Number FY1999	Number FY2000
Hell Canyon	Various locations on the District	13	12	14
Mystic	Various locations on the District	17	51	24
Northern Hills	Various locations on the District	7	4	9
Bearlodge	Various locations on the District	0	15	0
Total Forest		37	82	47

Monitoring Item 26: Wildlife – Habitat Capability Relationships, including Management Indicator Species (MIS)

The following is a summary of how the Forest is addressing MIS.

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. Fieldwork is scheduled through 2002.

South Dakota Department of Game, Fish and Parks game reports show an increase in population estimates and hunting licenses in recent years. In 1998, an aerial survey model estimated a population of approximately 251 elk (+/- 27 at 90% CI). A total of 753 licenses were issued for the firearm season. In 1999, the aerial survey model estimated a population of 401 elk (+/- 26 at 90% CI). A total of 1,024 licenses were issued in 1999 for the firearms season. Elk appear to be doing well in the Black Hills.

White-tailed and Mule Deer

According to South Dakota Department of Game, Fish and Parks game reports, licenses issued for white-tailed and mule deer have continued to decline in the Black Hills. It is apparent that there is a downward trend in white-tailed deer populations. Mule deer also appear to be declining, though to a lesser degree.

Turkey

According to South Dakota Department of Game, Fish and Parks game reports, spring turkey harvest and licenses show a slight upward trend from 1996 to 1999. Licenses sold have remained fairly stable over the last 10 years. Wyoming Game and Fish Department allowed unlimited licenses in the Wyoming portion of the Black Hills from 1993 – 1998, except 1996 when permits were limited to 500. Turkey populations appear to be stable in the Black Hills.

Mountain Goats

Mountain goat populations appear to be stable in the Black Hills. The South Dakota Department of Game, Fish and Parks continues to allow 4-5 licenses per year for mountain goats.

Mountain Lion

Mountain lions are currently being studied in a joint research project funded by the South Dakota Game Fish and Parks and South Dakota State University. This study, which began in 1998 and will be continued thru 2003, is attempting to analyze the territory size and estimate current population size and structure of mountain lions on the Black Hills National Forest. Mountain lion sightings (adults and kittens) have

Black Hills National Forest

increased over the past five years. Approximately 40 to 50 breeding adults are estimated to occupy Black Hills habitats. This information is needed to establish baseline information from which future population estimates can be compared.

Over the past two years, 12 lions have been collared in conjunction with the above-mentioned study. One collared mountain lion was killed as the result of the Jasper Fire, in the southwest portion of the Black Hills.

In addition South Dakota Game, Fish and Parks Department is collecting records of Mountain Lion sightings on the Forest and those records are made available for use in Forest planning.

Black Bear

The South Dakota Game, Fish and Parks Department tracks sightings of black bears on the Black Hills National Forest and other places in South Dakota. While reports of black bears are received every year, none of these have been confirmed.

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. Total number of birds and species counted is consistent with data collected since 1992. Pine woodland/forest species that are not cavity nesters or cone crop dependant show a stable trend. Northern flickers showed a decline for 1992 through 1999, with a definite rebound in 2000. Downy and hairy woodpeckers showed a decline for 1992 through 1998, but rebounded in 1999 and 2000. Lewis', red-headed, black-backed, and three-toed woodpeckers have all been reported on the routes, but not every year and in numbers too low to indicate any trends. No upward or downward trend is apparent for chickadees and nuthatches. Breeding bird survey calculated trends for these species indicate no particular trend, with black-capped chickadees down slightly and Red-breasted nuthatches up slightly.

Monitoring Item 27: Scenic Integrity

During FY2000 two road/dozer line rehabilitation projects that had been planned under the current Forest Plan, were monitored.

To date, no timber sales that were planned under the current Forest Plan have been completed. No timber sale areas were monitored in FY2000.

Road Closures:

Two representative examples of road closure and rehabilitation were reviewed on the Forest. The Jasper Fire dozer lines were reviewed by a number of specialists including three hydrologists, an engineer, a landscape architect, and a forester. The district recreation/heritage/timber/lands staff, a landscape architect, and a forester reviewed the Bearlodge Ranger District road closure and rehabilitation.

The Scenic Integrity Objective (SIO) for the management areas where the roads and dozer lines are located is both LOW and MODERATE, depending upon the location. Forest Plan Guideline 5210.

*A **LOW** scenic integrity refers to landscapes where the valued landscape characters “appears moderately altered”. Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed but compatible or complementary to the character within. Landscape Aesthetics, pg. 2-4.*

*A **MODERATE** scenic integrity refers to landscapes where the valued landscape characters “appears slightly altered”. Noticeable deviations must remain visually subordinate to the landscape character being viewed. Landscape Aesthetics, pg. 2-4.*

*A **HIGH** scenic integrity refers to landscapes where the valued landscape character “appears” intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident. Landscape Aesthetics, pg. 2-4.*

Within the **Jasper Fire** area, the dozer lines had been put in during a fire emergency, often at night, without any prior planning to location or analysis. During rehabilitation, care was taken to blend the soil back into the natural contours, smooth the earth, “replant” trees and stumps that had been moved aside (during construction of the dozer line), and then seed the area. In addition, care was taken to minimize any additional

vegetation disturbance. The finished product blends into the immediate foreground so well, that it is not evident even to a trained observer. Overall this rehabilitation work met the Scenic Integrity Objective of High.

Jasper Fire Area Dozer Line Rehabilitation



Before

After

(The “X” depicts the same spot in each photo.)

The above photos are an example of a dozer line that was rehabilitated along the edge of the Jasper Fire area. Note the leaning aspen tree (in the photo on the left) and shrubs were “replanted” within the dozer line (photo on right). Also note the re-contouring of soil and the random disbursement of limbs to help rehabilitate the site.

Black Hills National Forest

On the **Bearlodge Ranger District**, existing local (intermittently used) roads that were no longer needed for resource management were closed, and approximately the first 100 yards (at least out of sight) was re-contoured, by pulling up the fill slopes and placing the material back to the original contours. The finished product is still clearly evident in the immediate foreground to the casual observer, due to the soil/vegetation contrast and the roughness of the finished surface. The site was not seeded so it will take a couple years to naturally re-vegetate itself. Overall this rehabilitation work met the Scenic Integrity Objective of Moderate; however when the site re-vegetates it may meet an SIO of High.

Bearlodge RD Road Closure & Rehabilitation



The above photo taken from the road shows re-contouring for approximately the first 100 feet. Note the log and stumps placement to deter further use. A lack of readily available fill material, for the backhoe accomplishing this work, prevented them from completely matching the original contours.

Bearlodge RD Road Closure & Rehabilitation



The above photo depicts the re-contouring on approximately the next 100 feet of road. Again, note the large boulders that were placed to further discourage any attempt to re-open this road. In addition, an ample amount of material was available to match the original contours.

	Scenic Integrity Objective	Scenic Integrity Achieved	Road Development Level
Jasper Fire Area Dozer Line Rehab	Low/Moderate	High	NA
Bearlodge RD Road Closure and Rehab	Low/Moderate	Moderate	1

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). 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.

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 low numbers exhibited in monitoring items 5 through 7 indicate a reduction in national forest heritage resource dollars over the past few years and a need to increase efforts in the Section 110 portion of the heritage resource program.

MONITORING ITEMS	FY1998	FY1999	FY2000
1. Heritage resources compliance process completed prior to signing of environmental decision document (comply with NEPA, NHPA, and Chiefs Direction).	229 Projects	59 Projects	107 Projects
2. Avoidance or mitigation requirements effectively implemented prior to, during, and after project (comply with NHPA/NEPA).	32 mitigation or avoidance projects were monitored.	26 mitigation or avoidance projects were monitored.	41 mitigation or avoidance projects were monitored.
3. Inventories conducted to comply with the Archaeological Resource Protection Act, as amended 1988.	76 projects covering 93,873 acres were completed.	225 projects covering 78,938 acres were completed.	127 projects covering 28,686 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).	106 sites were monitored.	97 sites were monitored.	143 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.).	2 public outreach projects, and 1 interpretive program were provided.	25 interpretive programs were provided.	27 interpretive programs were provided.
6. Number of heritage resource stabilization and rehabilitation projects conducted (comply with NHPA).	1 project was conducted.	2 projects were conducted.	5 projects were conducted.
7. Increase in heritage resources listed on the National Register of Historic Places (comply with NHPA).	0 sites were nominated to or listed on the NRHP.	0 sites were nominated to or listed on the NRHP.	0 sites were nominated to or listed on the NRHP.

Monitoring Item 30: Recreation Opportunities

ROS:

There were no changes in FY 2000 to the Recreation Opportunity Spectrum (ROS) as mapped in the Revised Forest Plan.

Recreation Activity

ACTIVITY OUTPUTS	UNITS	1997	1998	1999	2000
Developed Recreation	Recreation Visitor Days	365,800	342,600	339,600	331,600
Downhill Skiing	Recreation Visitor Days	5,300	4,500	4,000	*
Dispersed Recreation	Recreation Visitor Days	2,920,000	2,814,200	2,886,800	2,820,200
Off-road Vehicle Use	Recreation Visitor Days	77,400	74,400	75,900	77,000
Wilderness Use	Recreation Visitor Days	34,500	28,300	36,500	32,200

* Terry Peak Ski area transferred from Forest to private land in an exchange.

Developed Recreation Discussion:

The backlog of deferred maintenance needs for our developed sites continues to be a major concern related to meeting Forest Plan standards for maintaining developed recreation sites. Operation and maintenance funding from appropriated dollars has been historically insufficient to meet the needs. The deferred maintenance backlog for recreation facilities on the Forest is estimated at approximately \$26,000,000. This backlog is divided into four categories:

Category 1: approximately \$10,000,000 of backlog for facility repair and reconstruction and resource treatment needed to comply with health and safety standards.

Category 2: approximately \$6,000,000 of backlog for resource treatment needs including vegetation treatment, soil and surface treatment, and cultural resource site protection and mitigation.

Category 3: approximately \$10,000,000 of backlog for facility repair and reconstruction and resource treatment needed to keep a site open in compliance with planned management standards.

Category 4: approximately \$200,000 of backlog for facility repair to return to a user fee system previously charged or to continue a user fee system.

The Forest has made use of service partners wherever possible, such as our campground concessionaire. This allowed the Forest to take advantage of the skills available in the private sector for operation of our developed facilities where fees are charged. Forest-wide, our fee sites are paying for their day-to-day operation through the concession permit.

Special use fees paid to the Forest from the concessionaire are re-invested into our developed sites through the Granger-Thye fee offset program. In 2000, this fee system enabled the Forest to re-invest over \$40,000 in permit fees back into our developed sites. This has allowed the Forest to leverage our limited appropriated dollars and to enhance the services provided the public.

The Black Hills National Forest Visitor Center overlooking scenic Pactola Lake and satellite visitor information stations at our district offices provided significant developed and dispersed

Black Hills National Forest

recreation starting points for the visiting public. With the commitment of our recreation information specialists at the front desks, these facilities were open 7 days a week during the summer season.

Dispersed Recreation Discussion:

With the Mickelson and Centennial Trails, snowmobiling, cross-country skiing, ATV and ORV routes, an established network of Forest roads and hiking trails, the Peter Norbeck Scenic Byway, a multitude of fishing opportunities at national forest lakes, and some of the best elk and deer hunting in South Dakota and Wyoming, the Black Hills National Forest continues to be a leader in providing dispersed recreation opportunities.

The Black Hills National Forest is well roaded. There are over 6,000 miles of Federal, State, County and Forest Service roads serving 1.3 million acres of National Forest land. Because of this situation, there are limited opportunities for non-motorized or unroaded kinds of recreation experiences.

There are three official inventoried roadless areas on the Forest as established in the 1997 Revision to the Black Hills National Forest Land and Resource Management Plan. These are the Beaver Park roadless area on the Northern Hills Ranger District in South Dakota, and the Sand Creek and Inyan Kara roadless areas on the Bearlodge Ranger District in Wyoming.

Wilderness Resource:

Monitoring of trail use by a wilderness ranger and use of trail counters 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. Indications are that visitors to the Black Elk Wilderness are more interested in a specific destination than a true wilderness experience.

Forest Plan Guideline 1.1A-5103 estimates a carrying capacity of a 32,100-recreation visitor-day (RVD) level before management activities might be needed to protect the wilderness resource. The Forest is exploring the use of a required self-registration system, similar to what has been used successfully on the Bighorn National Forest for the Cloud Peak Wilderness. This registration system has demonstrated positive results in making the wilderness visitor aware of the limitations of the wilderness resource and the steps that the visitor can take to insure their use provides for an enduring wilderness resource for future generations. This type of visitor awareness is generally lacking from the majority of Black Elk Wilderness users encountered by Forest Service personnel.

Monitoring Item 31: Recreation Use, Trends, and Demographics

Occupancy rates at our concession-operated campgrounds were around 40 percent, similar to last year. Non-fee forest service campgrounds, operated by the Forest as donation sites, had estimated occupancy rates of 18 percent. Golden Age passport use at our fee campgrounds averaged 16 percent, similar to the use in 1999. This indicates, that at a minimum, at least 16 percent of our campers were over 62 years old.

Total revenues for overnight camping at our fee sites, forest-wide, totaled approximately \$349,000 in 2000. This revenue amount was down approximately three percent from 1999. Levels of developed and dispersed summer recreation use mirrored this same amount of decline. Firewood and Christmas tree permits issued in 2000 were down compared to 1999, confirming that dispersed recreation use was down slightly in 2000. Dalton Lake campground underwent renovation in 2000 and was closed; however Oreville campground was reopened with the completion of the Highway 16 road construction project.

The overall decrease in developed and dispersed use can be attributed to the combination of several factors including poor snowfall in the winter of 1999-2000, a spring ice storm, high fire danger from July to October, and the Jasper and Flagpole fires this past summer. The Jasper Fire resulted in the closing of several campgrounds prematurely and had a discouraging effect on potential tourists and campers. The high fire danger in late July, August, and September prohibited the use of campfires in our developed sites, which kept some campers at home.

Auto travel and driving for pleasure, on one of the finest networks of forest roads in the country, continues to be the number one dispersed recreation activity on the Forest. 2000 also marked the 60th anniversary of the Sturgis Motorcycle Rally, which brought in an estimated 500,000 bikers, double the number that usually attends. The first two weeks of August saw many of our paved forest roads and our forest offices more crowded than usual.

The Forest noted a slight increase in ORV/ATV use this past year with some management concern related to unlimited ATV use and its associated resource impacts. There are some specific areas where ATV use has increased significantly and a few urban-interface situations where local groups heavily use small areas. Some complaints did arise during hunting season on the extensive use and presence of ATV's throughout the Forest.

**BLACK HILLS NATIONAL FOREST
CAMPGROUND FEES AND PERCENT OCCUPANCY
1996 – 2000**

	Average											
	Unit Fees		Fee Campgrounds			Non-fee Campgrounds			All Campgrounds			
	Forest	Private	Total Fees	Occupied	Available	Percent	Occupied	Available	Percent	Occupied	Available	Percent
Year	Service	Sector	Collected	Units	Units	Occupancy	Units	Units	Occupancy	Units	Units	Occupancy
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%
1999	\$12.43	\$22.54	\$357,883.50	31,363	78,668	40%	1,738	3,795	46%	33,101	82,463	40%
2000	\$12.49	\$22.75	\$349,280.00	28,046	69,907	40%	679	3,746	18%	28,725	73,653	39%

Black Hills National Forest

Summaries of Selected National Forest Activities:

Black Hills Visitor Center	
Year	Visitors
1996	74,079
1997	56,893
1998	58,018
1999	58,300
2000	70,300
Annual Trend	>2.46%

Black Elk Wilderness		
Year	Visitors	Visitor-Days
1996	69,227	36,900
1997	64,702	34,500
1998	53,098	28,300
1999	73,000	36,500
2000	64,325	32,163
Annual Trend	>11.14%	>24.89%

National Forest Campgrounds (Occupied Camping Units)			
Year	Fee	Non-Fee	All
1996	33,354	1,985	35,339
1997	32,395	1,284	33,679
1998	33,036	1,717	34,753
1999	31,363	1,738	33,101
2000	28,046	879	28,925
Annual Trend	<3.3%		<4.15%

National Forest Golden Age/ Golden Access Permits				
Year	Full Price	Half Price	Total Paid Units	Percent Golden Age
1996	~	~	~	~
1997	~	~	~	~
1998	28,302	4,734	33,036	14.3%
1999	26,231	5,132	31,363	16.4%
2000	23,547	4,497	28,044	16.0%

~

Firewood and Free Use Permits			
Year	Firewood MBF	Free Use MBF	Total
1996	3278	258	3536
1997	3821	238	4059
1998	3463	266	3729
1999	3400	655	4055
2000	1904	1336	3240
Annual Trend	~	~	-2.65%

Christmas Tree Permits			
Year	Individual	Commercial	Total
1996	6,211	348	6,559
1997	5,761	341	6,102
1998	6,079	113	6,192
1999	5,879	313	6,192
2000	5,736	669	6,405
Annual Trend	~	~	-3.17%

Monitoring Item 32: Access- Road Mileage

The following was the status of the Forest Development Road (FDR) System at the end of FY1999:

	December 1996 FEIS	FY98 MILES	FY99 MILES	FY00 MILES
FDR maintenance levels 1,2,3,4,5	5,204* ¹	5,219	5,271.0	5,281.1
FDR miles constructed	NA	13.3	21.2	1.6
FDR miles reconstructed	NA	102.0	178.1	53.6
FDR miles under Forest Service jurisdiction	4,651* ²	4,655.0	4,696.0	4,706.0
FDR miles under local government jurisdiction	553* ²	564.0	575.0	575.1
FDR miles obliterated	NA	0.0	27.3	18.3
FDR miles open year long, seasonally for low clearance vehicles	653* ²	687.0	687.0	734.0
FDR miles open year long, seasonally which are accessible to high clearance vehicles only	3,510* ²	3,274.0	3,280.0	3,236.0

*1 – December 1996 FEIS, pg II-61.

*2 – December 1996 FEIS pg III-426.

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 to review access needs to private lands.

Monitoring Item 33: Access- Off-Road Vehicle Access

In FY2000, a travel order was issued for the 83,500-acre Jasper Fire area closing on- and off-road vehicle access to the public. US Highway 16 remained open to the public. Exemptions included permittees, federal, state and local officers, rescue or fire fighting forces, owners or lessees, and residents of the area. This was done for public health and safety. For the remainder of the forest, travel opportunities remained unchanged.

Monitoring Item 34: Access- Trail Opportunities

The following is the status of the trail system:

	FY1998 MILES	FY1999 MILES	FY2000 MILES
Forest development trail miles constructed	-0-	-0-	-0-
Forest development trail miles reconstructed	70.1	2.7	12.6
Forest development trail miles obliterated	-0-	-0-	-0-

Forest development trail miles by user type:

	FY1998 MILES	FY1999 MILES	FY2000 MILES
Hiking, biking, horse, skiing, motorized:	17.7	17.7	14.2
Hiking, biking, skiing, motorized:	6.9	6.9	0
Hiking, biking, horse, skiing:	345.3	231.1 ¹	243.8
Hiking, biking skiing:	6.8	7.8	6.8
Hiking, horse, skiing:	30.8	29.2	32.6
Hiking, skiing:	22.2	22.2	22.5
Hiking, horse	3.4	3.4	0
Hiking:	2.6	2.3	2.2
TOTAL:	435.7	320.6	322.1

¹ Mickelson Trail operation and maintenance has been transferred to the State of South Dakota.

Mileage changes are due to trail use being transferred to and from other user types and 1.5 miles of new trail in hiking, biking, horse, skiing.

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
5. Flume Trail
6. Bearlodge Trails
7. Little Spearfish Trail

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

TYPE	FY1998			FY1999			FY2000		
	CASES	MILES	ACRES	CASES	MILES	ACRES	CASES	MILES	ACRES
Acquired	6	1.4	11.04	8	1.09	10.55	8	1.73	13.15
FLPMA*									
Forest Road Easements Conveyed	2	1.48	11.87	3	.095	4.07	3	1.10	4.70
Private Road Easements Conveyed	5	1.21	7.99	7	.8067	6.5	7	.95	4.90
FRTA** Easements Conveyed ¹	2	13.45	244.8	0	0	0	0	0	0

*FLPMA - Forest Land Policy Management Act

**FRTA - Forest Road and Trail Act

¹Previously under special use permit that was converted to easements in 1998.

Monitoring Item 36: Land Adjustment

	FY1998	FY1999	FY2000
LAND ADJUSTMENT COMPLETED	ACRES		
Land Acquired through Exchange	414	479	526
Land Acquired through Donation	105	-0-	0
TOTAL ACQUIRED	519	479	526
LESS:			
Land Conveyed Out	255	498	575
NET CHANGE:	+264	-19	-49

LAND ADJUSTMENT BEING PROCESSED	ACRES	ACRES	ACRES
Land Acquiring through Exchange	479	894	683
Land Acquiring through Donation	0	-0-	80
TOTAL ACQUIRING	479	894	763
LESS:			
Land Conveying Out	498	723	606
NET CHANGE:	-21	+171	+157

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	FY98 DOLLARS	FY99 DOLLARS	FY00 DOLLARS
	RECREATION, WILDERNESS AND HERITAGE RESOURCES	~	~	~
	OPERATIONS	~	~	~
NFRM	Recreation Management	835,000	584,000	630,900
NFWM	Wilderness Management	79,000	28,000	23,700
NFHR	Heritage Resources	75,000	67,000	43,400
	INVESTMENTS	~	~	~
CNRF	Recreation Construction	-0-	145,000	See PAFC
CNTR	Trail Construction	222,000	107,000	See PATC
PATC	Trail Construction	*	*	211,700
	WILDLIFE AND FISH	~	~	~
	OPERATIONS	~	~	~
NFWL	Wildlife	197,000	138,000	88,700
NFIF	Inland Fish	62,000	50,000	54,600
NFTE	Threatened, Endangered and Sensitive Species	28,000	48,000	32,700
	RANGE	~	~	~
	OPERATIONS	~	~	~
NFRG	Livestock Grazing Management	317,000	457,000	307,800
NFRV	Noxious Weeds	247,000	276,000	441,900
RBRB	Range Betterment	52,000	68,000	48,300
	TIMBER	~	~	~
	OPERATIONS	~	~	~
NFTM	Timber Management	4,933,000	5,109,000	3,900,400
NFFV	Forest Land Vegetation Management	467,000	140,000	100,800
	INVESTMENTS	~	~	~
CNTM	Timber Road Construction/Reconstruction	655,000	See CNRD	See PARD
	SALVAGE	~	~	~
SSSS	Timber Salvage	349,000	950,000	597,400
	WATER, SOIL, AND AIR	~	~	~
	OPERATIONS	~	~	~
NFSO	Watersheds	76,000	68,000	34,600
NFSI	Soil Improvement	132,000	154,000	53,600
TRTR	Ten Percent Road and Trail Fund	458,000	1,010,000	476,800
	MINERALS	~	~	~
	OPERATIONS	~	~	~
NFMG	Minerals	206,000	192,000	161,200
	INFRASTRUCTURE	~	~	~
	OPERATIONS	~	~	~
NFFA	Facilities Maintenance	239,000	189,000	See PAMF
PAMF	Facilities Maintenance	*	*	489,000
QMQM	Quarters Maintenance	32,000	61,000	16,900
NFRD	Roads Maintenance	843,000	See CNRM	See PAMR
CNRM	Roads Maintenance	*	902,000	See PAMR
PAMR	Roads Maintenance	*	*	896,300
HTER	Flood Repair	66,000	1,000	-0-
HWHW	Hazardous Waste Management (Nemo)	380,000	*	20,000
NFRN	Facilities Maintenance - REC	*	240,000	See PAMF
NFTR	Trail Maintenance	*	63,000	See PAMT
PAMT	Trail Maintenance	*	*	66,100
	INVESTMENTS	~	~	~
CNFA	Facility Construction	-0-	10,000	See PAFC

Black Hills National Forest

FUND CODE	FUND	FY98 DOLLARS	FY99 DOLLARS	FY00 DOLLARS
PAFC	Facility Construction	*	*	1,233,700
CNGP	Road Construction	105,000	See CNRD	See PARD
CNRN	Road Construction	6,000	See CNRD	See PARD
CNRD	Road Reconstruction/Construction	*	1,068,000	See PARD
PARD	Road Construction	*	*	1,045,700
	REAL ESTATE, PLANNING, AND LAW ENFORCEMENT OPERATIONS	~	~	~
NFLP	Land Management Planning	240,000	115,000	See NFPN
NFPN	Land Management Planning			289,200
NFIM	Inventory and Monitoring	70,000	254,000	1,436,500
NFLE	Law Enforcement	95,000	71,000	52,700
NFLA	Real Estate Management	322,000	312,000	384,600
NFLL	Landline Location	202,000	174,000	283,800
LALW	Land Acquisition, Land and Water	32,000	16,000	36,500
SPEP	Economic Action Program (Community Assistance)	34,000	30,000	See SPEA
SPEA	Economic Action Program (Community Assistance)	*	*	30,000
	GENERAL ADMINISTRATION OPERATIONS	~	~	~
NFGA	General Administration	1,287,000	1,498,000	981,600
	TRUST FUNDS	~	~	~
CWKV	Knutson-Vandenberg	3,320,000	2,591,000	2,678,400
RTRT	Reforestation	164,000	109,000	-0-
CWFS	Other Coop Work	603,000	432,000	298,300
NFNF	NFS-Protection and Management Reimbursements	211,000	408,000	461,800
HTAE	Federal Highway Administration Expense	7,000	13,000	12,000
NWBM1	Water System Improvements	*	82,000	-0-
PEPE	Timber Roads Purchaser Elective	*	371,000	37,100
SPFH	Forest Health Management, Federal Land	26,000	133,000	7,200
NFSD	Senior Community Service Employment Program	41,000	136,000	131,800
	FIRE MANAGEMENT	~	~	~
BDBD	Brush Disposal	170,000	228,000	227,200
WFPR	Fire Pre-suppression	1,676,000	2,174,000	2,738,500
WFHF	Hazardous Fuel Reduction	362,000	451,000	810,300
WFSU	Emergency Suppression and Rehabilitation	812,000	941,000	6,639,600
	TOTAL	\$20,735,000	\$22,664,000	\$28,515,300

*New or discontinued fund codes

Receipts:

Gross receipts before payments to counties:

DESCRIPTION	FY1998 DOLLARS	FY1999 DOLLARS	FY2000 DOLLARS
Timber	16,680,806	15,064,311	13,893,300
Grazing	117,983	117,186	118,300
Recreation - Special Uses (recreation residences)	74,499	80,198	133,900
Recreation - User Fees (admissions, outfitter guide permits)	31,213	15,546	21,500
Utility Special Use Permits	73,400	39,493	38,800
Minerals	7,294	6,304	6,800
Special Uses other than Recreation, Utilities, and Minerals	40,587	55,581	44,700
TOTAL	\$17,025,782	\$15,378,619	\$14,257,300

Update Of Research Needs

The following research needs were identified in FY2000:

1. Wildlife habitat relationships model (HABCAP) validation:
 - Brown Creeper
 - Pygmy Nuthatch
2. Wildlife distribution and abundance
 - Regal Fritillary
3. Northern Goshawk population dynamics
4. Snail genetics for sensitive snail species.

Appendix

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

Public Monitoring Trips FY2000

The public monitoring trips begun in fiscal year 1998 were scheduled in FY2000. However, due to a heavy fire season, only one trip (Transportation Management) was held. The remaining trips were cancelled.

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

This program establishes days throughout the summer and fall months when the public is invited to help the Forest employees' complete specific monitoring activities. Previous years' scheduled trips were well attended. The attendance averaged approximately 15-25 participants each trip. We also had representation from county, state and other federal agencies on most trips.

We plan to continue the program in 2001. The trip schedule will be posted on our internet site when it is finalized. Please contact Peggy Woodward at 605-673-2251 (email-pwoodward@fs.fed.us) for further information or check our web site, www.fs.fed.us/r2/blackhills.

IMPLEMENTATION OF GOALS AND OBJECTIVES

This section of the report describes progress in FY2000 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.

The Revised Forest Plan was approved in June 1997. Several groups subsequently appealed it in three separate appeals. There were 27 appeal points identified and reviewed by the Washington Office (WO). In an October 12, 1999 decision, the WO affirmed the Forest Plan on all but 2 of the 27 appeal points, with further instructions concerning the issues of species viability and diversity. Amendment One and Phase II previously mentioned are the results of these instructions.

The Forest withdrew seven decisions signed in September 1999 pending determination of the need for further analysis as a result of the Washington Office appeal decision.

In FY2000 no activities were planned. Therefore there is no "Planned" section in this FY2000 report. Those decisions that were withdrawn in 1999 will be included when they are re-issued.

The following terms are used throughout this section:

Planned - The ***Planned*** designation represents activities planned in FY2000. 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 FY2000. Most of 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 February 13, 2001. Changes and new information are entered into the RMRIS database after the outdoor work season ends each year. The database is frozen when these entries have been added.

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 FY2000.

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 - -0-

Accomplished – 1,097 acres of restored and enhanced hardwoods.

Current Condition (from RMRIS) – changes reflect both accomplishments and mapping corrections:

FY	1995 RMRIS Acres	1998 RMRIS Acres	1999 RMRIS Acres	2000 RMRIS Acres
Hardwoods	<i>59,734</i>	<i>59,661</i>	<i>63,286</i>	<i>61,626</i>

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 - -0-

Accomplished – 234 acres restored.

Current Condition (from RMRIS) – changes reflect both accomplishments and mapping corrections:

FY	1995 RMRIS Acres	1998 RMRIS Acres	1999 RMRIS Acres	2000 RMRIS Acres
Grasslands	<i>101,861</i>	<i>104,341</i>	<i>105,540</i>	<i>107,595</i>

Black Hills National Forest

209. Manage at least 5 percent of a timber harvest project area for the grass/forbs structural stage. Grass/forbs 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/forbs openings greater than 1 acre within low-density stands.

Planned - -0-

Accomplished – 213 acres of patch-cuts.

Current Condition:

FY	1995 RMRIS Acres	1998 RMRIS Acres	1999 RMRIS Acres	2000 RMRIS Acres
Patch-cuts	231	729	974	494

Wildfire - Jasper Fire

FY2000 Jasper Fire	Pre-fire Acres	Post-fire Acres
Grass/Forb in Aspen	223	376
Grass/Forb in Ponderosa Pine	1,772	51,862
TOTAL	1,995	52,238

211. In conifer forested portions of a planning unit (diversity unit, watershed, or land-type 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:

PROJECT AREA	HARD SNAG DENSITY (SNAGS PER ACRE)
No Projects FY2000	-0-

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 that was done in 1999 assesses a previous survey and adds new areas to determine trends in size and vigor. The final report is expected in 2001.

Black Hills National Forest

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 - -0-

Accomplished – 2,600 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 28,475 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.

See Monitoring Item 20c for analysis information.

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.

2000 calendar year - permitted AUMs were 122,003.

Black Hills National Forest

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

1997 REVISED FOREST PLAN ALLOWABLE SALE QUANTITY		<u>ANNUAL AVERAGE</u>		SAWTIMBER	PLANNED FY1998	OFFERED FY1998	SOLD FY1998	HARVESTED FY1998
		MILLION CUBIC FEET (ccf)	HUNDRED CUBIC FEET (MMCF)					
SAWTIMBER								
Million Cubic Feet	181	18.1	181,000	Hundred Cubic Feet	207,000*	148,138**	161,880	140,759
(Million) Board Feet	838			Million Board Feet				
ROUNDWOOD				ROUNDWOOD				
Million Cubic Feet	21	2.1	21,000	Hundred Cubic Feet				
(Million) Board Feet	N/A			Million Board Feet				
TOTAL				TOTAL				
Million Cubic Feet	202	20.2	202,000	Hundred Cubic Feet	207,000*	148,138***	161,880	140,759
(Million) Board Feet	838			Million Board Feet				

SAWTIMBER	PLANNED FY1999	OFFERED FY1999	SOLD FY1999	HARVESTED FY1999
Hundred Cubic Feet	20,200*	160,756**	144,100	138,687
Million Board Feet				
ROUNDWOOD				
Hundred Cubic Feet	2,020*		856	1,316
Million Board Feet				
TOTAL				
Hundred Cubic Feet	22,220*	160,756**	144,956	140,003
Million Board Feet				

PLANNED FY2000	OFFERED FY2000	SOLD FY2000***	HARVESTED FY2000
0*	0**	74,613	127,356
0*	0	4,695	3,725
0*	0**	76,307	131,080

*Planned - estimated volume from signed NEPA project decisions. No projects in FY2000.

**Offered - regular program volume and salvage sale volume.

***This volume was advertised in FY99.

Black Hills National Forest

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	<i>Planned FY1998</i>	<i>Accomplished FY1998</i>	<i>Planned FY1999</i>	<i>Accomplished FY1999</i>	<i>Planned FY2000</i>	<i>Accomplished FY2000</i>
Road Construction	280 miles/decade	<i>35 miles</i>	<i>13.3 miles</i>	<i>5.4 miles</i>	<i>21.2 miles</i>	<i>0</i>	<i>1.6 miles</i>
Road Reconstruction	870 miles/decade	<i>301 miles</i>	<i>102.0 miles</i>	<i>38.6 miles</i>	<i>178.1 miles</i>	<i>0</i>	<i>53.6 miles</i>
Road Obliteration	140 miles/decade	<i>*</i>	<i>~</i>	<i>*</i>	<i>27.3 miles</i>	<i>*</i>	<i>18.3 miles</i>
Two-track Obliteration	270 miles/decade	<i>*</i>	<i>24.8 miles</i>	<i>*</i>	<i>45.9 miles</i>	<i>*</i>	<i>23.5 miles</i>

****Road and/or two-track obliteration - 84.6 – FY1998; 21.9 – FY1999; -0- - FY2000***

Black Hills National Forest

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 - 27 sites.

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

No sites were nominated in FY2000.

- d. Inventory 50,000 acres each year in the plan period for heritage resource sites.

Accomplished - Heritage Inventory – 28,686 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 FY2000.

Black Hills National Forest

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 FY2000.

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		FY1998 ACCOMPLISHED	FY1999 ACCOMPLISHED	FY2000 ACCOMPLISHED
Non-motorized Trails (1996)	293 miles	24.6 ³	296.0 ³	307.9
Motorized Trails (1996)	14 miles	0.00	24.6 ³	14.2
Non-motorized Trail Construction	204 miles ¹	0.00	0.00	0.00
Motorized Trail Construction or Conversion from Road to Motorized Trail	15 miles ¹	435.7 ³	0.00	0.00
Total Forest Trail System	526 miles ²	70.10	320.6 ³	322.1
Reconstruction	100 miles ¹	411.1 ³	2.70	12.6

¹Per decade

²Total Miles at End of Decade

³Inventoried miles at end of FY1998 and FY1999. FY1999 reflects Mickelson Trail operation and maintenance being transferred to the State of South Dakota.

Black Hills National Forest

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.

	FY1998	FY1999	FY2000
LAND ADJUSTMENT COMPLETED	ACRES	ACRES	ACRES
<i>Land Acquired through Exchange</i>	414	479	526
<i>Land Acquired through Donation</i>	105	-0-	0
TOTAL ACQUIRED	519	479	526
LESS:			
<i>Land Conveyed Out</i>	255	498	575
NET CHANGE:	+264	-19	-49

	ACRES	ACRES	ACRES
LAND ADJUSTMENT BEING PROCESSED			
<i>Land Acquiring through Exchange</i>	479	894	683
<i>Land Acquiring through Donation</i>	0	-0-	80
TOTAL ACQUIRING	479	894	763
LESS:			
<i>Land Conveying Out</i>	498	723	606
NET CHANGE:	-21	+171	+157

503. Acquire approximately 25 rights-of-way each year to improve Forest access.

	FY1998	FY1999	FY2000
RIGHTS OF WAY ACQUIRED	6	8	8

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.

	FY1998	FY1999	FY2000
PERCENTAGE	62	74	67

Standard Compliance

Since no project decisions were signed in FY2000 standard compliance in new projects was not an issue.