MEDICINE BOW NATIONAL FOREST
THUNDER BASIN NATIONAL GRASSLAND

LAND AND RESOURCE MANAGEMENT PLAN

ANNUAL MONITORING AND EVALUATION REPORT

FISCAL YEAR 2003
Version 2

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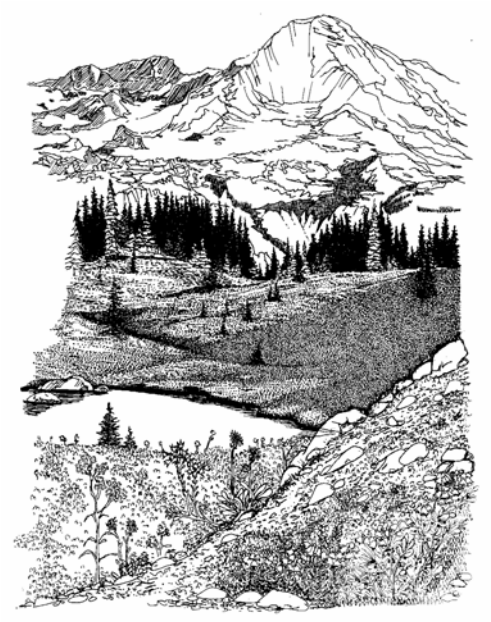
ANNUAL MONITORING EVALUATION REPORT
FISCAL YEAR 2003

ABSTRACT



The Land and Resource Management Plan (Forest Plan) for the Medicine Bow National Forest and Thunder Basin National Grassland was approved on November 20, 1985, therefore, implementation and Monitoring of the Plan began during 1986. This eighteenth annual report evaluates the results of the monitoring activities that occurred on the Forest during Fiscal Year (FY) 2003, and makes a variety of recommendations to improve monitoring or project activities.

The two primary components of Monitoring are described in Chapter III and IV of the Forest Plan. Chapter III identifies the General Direction and the Standards and Guidelines that must be followed when implementing projects on the ground. The table at the beginning of Chapter III shows the projected resource outputs, costs, and benefits of implementing the Plan. Chapter IV displays the monitoring requirements for the various resources, and also the amount of Allowable Variance that the outputs for each resource can deviate from the stated objectives.

Monitoring roles and responsibilities range from the Forest Supervisor who provides overall leadership and direction and makes Forest-wide decisions, to District Staff Specialists who implement the District schedule of projects on the ground. The Forest Interdisciplinary (ID) Team coordinates and guides the monitoring program and helps prepare the annual report for approval by the Forest Supervisor.

Forest users also have an opportunity to provide input to the Monitoring effort by reporting any unique experience or observation that they may have had while on the Forest. These reports are individually investigated and evaluated to determine whether any corrective action is necessary, and also to decide the timing and methods for implementing that action.

Forest Plans are dynamic and can be changed by means of Amendments or Revision (36 CFR 219.10(f)(g); 1982 Regulations). The intent of this flexibility is to maintain the Plan as current and accurate, in accordance with changing resource conditions and public demands.

In response to the Five-Year Review during 1990, revision of the 1985 Medicine Bow and Thunder Basin Land and Resource Management Plan was initiated during January, 1992. However, during 1993 the Medicine Bow and the Routt National Forests were combined. Since the Routt Plan Revision was further along in the process, the emphasis was to complete that effort first, which was accomplished when Regional Forester, Tom L. Thompson, signed the Record of Decision on February 17, 1998. Subsequently, the Medicine Bow Plan Revision effort was formally reinitiated during October, 1999. The Draft EIS was released for public review on December 16, 2002. The Record of Decision for the Final EIS and Forest Plan was signed by Regional Forester, Rick Cables, on December 29, 2003. Refer to Section VI for a more complete discussion of this history.

During 1995, the Forest Service decided to revise the land use plans for ten National Grasslands and Forests that comprise the "Northern Great Plains Ecosystem", which includes the 553,300-acre Thunder Basin National Grassland. A single Environmental Impact Statement would be produced inclusive of all the administrative units in the Northern Great Plains area, and separate revised Forest Plans would be created for the three administrative units which contain all the involved Grasslands and Forests. A Notice of Intent to Prepare an Environmental Impact Statement was published in the Federal Register in February of 1997. A Draft Environmental Impact Statement (DEIS) and Proposed Revised Plans were published in July of 1999, and were subject to four public review periods, ending in February of 2000. A Final Environmental Impact Statement was published during July 2001, and Record of Decision (ROD) signed on July 31, 2002.

The signing of the ROD for the Thunder Basin National Grassland's revised plan served to formalize the separation of the Thunder Basin's land use planning from that of the Medicine Bow National Forest. The first full season of management under this revised Grassland Plan was 2003, hence, plan monitoring will be discrete from that for the Medicine Bow National Forest starting in 2004. *This* monitoring report, however, addresses conditions in 2003, and therefore reflects the still-combined planning status of the two administrative units.

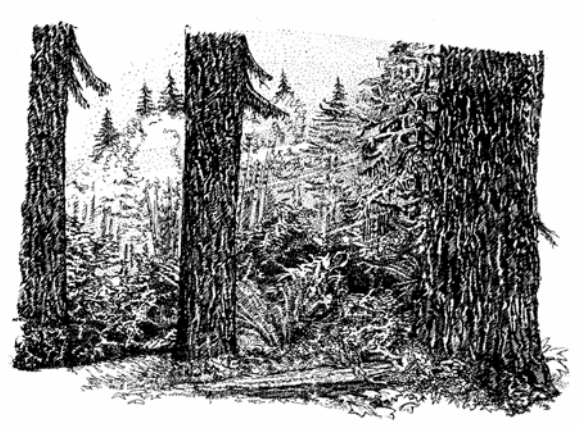
A significant event during 2002 was the resolution of a lawsuit (No. 01-CV-078-B) that had been lodged against the Forest Service. It was filed on May 2, 2001. Two timber sales, the Joe's Park and Bird Creek Sales, were the focus of the suit. The lawsuit alleged violation of several laws in the failure to revise the Medicine Bow's 1985 Land and Resource Management Plan within fifteen years. In a District Court decision dated September 30, 2002, the Forest was allowed to operate under the 1985 Forest Plan until it was revised. The Court also ordered the Forest to complete a Revision of the Medicine Bow Paln by December 2003, which was accomplished.

An important part of Monitoring and Evaluation is to determine if the resource outputs, costs, and returns predicted in the Forest Plan were achieved. As a result of Monitoring during 2003, it was determined that the majority of the projected average annual outputs/activities shown on Table III-1 of the Plan were accomplished. The Forest Plan Evaluation Table in Section VIII of this report compares the objectives stated in the Plan with what was actually accomplished during 2003. In addition, each Monitoring Item that exceeded the Allowable Variance, as stated in Chapter IV of the Forest Plan, is discussed in detail.

Another goal of Monitoring is to determine how well the management Standards and Guidelines and General Direction in Chapter III of the Forest Plan were met. Section IX of this report provides a discussion of the results of Monitoring each of the 50 Items listed in Chapter IV, and any recommendations for changing management techniques or implementation methods in the future.

Corrective actions identified by the ID Team as a result of monitoring during 2003 are discussed in Section X, Need to Improve Monitoring or Implementation. These changes will be addressed during Fiscal Year 2004. Section XII, Review of Previous Year Recommendations, discusses the changes recommended by the ID Team in the 2002 report, and what was actually accomplished during 2003.

I. INTRODUCTION



The Record of Decision for the Forest Plan was signed by the Regional Forester on November 20, 1985. Subsequently, implementation of the Plan began during Fiscal Year 1986. The historic legislative background and evolution of National Forest System Planning is provided in the Preface to the Plan (pages i-x). The Plan and Final EIS were developed according to the 1982 version of the regulations at 36 CFR, Part 219.

One of the requirements of the Forest planning process is to monitor and evaluate how well the Plan is implemented. The process also includes making subsequent modifications to the Plan in response to Monitoring and Evaluation. This report documents the results of monitoring during Fiscal Year 2003, discusses the evaluation of those results, and describes the rationale for any changes to the Plan that have been recommended. These changes may occur in the form of Amendments to the Plan, or be used to help improve the methods of implementing or monitoring projects on the ground. The regulations at 36 CFR, Part 219.12(k), require that implementation of projects on the ground be evaluated annually on a sample basis, as specified in the Forest Plan. These monitoring requirements are:

** A program of monitoring and evaluation shall be conducted that includes consideration of the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management of activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local governments (36 CFR 219.7(f)).

** To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require any revision to the Plan (36 CFR 219.10(g)).

** To determine if budgets have significantly changed the long-term relationships between levels of multiple-use goods and services enough to create the need for a "significant amendment" (36 CFR 219.10(e)).

** To determine how well the stated objectives of the Forest Plan have been met (36 CFR 219.12(k)).

** To determine how closely Management Standards and Guidelines in Chapter III of the Forest Plan have been followed (36 CFR 219.12(k)).

The Annual Monitoring and Evaluation Report for Fiscal Year 2003 meets the intent of the 1982 Regulations, and also satisfies the purpose of Chapter IV in the Forest Plan to provide information about the progress that is being made toward achieving the stated goals, objectives, and management requirements (page IV-1). It also provides an important and concise communication link with the public and with other levels within the Forest Service, in order to disclose the effectiveness of implementing the Forest Plan. In addition, it identifies any research efforts that may be needed to improve the Plan or the methods for implementing resource management activities on the ground.

II. MONITORING PROGRAM SUMMARY

Projects that implement the Forest Plan are annually monitored on a sample basis and evaluated to determine how well the goals and objectives were met, and how effectively the Management Standards and Guidelines helped to protect the Forest resources. It is important to note that monitoring actions are normally planned in areas where projects occur, in order to detect and mitigate any adverse impacts to the environment. In areas where no project activities are planned there usually is no need to monitor, except to acquire base-line data. Therefore, monitoring tends to reflect more issues than are actually occurring on the Forest as a whole. The Monitoring Program should be viewed as a method of determining how well the Forest Plan is being implemented, rather than a system that only identifies problems on the Forest.

The Monitoring Program for the Forest is comprised of two components. The first component relates to the Monitoring Requirements in Chapter IV of the Forest Plan. The Forest ID Team compares the resource output objectives that were projected and displayed in Table III-1 (Time Period 2001-2010) of the Plan to what was actually accomplished during the current Fiscal Year. This output is then compared to the Maximum Allowable Variance for each item listed in Table IV-1 to ensure that the performance was within the specified limits. The Allowable Variance for each monitoring item was developed to indicate how much the measurement is allowed to deviate. Exceeding the Variance indicates that the objectives are not being met as projected, and that closer examination of the item is warranted. A table is included in Section VIII of this report to display the comparison for FY 2003.

It is important to recognize that Table III-1 displays "average annual" outputs for a decade, but does not require the stated amount to be achieved each year. Therefore, the most meaningful data is the total output for a ten-year period. Data gathered during the past seventeen years has been used by the ID Team to evaluate each Monitoring Item and formulate conclusions from the annual output and expenditure levels that have occurred. The ID Team will continue to monitor these items, evaluate the results, and recommend minor changes until the Forest Plan Revision is completed and approved.

The second component of Monitoring is performed on the ground. This phase of monitoring ensures that implementation of the Standards and Guidelines described in Chapter III is appropriate and effective. Forest resource specialists evaluated a variety of site-specific projects that were implemented during 2003. Individual specialist reports for the monitoring items are available upon request at the Forest Supervisor's Office in Laramie, Wyoming.

The Monitoring Program for implementing the Forest Plan includes activities such as field surveys, data collection, and assembling and evaluating resource information. The total cost to the Forest for Monitoring and Evaluation during Fiscal Year 2003 was estimated by the ID Team to be $ 134,000, which is fourteen percent higher than the cost that was reported for FY 2002.

III. MONITORING ROLES AND RESPONSIBILITIES

Forest Supervisor - The role of the Forest Supervisor is to provide leadership and direction, and to also make decisions delegated to the Forest Supervisor. The Supervisor is responsible for ensuring that the annual Monitoring Program is performed according to the requirements of Chapter IV of the Forest Plan, and in compliance with current regulations, laws, and Forest Service directives. In addition, the Forest Supervisor approves the Evaluation Report and certifies that the Forest Plan is sufficient to guide management activities for the succeeding year or identifies corrective actions necessary to keep the Plan current and valid.

Forest Staff Directors - The role of the Forest Staff Directors is to plan, develop, coordinate, and monitor Forest programs and activities for the Forest Supervisor. They also provide oversight to the staff specialists, for tasks such as compiling data and evaluating and documenting the results of monitoring. The Directors also review the final monitoring report, and may recommend that changes be made to the Forest Plan or implementation procedures according to the results of the evaluation.

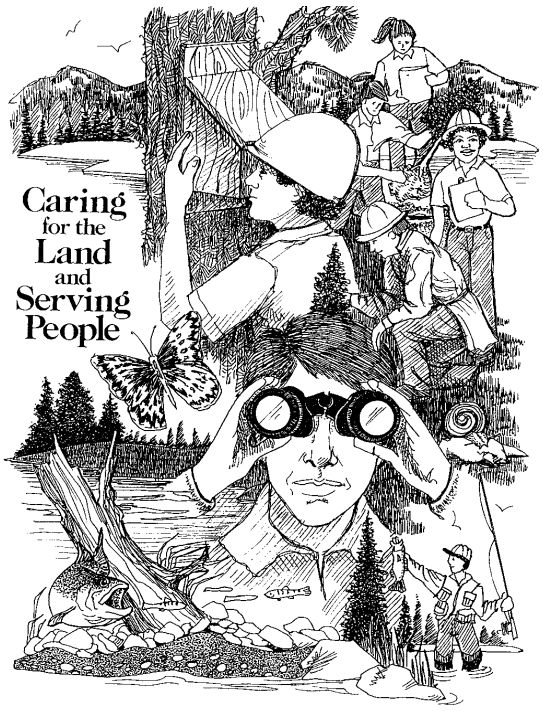
District Rangers - The role of the District Rangers is to provide leadership and direction, and to make decisions delegated to the District Ranger. District Rangers are responsible for project monitoring, which includes reviewing activities on the ground to ensure compliance with the requirements of the Plan. Each District Ranger is also responsible for maintaining the computer information database accurately and up-to-date, in order to meet the broad spectrum of data needs for the various resources.

Forest Planning Staff - The Forest Planning Staff facilitates the planning, monitoring, and evaluation processes and prepares the Annual Monitoring Evaluation Report. In addition, Planning personnel maintain the records for decisions made by the Forest Supervisor related to Monitoring, and processes any subsequent amendments to the Forest Plan.

Supervisor's Office Staff Specialists - The role of the Forest Resource Staff Specialists is to provide technical assistance and recommendations to the Forest Supervisor. Specialists may participate in ID Teams for the Forest Supervisor or assist the Staff Directors by providing information and management recommendations for forestwide projects. The Specialists may also work with District ID Teams to analyze site-specific projects and provide recommendations to the District Rangers.

District Staff Specialists and Project Managers - The role of the District Resource Staff Specialists and Project Managers is to plan, develop, coordinate, implement, and monitor District projects on the ground. The outputs that result from implementing various projects on the Ranger Districts are then added together to form the total accomplishment for each resource program on the Forest. The quality of project implementation and the quantity of the outputs are then compared to the goals, objectives, and Standards and Guidelines of the Forest Plan.

IV. MONITORING PROGRAM COSTS



The intent of monitoring the activities that implement the Forest Plan is to determine how well the stated objectives have been met, and evaluate the effectiveness of applying the Standards and Guidelines. Monitoring activities tend to focus on projects that affect major components of the environment, or are responsive to the issues, concerns, and opportunities that were identified during the planning process. The requirements for Monitoring and Evaluation are stated in the 1982 Federal regulations at 36 CFR 219.12(k). The three levels of monitoring are described below.

A. Implementation Monitoring: Determines if plans, prescriptions, projects, and activities are implemented as designed, and are in compliance with the objectives, Direction, and Standards and Guidelines of the Forest Plan. The results of this level of monitoring may indicate needed adjustments to the Forest Plan Direction, prescriptions, or predicted outputs, or may require changing future project plans or scheduling.

B. Effectiveness Monitoring: Determines if plans, prescriptions, projects, or activities are effective in meeting the Management Area Direction, objectives, and the Standards and Guidelines in the Forest Plan. Evaluating the results of effectiveness monitoring may be used to adjust the objectives, predicted outputs, prescriptions, Standards and Guidelines, or mitigation measures stated in the Plan. This would be achieved by initiating a Revision or Amendment to the Forest Plan.

C. Validation Monitoring: Determines whether the initial assumptions and coefficients used during development of the Forest Plan are correct. Evaluating this level of monitoring may indicate a need to Amend the Forest Plan, or a recommendation for additional scientific research. This may subsequently lead to recommending changes in laws, regulations, policies, or application models that affect the Forest Plan or project implementation.

Monitoring and evaluation is a specific activity that provides information to determine whether programs and projects are meeting Forest Plan direction. Monitoring requires collecting information on a sample basis from the sources stated in Chapter IV of the Forest Plan. Evaluating the results of monitoring helps to determine the effectiveness of the Forest Plan, which may generate the need to adjust the procedures for implementing projects, or to process an Amendment to the Plan.

Information for many of the Monitoring Items has historically been gathered and reported for individual resource programs, such as the Management Attainment Report (MAR). Therefore, information for items such as Timber Stand Improvement (TSI) and Grazing Use was already available for the monitoring report during the first year. When these items became a required part of the monitoring program there was no additional cost to the Forest. Other items, however, were not previously monitored and when they became required by Chapter IV of the Forest Plan an additional demand on

Forest personnel and funding was created. The Forest ID Team has estimated the cost that is directly related to Forest Plan Monitoring for each item described in Chapter IV during Fiscal Year 2003. These costs are grouped by resource and are shown in the following table:

FOREST MONITORING COSTS	
Resource Program - Fiscal Year 2003	**Cost**
Recreation	24,000
Visual Resource Quality	900
Cultural Resources	5,000
Biodiversity	800
Wildlife	25,000
Fisheries	17,700
Range	47,900
Timber	3,500
Soils	500
Water	4,000
Transportation	1,000
Fuel Treatment	800
Forest Pest Management	900
Lands	1,000
Special Use Permits	1,000
TOTAL MONITORING COST	**$ 134,000**

V. FOREST PLAN AMENDMENTS

The Regulations at 36 CFR 219.10(f) allow changes to be made to the Forest Plan; "The Forest Supervisor may amend the forest plan. Based on an analysis of the objectives, guidelines, and other contents of the forest plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change is significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a forest plan. If the change is not significant, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures."

Eighteen Amendments have been approved since November 20, 1985, when the Record of Decision was signed. The decision to revise the Forest Plan was made during 1991, and it was also determined that no more changes would be made to the Plan in the form of amendments unless they were considered to be necessary. Forest Plans, however, must be responsive to changing conditions of the land, resource uses, and the social and economic demands of the people (36 CFR 219.1(b)(14)). Subsequently, the last five amendments to the Plan were considered necessary and approved after 1991.

As stated in the regulations (36 CFR 219.10(f)), the Forest Supervisor may amend the Forest Plan if needed, but a determination must be made whether the amendment is a "significant change in the plan." In addition, the amendment cannot be implemented until after appropriate public notification and satisfactory completion of the NEPA procedures. The 1985 Forest Plan will continue to be implemented until completion of the revision, including; "at least 30 days after publication of the notice of availability of the final environmental impact statement in the Federal Register (36 CFR 219.10(c)(1))."

No specific Amendments to the Forest Plan were processed or recommended by the ID Team as a result of monitoring during FY 2003.

VI. SIGNIFICANT CHANGES IN RESOURCES OR PUBLIC ISSUES AND DEMANDS

A Forest Plan is normally revised every ten to fifteen years. (See page iii, paragraph 3, for a description of a legal contest involving this item.) It may also be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly, or when changes in RPA policies, goals, or objectives would have a significant effect on the output levels of Forest resource programs. During the Monitoring and Evaluation process, the Interdisciplinary Team may recommend a Revision of the Forest Plan at any time (36 CFR 219.10(g)).

The timber volume sold during Fiscal Year 2003 continues to be lower than the amount that was predicted in the Forest Plan. This is one of the key issues that was addressed during the Forest Plan Revision. No changes to the Plan are recommended as a direct result of Monitoring during FY 2003.

Several natural resource issues loomed large both nationally and on the Medicine Bow National Forest in 2003. These included the issues of roadless area allocation and management, travel management (especially the allocation of motorized verses non-motorized travel opportunities), the viability of wildlife species, questions concerning the suitability of land for timber harvest, and all issues related to fire and fuels management. An emerging issue on the Thunder Basin National Grassland is the effectiveness of Federal environmental analysis as it is applied to energy development, especially the booming area of coalbed methane extraction.

The Forest ID Team is responsible for Monitoring the 50 Items listed in Chapter IV of the Forest Plan on an annual basis. The results of Monitoring these Items during 2003, including any recommendations for change, are discussed in Section IX,(5) of this report. Section X includes a list of recommendations made by the ID Team for making changes to the Monitoring Program or to project implementation procedures. Some of the changes may be accomplished with a minor Amendment to the Forest Plan, while others may require a "Significant Amendment (36 CFR 219.10(f))." Section XI identifies any specific changes to the Forest Plan that have been recommended by the ID Team. These changes will be made following approval of this report, and in compliance with all the NFMA and NEPA procedures. In addition, Section XII provides a review of the recommendations that were made by the ID Team in the Evaluation Report (Section X) for Fiscal Year 2002, and what was accomplished during 2003.

The Interdisciplinary Team provided the data for the Annual Monitoring Evaluation Report for Fiscal Year 2003, which has been reviewed by the Planning Staff and the Forest Supervisor. It has been determined that no changes related to individual resources or public issues or demands have occurred that would immediately require a Significant Amendment of the Forest Plan. The major issues that have been identified will be analyzed and addressed during the Forest Plan Revision process, which is described in the Regulations at 36 CFR, Part 219 (1982).

DECISION TO REVISE/AMEND THE FOREST PLAN:

The Forest Plan for the Medicine Bow NF and Thunder Basin National Grassland was developed to comply with the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), as amended by the National Forest Management Act of 1976. The process that was used to develop the Forest Plan was in compliance with the implementing regulations of the National Environmental Policy Act of 1969. In 2002 the Thunder Basin National Grassland came under a newly revised Plan of its own, while the Medicine Bow National Forest's Plan revision was completed during December, 2003.

During 2002 the Thunder Basin National Grassland's Forest Plan was formally revised, following many years of public involvement and environmental analysis efforts applied to the "Northern Great Plains" area. This includes ten discrete Grasslands and Forests administered by the Dakota Prairie National Grassland, the Nebraska National Forest, and the Thunder Basin National Grassland. This approach to land use planning engendered the creation of a single Environmental Impact Statement for all the geographically related units, followed by the creation of discrete Forest Plans for each of the three administrative units.

A Notice of Intent (NOI) to prepare the Environmental Impact Statement was published in the Federal Register in February of 1997. A Draft Environmental Impact Statement (DEIS) and Proposed Revised Plans were published in July of 1999 and were subject to four public review periods, ending in February of 2000. A Final Environmental Impact Statement (FEIS) was published, and a Record of Decision (ROD) for each of the units were signed on July 31, 2002. As a result of this decision by the Regional Forester, planning and monitoring for the Thunder Basin National Grassland will be separate from that of the Medicine Bow National Forest. At this time, the results of monitoring both units are documented in this single report.

During October, 1999, the Medicine Bow NF officially initiated the Plan Revision process by publishing a Notice of Intent (NOI) to Revise in the Federal Register. A total of 900 letters containing 4,000 comments were received in response to issuing the NOI and facilitating six public meetings. Comments were also received after public review of the draft Management Area Prescriptions, Standards and Guidelines, and the Purpose and Need Statement. The planning team used these comments to define major revision issues and develop a range of alternatives to address those issues.

The Medicine Bow National Forest planning effort has been focused on gathering information about existing conditions and completing a variety of resource related assessments. Public meetings were conducted in various locations throughout the planning area during the fall of 2001. The Draft EIS and Forest Plan were released on December 16, 2002, and were available for formal public comment for 90 days after the publishing of the Notice of Availability (NOA) in the Federal Register on January 3, 2003. The Final EIS (FEIS) and Revised Forest Plan was released in December of 2003. The Record of Decision for the Plan was signed by Regional Forester, Rick Cables on December 29, 2003. The public is invited to keep current on the Forest planning effort by accessing the World Wide Web at: www.fs.fed.us/r2/mbr, and then click on “Forest Planning.”

VII. SPECIAL ACTIVITY MONITORING

Some activities or programs receive special attention due to their important value for managing the resources, and the resulting impact on Forest personnel and funding. The Forest is currently involved in two such programs that are described below:

LYNX AMENDMENT:

The Southern Rockies Lynx Amendment is a proposal to add direction to conserve lynx and their habitat on six national forests in Colorado and the Medicine Bow National Forest in Wyoming. During 2003 this effort was a "work in progress." This endeavor consists of a comprehensive scientific investigation, which is being conducted by State, Federal, and academic experts. The Forest Service published a Notice of Intent (NOI) to prepare an EIS for analyzing the Management Direction in Chapter III of Forest Plans in the Region to determine if any of that direction may adversely affect lynx or their habitat. The analysis will examine and document the results of making potential changes to a variety of Management Directions and Standards and Guidelines, and the predicted effect on National Forest activities. The DEIS was released during January 2004 followed by a 90-day comment period. The Final EIS and decision is expected to be completed and released in 2005. The Medicine Bow Plan Revision was approved prior to completion of the Lynx Amendment and includes lynx conservation direction consistent with the Lynx Conservation Assessment Strategy. If the selected alternative for the Southern Rockies Lynx Amendment varies from management direction in the Revised Plan, an amendment to the Plan may be issued.

SPECIES CONSERVATION PROJECT:

Part of the Forest Service mission is to manage for the diversity and viability of plant and animal species on National Forest System lands. The best available information needs to be acquired and used for resource management planning and decision-making. Therefore, the Forest continues to be involved with the Rocky Mountain Regional effort called the Species Conservation Project. The intent of this project is to compile and document information about terrestrial and aquatic ecosystems, including the associated plant and animal species, which will result in updating the Regional Sensitive Species list. Once completed, this information will be used to develop scientifically sound and efficient methods for managing the public lands. During 2003 ecosystem and species assessments were being prepared for this effort by independent scientists that are under cooperative agreements or contracts with the Forest Service. The first of these reports became available in the Fall of 2003. They may be accessed on the Internet at http://www.fs.fed.us/r2/scp/species_assessment_reports.shtml

VIII. COMPARISON OF ANNUAL PROJECTED/ACTUAL OUTPUTS AND EXPENDITURES

The information presented in this section helps evaluate whether the annual outputs are meeting the levels that were predicted in the Plan, or whether a change is needed. Depending on the extent of the departure from the predicted level, an amendment to the Plan may be necessary or the topic may be addressed during the revision process.

The objectives for the Projected Average Annual Outputs displayed on the following pages are from the Forest Plan, Chapter III, Table III-1 (pages III-7 to III-11). The following table compares the predicted annual outputs for each resource during the years 2001 to 2010 to the amount that was actually produced during Fiscal Year 2003.

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2003 Actual Output Accomplished	Percent Projected Output
RECREATION				
Public Developed	MRVD (1)	195	152	78
Downhill Skiing	MRVD	28	30	107
Dispersed (includes off-road motorized)	MRVD	729	758	104
Off-road Motorized	MRVD	132	58	44
Semi-Primitive Non-motorized	M Acres	178	219	120
Semi-Primitive Motorized	M Acres	214	269	126
Roaded Natural	M Acres	1,202	1,142	95
Rural	M Acres	65	36	55
Urban	M Acres	7	0	0
Trail Const/Reconst	Miles	2.7	30.3	1,122

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2003 Actual Output Accomplished	Percent Projected Output
WILDERNESS				
Area Managed	M Acres	79	79	100
Wilderness Use	MRVD	13.0	11.0	85
WILDLIFE & FISH				
Winter Range Carrying Capacity	M Elk M Deer	4.1 22.0	4.0 33.0	98 150
Structures	Number	46	26	57
Big Game Hunting (2)	MRVD	35.5	37.0	104
Small Game Hunting (2)	MRVD	43.0	20.0	47
Fishing (2)	MRVD	85.4	86.8	102
Nongame Use (2)	MRVD	5.5	5.5	100
RANGE				
Grazing Use	MAUM (3)	255	221	87
TIMBER (Commercial Sale Offerings)				
Sawtimber (4)				
(Chargeable Vol. to ASQ (5)	MMBF MMCF	29.3 6.14	8.3 1.7	28 28
Roundwood				
(Nonchargeable Vol. to ASQ)	MMBF MMCF	5.0 1.0	2.3 0.46	46 46
Reforestation				
Natural	Acres	1,437	196	14
Planting	Acres	72	44	61
Seeding	Acres	N/A	4	N/A
Timber Stand Improvement	Acres	2,039	790	39
Firewood (Pers and Commercial)	Cords	22,400	1,838	8
WATER (6)				
Water Yield Increase	Ac/Ft	Baseline	88	N/A
Water Meeting Quality Goals (7)	Water Violations	0	2	N/A

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2003 Actual Output Accomplished	Percent Projected Output
MINERALS				
Review Plans	Op. Plans	790	506	64
HUMAN & COMMUNITY				
Senior Employ. Program	Enrollee Yrs	25	5.6	22
YCC Program	Enrollee Yrs	7	0	0
LANDS				
Purchase/ Acquisition	Acres	0	0	0
Exchange	Acres	160	0	0
R-O-W Acquisition	Cases	25	2	8
Landline Location	Miles	25	18	72
SOILS				
Resource Improvement	Acres	195	15	8
FACILITIES				
Construction for General Use	Miles	1.0	0	0
Reconstruction for General Use	Miles	57.3	0.8	1
Construction for Timber Sales	Miles	28.9	0	0
Reconstruction for Timber Sales	Miles	22.7	0	0
Construction for Minerals	Miles	40.0	0	0
Roads Closed	Miles	52.1	5.5	11
PROTECTION				
Fuel Treatment (8)	Acres	1,437	147	10

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2003 Actual Output Accomplished	Percent Projected Output
EXPENDITURES (9)				
Total Budget	M Dollars	28,732	15,395	54
Med Bow Budget	M Dollars	18,699	7,902	42
RETURNS TO TREASURY				
Other Than Minerals	M Dollars	2,133	1,486	70
Minerals (10)	M Dollars	16,100	9,402	58

NOTE: NR = Not Reported

(1) Thousand Recreation Visitor Days = A recreation visitor day is equal to 12 hours of recreation for one person, or one hour of recreation for 12 persons, or any combination of use.

(2) The amount of wildlife and fishing use is included in the Dispersed Recreation category.

(3) MAUM = Thousand Animal Unit Months = An AUM is the amount of forage consumed by one mature cow or equivalent in a one-month period.

(4) Sale volumes are expressed in both cubic and board feet. The Average Annual Output may not be met during any single year, but must not exceed 293.0 MMBF for the 10-year period (2001-2010).

(5) This accomplishment only includes timber volume that was actually sold.

(6) The total amount of water yield from the Forest is estimated at approximately 1.026 MM Ac.Ft. (Baseline), depending upon annual weather conditions (Forest Plan, page III-8). The amount of water produced above that baseline level is calculated by the HYSED model according to the amount of vegetation treatment and road construction that occurred on the Forest during the year.

(7) Reflects a water quality violation in the North Branch of Crow Creek (See Monitoring Item 36 - Water Quality)

(8) The fuels treated are only those created by forest management activities. (BD)

(9) All expenditures and returns are in current year dollars.

(10) Current accounting procedures make it very difficult to report actual returns from minerals, because several agencies are involved in the process of recording receipts from different mineral estates. Therefore, the figure shown for Fiscal Year 2003 is only an estimate. Note that this figure includes direct collections made for minerals royalties which go directly to the Federal Treasury.

IX. FOREST PLAN EVALUATION

The results of the FY 2003 monitoring and evaluation program have been analyzed by the Interdisciplinary Team, in order to determine the significance and the need for adjustment. Recommendations by the ID Team have been reviewed by the Forest Supervisor. This evaluation report includes a review and discussion of the questions stated in the regulations (36 CFR, PART 219).

A. To determine the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management of activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local government (36 CFR 219.7(f)).

This requirement is not specifically identified in Chapter IV of the Forest Plan, but it is addressed during the Environmental Analysis process for projects that are implemented as part of the Plan. The National Environmental Policy Act (NEPA) requires, "initiate and utilize ecological information in the planning and development of resource-oriented projects (Section 102(H))." The implementing Regulation at 40 CFR 1500.1(c) states, "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." Part of this process is to "Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses (1501.2(b))."

The environmental effects include, "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative (1508.8(b))." A cumulative impact is, "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (1508.7)."

The direction stated above is performed during the Environmental Analysis process prior to implementing any project on the Forest. The resulting analysis is then documented in an Environmental Assessment (EA) or Environmental Impact Statement (EIS). Reviews of these documents during 2003 indicated that all of them complied with the requirements of the NEPA, including the disclosure of cumulative effects. An evaluation of the discussions of cumulative effects in these documents also revealed that there were no direct effects on adjacent lands, resources, or communities that resulted from any of the specific project proposals. In addition, these document reviews determined that there were no identifiable effects upon National Forest management due to activities on adjacent lands.

In contrast, resource management on the Forest as a whole has had some impact on the social and economic conditions of several local communities. Two resource programs have had the most notable effect on adjacent communities. Recreation use of the Forest has increased during the past seventeen years, which translates into additional economic benefits being realized by some adjacent communities.

Although the amounts of these benefits have not yet been determined, the economic and social aspects of this trend was analyzed and documented during the Forest Plan Revision process.

The second factor is the decline in the Timber Sale Program on the Forest since 1989. The Forest Plan predicted a total of 430.5 MMBF to be sold during the period 1986 to 2000, but only 191.4 MMBF were actually sold, which is about 44 percent of the amount predicted. The social/economic impacts to local communities due to these factors and other resource management activities on the Forest are among the major topics that have been analyzed and discussed in the Forest Plan Revision.

B. To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require revision (36 CFR 219.10(g)).

The Forest Interdisciplinary (ID) Team has evaluated the results of the Monitoring activities that occurred during Fiscal Year 2003. The Team concluded that conditions, public issues, or demands have not changed on the Forest, therefore, no changes are recommended.

C. To determine if budgets have significantly changed the long-term relationships between levels of multiple-use goods and services enough to necessitate a significant Amendment to the Forest Plan (36 CFR 219.10 (e)).

The projected average annual budget displayed in the Medicine Bow Forest Plan (Table III-1, page III-10) for the period 2001 to 2010 is $ 18,699,000. Historically, the actual budget allocated to the Forest has been about one-half the predicted amount. The table below displays the predicted annual budget for the Forest, and the actual amount of funding that was allocated during 2003:

Resource Program	Projected Annual Budget	Actual Annual Budget 2003	Percent of Projected
Recreation/Wilderness	2,267.1	675.7	30
Wildlife/Fish	676.2	428.0	63
Range	1,698.1	872.4	51
Timber	5,749.0	969.6	17
Soils/Water	303.0	234.6	77
Minerals	1,549.8	688.6	44
Lands	713.8	439.7	62
Facilities	2,705.0	1,951.4	72
Protection	457.6	869.8	190
General Administration	2,579.4	772.5	30
TOTAL	18,699.0	7,902.3	42

Although the actual budget for some resource programs was less than what was predicted in the Forest Plan, the actual outputs may have been achieved or exceeded during 2003. While reduced funding is not the only factor that determines whether the resource outputs are achieved for some of the Programs, it is often the primary reason. In contrast, some programs may be fully funded, yet do not achieve one or more of the predicted output objectives.
The budget for the Medicine Bow National Forest was 42 percent of the desired level. Partnership projects with other public agencies or with private organizations often help to achieve Forest Plan

objectives that otherwise might not be met. The Forest Leadership Team has determined that the reduced funding for the programs has not, "significantly altered the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals, as compared to those projected under actual appropriations (36 CFR 219.10(e))." Therefore, no specific changes to the Forest Plan are needed at this time.

D. To determine how well objectives have been met (36 CFR 219.12(k)).

The Forest Plan provides long-range direction for managing the Forest by establishing program goals and objectives. Goals describe a desired future condition expressed in general terms, while objectives are responsive to the goals and are measurable in time and quantity. The goals of the Forest Plan are described on pages III-3 to 5 of the Plan, while the objectives are listed on pages III-6 to 11.

The goal of vegetation management is to sustain an environment that supports the uses that are emphasized and compatible within each Management Area Prescription. Vegetation treatment is a tool for achieving and maintaining a healthy and ecologically diverse forest for a variety of resource uses. The condition of vegetation on the Forest influences nearly all other resources and uses including; visual quality of the landscape, recreation opportunities, habitat diversity, insect and disease susceptibility, availability of wood products, water quantity and quality, amount and quality of forage for livestock and wildlife, and providing critical habitat for wildlife including Threatened and Endangered Species.

The amount and type of vegetation treatment that was accomplished during Fiscal Year 2003 included; 196 acres of reforestation using natural regeneration, 254 acres of timber harvest by partial cutting, and 790 acres of Timber Stand Improvement. The table below displays this information for FY 2003. The numbers shown in the Annual Forest Plan Objective column for FY 2001-2010 were derived from Table II-5, pages II-78 to 80 in the Final EIS of the Plan.

TREATMENT (1) METHODS	ANNUAL FOREST PLAN OBJECTIVE FY 2001-2010	ACTUAL FY 2002 ACCOMPLISHMENT
Sagebrush Conversion	193	0
Aspen Regeneration	400	0
Conifer Remove from Aspen	350	0
Reforestation - Natural	1,437	196
Reforestation - Planting	72	44
Reforestation - Seeding	120	4
Harvest by Clearcut	1,437	0
Harvest by Partial Cutting	1,866	254
Timber Stand Improvement	2,039	790

(1) Some treatments were contracted during 2003, but may not occur until some time in the future.

Many of the objectives shown on Table III-1, Chapter III (page III-6 to 11) of the Forest Plan were met, while some were exceeded and others were less than predicted. The Forest Plan Evaluation Table in Section VIII of this report compares the Projected Average Annual Outputs with the Actual Outputs that were accomplished during 2003, and the percent difference between the two numbers. Chapter IV of the Forest Plan displays the Allowable Variance, or how much the outputs are allowed to deviate from the stated objectives. Some of the Projected Outputs shown in the Plan are an average for a ten-year period

(2001 - 2010). Therefore, a significant variance may occur in any single year, yet meet or exceed the total predicted output for the ten-year period, such as for Land Exchange.

After eighteen years of implementing the Forest Plan, most of the resource outputs now exhibit an identifiable trend of accomplishment. This information has helped to determine some of the issues that will be addressed during the Forest Plan Revision process. It will also identify any changes that may need to be made to the Forest Plan in the form of an Amendment prior to completion of the Revision.

The following discussions describe the primary factors that caused the Allowable Variance for each Monitoring Item to be exceeded during 2003, and the course of action for any recommended changes.

Monitoring Item 21: Wildlife and Fish Habitat Improvement

Allowable Variance = +/- 10 %
Actual Variance = - 43 %

Since 1994, funding in support of wildlife and fish habitat improvement has been insufficient to support an active structural improvement program.

Recommendation: This accomplishment shortfall is a function of national and regional budget priorities. Changes to the Forest Plan are not recommended at this time.

Monitoring Item 27: Grazing Use

Allowable Variance = +/- 10 %
Actual Variance = - 13 %

Although the amount of grazing use on the Forest continues to show a declining trend during the past several years, fiscal year realized an improvement in use. The reduction is primarily due to continuing persistant and serious drought conditions across the State. This has resulted in operators putting their livestock out to pasture late, taking them off early, while some reduced the size of their herds or even opted for non-use of their permit.

Recommendation: The amount of grazing use is dependent upon a number of highly variable factors that are related to implementation, rather than the Plan itself. Therefore, no changes to the Forest Plan are recommended at this time.

Monitoring Item 30: Allowable Sale Quantity (ASQ)

Allowable Variance = The amount of timber volume sold cannot exceed; or must not deviate more than 5 percent under 293.0 MMBF for the 10-year period 1996-2005 (Forest Plan, page IV-46).
Actual Annual Variance = - 72 %

The amount of timber sold during Fiscal Year 2003 was 8.3 MMBF, which did not meet the Annual Allowable Sale Quantity stated in the Forest Plan. The reason for not achieving the desired output is due to a combination of factors: the outcome of Administrative Appeals of some decisions; project designs that had a lower volume output than what was predicted when planning the sale; and on-the-

ground sale layout modifications resulting in less volume in the Timber Sale Contract than the amount determined by the Environmental Analysis process.

Recommendation: The goal for this item is that the total amount of timber sold must be within the Allowable Variance for the ten-year period. The variance for a single year, however, may vary considerably because the amount of timber that is sold can be adjusted during successive years. The total volume deficit for the first 10-year period was 117.91 MMBF, or 58 percent less than the objective that was predicted in the Forest Plan. The second ten-year period began during 1996, and as shown in the Forest Plan (page III-8), the Allowable Sale Quantity increased from 28.4 to 29.3 MMBF per year. Subsequently, the total amount of chargeable timber sold during the period 1996 to 2003 is 35.3 MMBF, or 85 percent less than what was predicted in the Plan. This reflects significant challenges in Plan implementation, not the Forest Plan itself.

Monitoring Item 32: Timber Stand Improvement

Allowable Variance = +/- 25 %
Actual Variance = - 61 %

The Forest goal for Timber Stand Improvement (TSI) during 2003 was 2,039 acres. A total of 790 acres were treated, which is 39 percent of the amount predicted in the Forest Plan. The Allowable Variance was exceeded by 36 percent, which is a slight decrease from the previous year. The main reason for the reduced output of TSI accomplishment relates to direction to protect potential lynx habitat. Thinning dense stands, especially in the lodgepole pine component, is strongly discouraged under present lynx habitat guidelines. Forest silviculturalists estimate that approximately 80 percent of potential TSI projects on the Forest have been impacted as a result.

Recommendation: Timber Stand Improvement includes thinning lodgepole pine stands before they reach age 30, in order to achieve stocking control and promote higher growth rates. Lodgepole pine often regenerates in extremely dense stands after clearcutting or fire, which require thinning to prevent a severe reduction in growth rates. The annual amount of TSI performed on the Forest was an important factor that was used to help determine the Long-Term Sustained-Yield Capacity (LTSYC) when the Forest Plan was developed. More emphasis needs to be placed on accomplishing TSI work on the Forest, or it will affect the amount of timber available in the future.

The SILVA 99 Report for 2003 showed that approximately 5,200 acres of overstocked lodgepole pine stands on the Forest need TSI treatment, which is a slight reduction from the previous year. Under the premise of the original Forest Plan, planning and budgeting for Timber Stand Improvement should be made a high priority, in order to achieve the output objectives stated in the Plan. The reduced budget for timber related activities during recent years, however, has directly impacted the program of TSI treatments on the Forest. This problem is related to implementation rather than the Forest Plan, therefore, no change to the Plan is currently needed.

Monitoring Item 40: Soil and Water Resource Improvements

Allowable Variance = +/- 10 %
Actual Variance = - 92 %

The Forest Plan objective for this item is 195 acres per year, but only 15 acres were accomplished during 2003. The Forest completed fewer soil and water resource improvement projects beginning in Fiscal Year 1998, because the Regional Office changed the method of allocating funds to the Forests. The result on the Forest has been a substantial reduction in funding compared to what was previously received. Subsequently, the number of projects and acres are expected to be less than predicted.

Recommendation: If the reduced level of funding continues to affect the outputs for this item, a change to the Forest Plan may be necessary. No change is needed at the present time, however.

Monitoring Item 41: Forest Road Development

Allowable Variance = +/- 25 %
Actual Variance = - 89 to - 100 %

The stated objectives for this item are listed on page III-10 of the Forest Plan. The outputs from the Forest Road Development Program during 2003 are shown on the Forest Plan Evaluation Table of this report. The two main reasons for not meeting the stated goals for this item include the reduced timber program and the current National effort to develop the most cost-effective transportation system considering both construction and maintenance funding.

Recommendation: The Forest has completed a comprehensive Roads Analysis that provides baselines for future transportation system planning. Based on this Roads Analysis, site-specific proposals for any new road construction or decommissioning project will be analyzed and documented in compliance with the NEPA process, including public involvement. No change to the Plan is currently needed.

Monitoring Item 42: Trail Construction and Reconstruction

Allowable Variance = +/- 25 %
Actual Variance = + 1,122 %

The scheduled ouput for this item is 2.7 miles per year, as shown in the Forest Plan (page III-6). During Fiscal Year 2003, the Forest accomplished 30.3 miles, which is 1,122 percent of the stated objective. This was due to the availability of additional funding and personnel, which may not occur in the future.

Recommendation: The amount of funding and personnel that is available on an annual basis cannot be accurately predicted. Therefore, no changes to the Forest Plan are recommended at this time.

Monitoring Item 43: Fuel Treatment

Allowable Variance = +/- 25 %
Actual Variance = - 90 %

The stated objective for this item in the Forest Plan is 1,437 acres annually during the period 2001 – 2010, however, only 147 acres were treated on the Forest during 2003. This item measures the treatment of fuels (such as logging slash) directly created by forest management activities. It does not include fuel reduction projects, such as those being planned under the present National Fire Plan.

Recommendation: The primary reason for not meeting this objective is due to the reduction in the number and size of timber sales offered during previous years. The number of acres requiring fuels treatment is directly related to the level of vegetation treatment activity that occurs as a result of the timber sale program. This is a problem with implementation, therefore, no change is needed to the Plan.

Monitoring Item 45: Land Exchanges

Allowable Variance = +/- 50 %
Actual Variance = - 100 %

The Forest Plan objective is 160 acres per year, however, the Allowable Variance is measured for the ten-year period. No land exchanges were accomplished during 2003.

Recommendation: The amount of land exchange has varied significantly on an annual basis, resulting in greatly exceeding the predicted outputs during the first planning period. One year may result in a single large land exchange, while several other years may pass without any exchanges being accomplished. This item needs to be examined during Forest Plan revision to determine the relevancy of monitoring in future years. No changes to the Forest Plan are needed at this time.

Monitoring Item 46: Right-of-Way Acquisition

Allowable Variance = +/- 50 %
Actual Variance = - 92 %

The Forest Plan objective is 25 cases per year, however, the Allowable Variance is measured for the ten-year period. Only two cases were accomplished during 2003.

Recommendation: The number of rights-of-way cases has varied significantly on an annual basis. One year may result in numerous cases, while several other years may pass without any cases being accomplished. This item was examined during Forest Plan revision to determine the relevancy of monitoring in future years. No changes to the Forest Plan are needed at this time.

E. To determine how closely management Standards and Guidelines have been followed (36 CFR 219.12(k)).

The Forest Plan was intended to be dynamic, responsive to changing conditions, and also to meet the needs of the American people. Project-level design reports and monitoring activities indicated that most of the management direction and requirements in Chapter III of the Plan were met during 2003. Each year that projects are implemented on the ground, Forest personnel acquire a better knowledge and understanding of the Standards and Guidelines in the Forest Plan. This experience, combined with monitoring and evaluation, helps to improve the quality of resource management on the Forest.

Two levels of evaluating management activities on the Forest have been historically used, in order to meet the goals and objectives of the Forest Plan. One level is a General Management Review (GMR) by the Regional Office, which monitors and evaluates overall Forest management. The other level consists of a Forest review of management activities on the Ranger Districts. One purpose of these annual reviews is to determine if the activities being reviewed are working toward meeting the overall goals of Forest Planning. No formal reviews were performed on the Forest during 2003.

Results of Monitoring Individual Items (Forest Plan, Chapter IV).

Each of the fifty Monitoring Items in Chapter IV of the Forest Plan are listed below. Included is a description of the monitoring activity, the results of that monitoring, and a recommended course of action for correcting any deficiencies that were identified by the Staff Specialist for that resource.

Monitoring Item 1: Off-Road Vehicle Damage

The Laramie District decommissioned 5.5 miles of roads and user-created motorized routes in the Pole Mountain area. Instances of damage and/or new user-created routes appears to have increased during 2003. Numerous citations were issued for ORV damage, especially on Pole Mountain, $1,700 of which was returned to the Forest for rehabilitation efforts via a new arrangement with the local magistrate wherein some fines were replaced with reparations to the Forest. Off road vehicle damage continues to be the largest detrimental impact to Forest resources resultant of recreationists.

On the Douglas District, more illegal trails were discovered by Wyoming Game and Fish Wardens during the hunting season. No formal investigations occurred because of a lack of law enforcement officer availability. They had an LEO present during the first weekend of rifle season which was helpful and may have deterred some illegal off-road activities. FPO patrols during the hunting season were fairly extensive and actively pursued illegal off-road use with good results. Closure carsonites were posted as illegal routes were discovered.

The Brush Creek/Hayden District continues to install more carsonite posts with route numbers. The district did some road monitoring work, including checking for "end of route" signs, "route" signs, and "closed to motorized travel beyond this point" signs. These signs continue to be vandalized or removed. Hunter patrol was done mainly during the last half of September and all of October and included the tagging of trailers/tents/camps. The majority of individuals contacted agreed that something needed to be done about the ORV use and user created trails.

The Roaring Fork trail is an example of where motorized recreation has been occurring, even though it is a non-motorized trail. This use is impacting the recreation experience for other users. Patrols during hunting season produce positive results for reducing the amount of motorized use on such trails. As a result of the October 2000 Travel Management Decision, carsonite posts were installed and roads and trails were signed for appropriate uses. During hunting season of October 2002, three individuals were contacted, ticketed, and fined for using ORV's on the Roaring Fork trail. There continues to be illegal ORV/ATV use in the vicinity of National Forest System Road (NFSR) #103 and NFSR #215/217. This unauthorized use has resulted in ticketing. No Plan adjustments are necessary.

Monitoring Item 2: Trail Condition

The Laramie District inventoried 20% of its wilderness and non-wilderness trails for determining deferred maintenance needs. Condition surveys are available for each trail inventoried. While the majority of the trails surveyed were in good condition overall, deferred maintenance needs were identified for each trail. These consisted primarily of waterbar deterioration, insufficient signage and trail marking, and inadequate drainage.

On the Douglas District, all of the trails were open and regularly used on the Laramie Peak Unit. Deferred Maintenance Surveys were completed on the remaining trails within the Ashenfelder Basin to

complete our 100%. These included the Roaring Fork Creek trail, Ashenfelder Creek trail, South. Black Mountain Trail, and Lost Creek Trails.

The Brush Creek/Hayden District completed deferred maintenance surveys in 2003 reaching the target of 97% on the district trails. The Stud Creek trail and a portion of the Lookout Mountain Trail remain to be surveyed. These trails have not been maintained for years and the trail routes have become overgrown and are difficult to locate. The trail program manager is in the process of re-marking these routes. This item does not need adjustment in the Forest Plan.

Monitoring Item 3: Dispersed Recreation Use and Experience

Patrols were conducted during the year, and user visitation and experiences were consistent with previous years and anticipated trends. Off-highway vehicle usage appears to have increased in many areas. LaBonte Canyon continues to be the most popular dispersed camping area on the Douglas District, being heavily used by people with OHV's for easy access to Big Bear Canyon road and other popular OHV routes.

On the Brush Creek/Hayden District, the recreation staff posted fire restriction signs at all entrances to the forest, then changed the signs for the fire ban, and eventually took all fire signs down. The district closed FDR 452.1k, the road into a dispersed campsite in 2001. This closure has been effective and rehabilitation of the area continues. The District recreation and range staff continued with the tag program to inform the public of the 21-day stay limit throughout the summer and fall. Campers were issued information tags and if they stayed on the forest beyond the allowed time, tickets were issued. A total of approximately 500 tags were issued this fiscal year. No change to the Plan is currently needed.

Monitoring Item 4: Dispersed Campsite Condition

The Laramie District continues to survey dispersed campsite conditions utilizing Frissel Condition Classes, Cole Condition Classes and GPS technology, although efforts have been significantly hampered due to insufficient funding. Nonetheless, certain sites were rehabilitated or closed in accordance with existing Forest Plan Standards and Guidelines, and the district hopes to address this monitoring item more thoroughly during the 2004 field season.

No changes in the site conditions from 2002 were identified on the Douglas District.

Dispersed sites on the Brush Creek/Hayden District, along North Spring Creek north of NFSR 452 is in Cole condition class 4 and 5. These sites will be closed for rehabilitation in spring 2004. The sites were scheduled to be closed in 2003, but did not get accomplished. No change to the Plan is needed.

Monitoring Item 5: Developed Site Use

All campgrounds on the Medicine Bow National Forest are run under continue to be run under the rec fee demo program. Visitation on the Laramie District was consistent with previous years and anticipated trends, though no reliable use estimates are available. A total of $184,830 was collected during FY 03 from developed recreation sites and the sale of day use passes, which is roughly $30,000 higher than the previous year. An increase in the price of annual passes and day use fees effective 1/1/2003 would partially explain the greater collection numbers, however visitation also seemed to increase in 2003, as extensive fires in the region in 2002 clearly limited visitation.

The campgrounds on the Brush Creek/Hayden District continued to be run under the recreation fee demo projects, collecting $49,384 in 2003. The Silver Lake Campground was closed for part of the season due to a beetle outbreak and scheduled timber sale.

Douglas District collected and used $3,746 at their facilities. Curtis Gulch CG remained closed throughout the 2003 season awaiting the new toilet (which finally arrived in October) and will remain closed until reconstruction is complete; hopefully, in June 2004. Even with no revenue generated from Curtis Gulch CG, fee collections were up dramatically from the poor 2002 season at Esterbrook and Friend Park CGs (averaging an increase of $500.00 from the previous year.) Laramie Peak Trailhead saw an increase in revenue of nearly 1/3rd more than the previous year, and only Campbell Creek CG saw a slight decrease ($70.00).

Cabin Rentals:
The Jack Creek Crew Quarters, Jack Creek Guard Station, Brush Creek Barracks, and Bow River quarters were rented out under the rec fee demo program. Jack Creek Crew Quarters rented for 45 nights since January 1st for a total income of $ 6,890. Jack Creek Guard Station rented for 61 nights since January 1st for a total income of $ 3,700, while the Bow River Ranger Station rented for 31 nights for a total income of $ 2,480.

The Brush Creek Barracks, which rents during the winter months of December through April, rented for a total of 4 nights and $400. The total income of $ 11,940 was an increase of $ 500. This use will continue to grow as the sites are added to the national reservation system, including the sandstone cabin, which was added this fall. The District is planning to add the Sandstone residence and a cabin that was under special use permit to the NRCS. The NRCS has returned the cabin to the Forest Service as of this fall. It will be cleaned and prepared to rent this summer.

LaPrele Guard Station also continues under the rec fee demo program and saw increased use this past season, due primarily to being placed on the National Reservation System. No change to the Plan is presently needed regarding this item.

Monitoring Item 6: Developed Site Condition

The Laramie District inventoried 20% of its developed sites for determining deferred maintenance needs. Condition surveys are available for each site inventoried. While the majority of the sites and facilities therein were in fair to good condition, deferred maintenance needs were identified for each site. These consisted primarily of dilapidated tent pads, tables, delineators, and fire rings, minor maintenance needs for outhouses, and site spur deterioration. The district attempted to address many of these deficiencies, but a lack of funding and insufficient personnel prevented the managing of these sites completely to standard. The district will continue its effort to correct constructed feature deficiencies.

On the Douglas District, new CXT toilets were installed at Laramie Peak Trailhead and Curtis Gulch Campground. Curtis Gulch CG remained closed during the entire 2003 season while the remaining rotten cottonwoods were removed. There is still a handful to be removed.

On the Douglas District, the office/resident building at the LaPrele Guard Station was cleaned and the sill log removed and an emergency patch put in place in preparation for complete renovation. There are plans to include this building into the reservation system as additional space for larger parties. A PIT project is planned for late May, 2004 to complete the renovation. The office had considerable plumbing

done to reconnect all pipes, and a new water heater was installed.

Considerable work has been done to the house through volunteers and employees. The basement windows were repaired, screened and replaced. The basement was thoroughly cleaned and the floor painted. A new propane refrigerator was installed in the house, with the old refrigerator going to the office/residence, and a new small propane stove installed in the office/residence. New propane lines were installed to the house and office/residence. Repairs were made to the roof of the barn.

The Brush Creek/Hayden District continues to try to improve developed sites with the rec fee demo monies. A lot of hazard tree reduction was done. Picnic table planks were replaced at several campgrounds. Lantern holders were installed at several sites, as were accessible fire grates. A new CXT toilet was installed at Bottle Creek Campground in October and the landscaping will be finished in the spring of 2004. Plans have been finalized to reconstruct the picnic area at Mirror Lake with a contract going to bid this spring.

The recreation staff planned and hosted 10 interpretive programs with 316 people in attendance. We had 3 environmental education programs with approximately 150 children attending. The Brush Creek Visitor Center had approximately 5000 visitors and Kennaday Peak had approximately 800 visitors. No change to the Forest Plan is necessary at this time.

Monitoring Item 7: Downhill Skiing Use

A total of 22,487 ski area lift tickets were sold during 2003, which equates to 11,244 recreation visitor days (RVD's). No change to the Forest Plan is needed related to this item.

Monitoring Item 8: Wilderness Use

Reliable data is not available for wilderness use during 2003, though it is believed to be slightly higher than 2002 in light of the extensive wildfires in the region that year and the ban on campfires throughout the season. With limited funds, we are currently keeping trails and trailheads in good condition. The use is low to moderate in all wilderness areas on the Forest. All bulletin boards were posted with Leave No Trace & Wilderness regulations.

The Platte River raft season was the first real commercial season in three years. Rafting use was concentrated in May and the first two weeks of June. During September and October, wilderness hunters were contacted about wilderness regulations and the location of the boundaries, and ethics (leave no trace information). No change to the Plan is needed at this time.

Monitoring Item 9: Wilderness Campsite Condition

There were no wilderness campsite condition reports filed on the Laramie District during 2003, and the number of days wilderness rangers were able to patrol was lessened considerably in light of these individuals performing fire fighting duties. The Brush Creek/Hayden wilderness program had three volunteers that hiked all the trails, doing general maintenance and doing an inventory of recreation sites. They recorded all campsites located along the trails and monitored use. Use was found to be moderate in the Encampment River and low in Huston Park and Platte River Wilderness Areas. No change to the Plan is needed at this time.

Monitoring Item 10: Adopted Visual Quality Objectives

The following Ranger District projects were reviewed for compliance or noncompliance with the adopted visual quality objectives (VQOs) for Fiscal Year 2003:

Brush Creek/Hayden District - Mirror Lake Road Rehabilitation: The Mirror Lake Road Rehabilitation project was completed during the fall of 2002. The project was reviewed with Steve Coupal, Forest Transportation Program Manager, Tim Morawski, BCH District Engineer, and Randy Lambert, Contracting Officer's Representative (COR). The widened road with adjacent accessible pedestrian path and parking turnouts were designed to fit in with the lakeshore setting. The chips used for the road and path surface blended in well with the landscape. An accessible fishing pier was also constructed to allow fishing for persons with disabilities, as well as for non-disabled users. Existing trees and shrubs adjacent to the lake and road were protected to maintain the landscape character and scenic quality. This project met the adopted visual quality objective of partial retention.

Laramie District - Foxpark and Rainbow Valley Fuels Reduction Projects: Both the Foxpark and Rainbow Valley fuels reduction projects were reviewed on the Laramie District in FY2003. Broadcast burned sites near the Centennial Ridge were reviewed. Burned and blackened ground can be seen from Ehlin Road, however, this is a short-term impact, as healthy diverse green vegetation would be established consequently after fall rain and winter snow and enhance scenic quality. It is expected that there would be little notice of the burned sites when viewed from Wyoming Highway 130 and Ehlin Road in the spring of 2004 and will meet the adopted visual quality objective of partial retention.

Several hazardous fuel reduction treatments located within the Foxpark Work Center area and FDRs 512 and 517 road corridors were reviewed. Sanitation/salvage and understory removal treatments were used primarily used. Slash was piled throughout the site for chipping and burning. Healthy trees were remained to provide shaded fuelbreaks and maintain the scenery within the work center and road corridors. Slash piles were burned and chipped late last fall. This project will meet the adopted visual quality objective of partial retention when disturbed grounds within slash piles are revegetated. No change to the Forest Plan is needed for this item.

Monitoring Item 11: Compliance with Cultural Resource Regulations

During Fiscal Year 2003, a total of 120 projects were submitted to the Heritage team for cultural resource input into National Environmental Policy Act analysis, and for compliance with Section 106 of the National Historic Preservation Act. The Heritage staff reviewed each project to determine the potential for affecting cultural resources. A literature search was also conducted for all projects. Field inventories and compliance reports were sent to the State Historic Preservation Officer (SHPO) for forty-three projects. The Forest is in compliance with the National Range Programmatic Agreement (PA), the Regional Memorandum of Understanding (MOU) regarding the effects of range Allotment Management Plans, the Beetle Management and Mechanical Fuel Reduction PA, and the Prescribed Fire Program Regional PA. Project leaders and contracting officers need to keep the Forest Cultural Resource Staff informed of modifications to ongoing projects. This will help to ensure that the Forest continues to be in compliance with Section 106 of the NHPA. No changes to the Plan are needed.

Monitoring Item 12: Protection of Historic Sites

As stated above in Item 11, Class I inventories were conducted for 120 projects on the Forest to determine the level of compliance with Section 106 of the National Historic Preservation Act. No adverse impacts to any historic sites were identified. Monitoring for this item validates that the integrity of historic sites on the Forest is being maintained. It is recommended that Line Officers responsible for compliance with the NEPA and Section 106 of the NHPA need to emphasize that all projects on the Forest must be completed in accordance with these Federal laws and Forest Plan requirements. No change to the Forest Plan is needed at this time.

Monitoring Item 13: Horizontal Diversity

The monitoring report requires an analysis of horizontal diversity by Ranger District and Diversity Unit on the Forest. A review of reports from 1986 to 1991 was also included. There has been no significant change in the amount of horizontal diversity between 1992 and 2003. The problems inherent in reporting this item (data quality/completeness, & the large number of acres that most change in order to cause a percentage change) are the same as previous years. This item is no longer included in the monitoring strategy for the 2003 Revised Medicine Bow LMP.

Monitoring Item 14: Vertical Diversity

The monitoring report for FY 1992 requires an analysis of vertical diversity by Ranger District and Diversity Unit on the Forest. A review of reports from 1986 to 1991 was also included. There has been no significant change in the amount of vertical diversity between 1992 and 2003. The problems inherent in reporting this item (data quality, and the large number of acres that must change in order to cause a percentage change) are the same as for previous years. This monitoring item is no longer included in the monitoring strategy for the 2003 Revised Medicine Bow LMP.

Monitoring Item 15: Aspen Retention

Site, location, and size-class information for aspen is stored in each Ranger District RMRIS database. The number of acres of aspen in Management Areas 4D (emphasis of aspen management), and the amount of aspen included within other Management Areas comprises the total amount of aspen on the Forest. As the amount changes due to natural succession or project activities, the information is updated in the District data bases for monitoring and evaluation purposes.

The Forest Plan requires the continuous retention of 77,770 acres of aspen on the Forest (page III-87). This amount may vary by plus or minus 10 percent within the 4D Management Area, as stated on page IV-31 of the Plan. The data for FY 2003 indicated that 84,042 of aspen are on the Forest with 73,825 acres in 4D areas. This is the same as the previous year and well within the Allowable Variance. This monitoring item is not included in the monitoring strategy for the 2003 Revised Medicine Bow LMP.

Monitoring Item 16: Old Growth Retention

Information for this item is stored in each Ranger District NRIS data base. During FY 2003 the Districts reported approximately 116,287 acres of old-growth designated on the Forest, which is the same as the previous year. This total also includes old growth stands in Wilderness Areas, stands with an Old Growth Score Card rating less than 38, and areas designated as corridors that connect old-growth stands.

The inclusion of these items was necessary to provide for "spatial consistency"; the delineation of stands that are complete, coherent, and reasonable to manage. Although the data indicates that the amount of old growth in 4B Management areas does not comply with the direction stated for this item in Chapter IV of the Forest Plan (page IV-32), the Districts need to complete the task of designating an adequate number of acres of old growth within 4B Management Areas in order to comply with this Monitoring Item. Old growth is addressed in the 2003 Medicine Bow Revision to ensure accuracy and usefulness.

Monitoring Item 17: Diversity of Coniferous Tree Species

The information for this item is derived the Districts NRIS data bases for 2003, and indicates no significant change from the detailed, "benchmark" 1992 data. This monitoring item is not included in the monitoring strategy for the 2003 Revised Medicine Bow Forest Plan.

Monitoring Item 18: Winter Range Carrying Capacity

Due to funding constraints, less than 5% of the designated winter range on the Medicine Bow NF and Thunder Basin NG was inspected by District personnel. Methods included ocular estimates as well as range utilization monitoring. Carrying capacity of the winter range on the Medicine Bow NF is reported in the Table below. Despite drought conditions with reduced forage and localized areas of heavy use, winter range habitat continued to provide adequate forage for deer as evidenced by stable or slightly increasing populations of mule deer reported by WGFD (2002) with most herds above population objectives. Elk were reported to be at objective, and were intentionally managed for a decreasing population to get them down to that herd objective (WGFD 2002). Though there have been several years of drought already, the corresponding mild winters have allowed fairly high survival of animals with much reduced body-fat reserves. A normal or severe winter likely would result in lower survival and a lower true carrying capacity, since the forage provided in recent drought years appears to be too low to sustain current populations through a normal or severe winter.

In discussions with WGFD (Guenzel, June 24, 2004), it appears that there may be some discrepancy between the USFS calculations of carrying capacity and the WGFD population estimates. Such a discrepancy stems from several assumptions. First, USFS lands provide only a portion of the winter range for each herd unit and therefore USFS assumes that it only supports a portion of the herd. Furthermore, USFS uses an estimate of forage production on designated winter range to extrapolate an estimate of the numbers of deer and elk that the Medicine Bow Forest can support. Such an assumption leaves out the use of USFS lands not officially designated as winter range, thus leading to a possible underestimate of carrying capacity. Additionally, the use of forage production on deer and elk winter range to derive an estimate for carrying capacity further assumes that elk and deer do not overlap in their use of winter range. This lack of species overlap is not always the case, thereby leading to a potential overestimate of carrying capacity. Finally, WGFD herd estimates have been refined recently and the new simulations increased the population estimates from previous years. Therefore, estimating carrying capacity is not an exact science and is more useful when comparing trends over time.

Therefore, it appears the carrying capacity of the Winter Range on the Medicine Bow National Forest is declining since drought has reduced the available browse. In some areas (i.e. Platte Valley) body fat reserves were the lowest measured since monitoring began in 1996 (WGFD 2002). Although populations appear stable, drought is expected to reduce the carrying capacity during future years.

Carrying Capacity of Winter Range on the Medicine Bow National Forest in FY 2003.		
District or Area	Elk	Mule Deer
Brush Creek Hayden	1,400	19,382
Laramie District	1,190	6,935
Laramie Peak	1,100	1,520
TOTAL	**3,690**	**27,837**

Though deer and elk populations remain stable, the USFS is responsible for providing habitat for all native species, including bighorn sheep. One of the three bighorn sheep herds (Encampment Herd) is decreasing and WGFD (2002) monitoring reports demonstrate that this trend may be irreversible. Potential plans for improving habitat outside designated wilderness, as well as supplementing bighorn sheep with translocations, probably will remain on hold because completion of such projects likely would allow bighorns to come in direct contact with 6 to 8 bands of domestic sheep bordering the occupied habitat. Such contact would pose an unacceptably high risk for disease transfer to the wild sheep herd. Furthermore, from 1999-2001 the USFS allowed a temporary permit for domestic sheep grazing in the Victoria and North Fork allotments immediately south of occupied bighorn sheep habitat while we evaluated potential conflicts in an EA for the Forest Plan Revision. "Long-term survival of this herd, much less growth and the production of a sustainable harvest surplus is doubtful because of the current limited yearlong habitat and significant potential for disease transmission" (WGFD 2001).

This item needs to be addressed by the Bighorn Sheep/Domestic Sheep Working Group that will be formed from a variety of interested parties. Issues to address include: management of existing domestic sheep allotments within bighorn sheep habitat; methods to minimize contact between domestic and wild sheep herds; and communication with private landowners adjacent to forest lands containing bighorn sheep.

Monitoring Item 19: Snag Retention

A variety of vegetation treatments were examined by District personnel in 2003, including Blackhall-McAnaulty and Singer Peak Timber Sale Areas on Brush Creek Hayden District. The units that were visited were determined to be in compliance with the Forest Plan Standards and Guidelines. Snag retention is one of the mitigation measure for all major vegetation management projects, such as timber sales. Snags are left at or above the density required in the Forest Plan, and are often left in groups rather than scattered within openings created by the treatments. The intent of this practice is to reduce susceptibility of retained snags to windthrow and provide a habitat component more attractive to target wildlife species. The Douglas District indicated that past mountain pine beetle infestations have provided enough snags District-wide so that sang retention is not a problem. The Laramie District designated approximately 120 acres of Snag Retention within the Graham Fire perimeter.

Snag retention issues that need to be studied during future years include determining: the reduction of large snags due to firewood gathering in heavily roaded areas; if there is a need to increase snag density standards based on current literature; if there is a need to increase snag density based on loss to

windthrow; if there is a conflict between snag retention guidelines and OSHA safety regulations; and the impact of such regulations on the actual number of retained snags. This effort will depend upon both adequate personnel time and adequate funding. No changes to the Forest Plan are recommended.

Monitoring Item 20: Threatened and Endangered Species

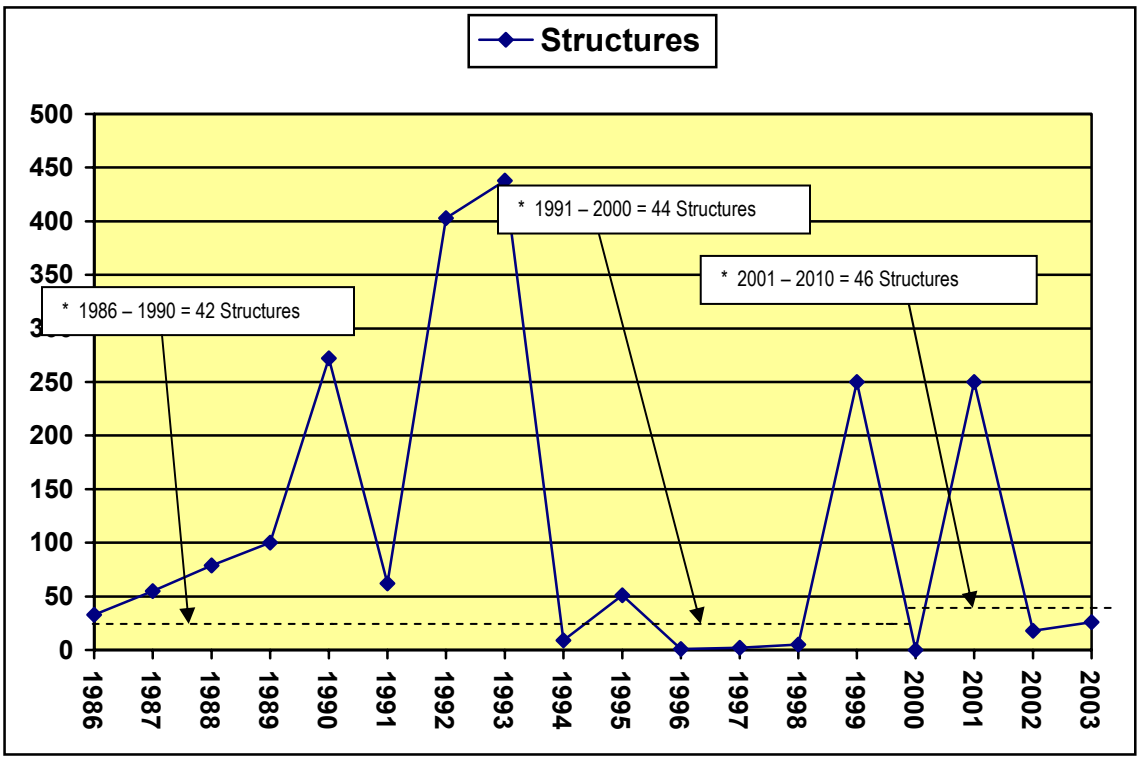
Wildlife biologists performed surveys for Threatened and Endangered (TE) species during fiscal year 2003. The spread of sylvatic plague on approximately 17,000 acres of black-tailed prairie dog colonies was monitored in relation to the future possibility of reintroducing the endangered black-footed ferret. More than 1,300 acres of prairie dog colonies appear to have re-establilshed since FY02 (Cully and Johnson 2004). Cully and Johnson (2004) reported 140 black-tailed prairied dog colonies covering 5,629 acres (2,278 ha) in FY03 compared to 144 colonies covering 4,324 acres (1,750 ha) in FY02. This equated to an increase of approximately 30 percent in one year.

In 2003 one known active bald eagle nest (Black Butte) with young was reported adjacent to NFS lands on Thunder Basin National Grassland. Furthermore, an environmental contractor in the area (Greystone) did observe this same bald eagle nest as active in FY02. However, the FY02 sighting was not reported to the USFS until spring of 2004. Therefore, this represents a correction to the FY02 Monitoring Report in that one bald eagle nest was active on a private land inclusion within the greater boundary of the Thunder Basin National Grassland. On Brush Creek Hayden District, one of the four known bald eagle nests were active and a new nest was discovered and active immediately adjacent to Forest land near Jack Creek. It is expected that the Jack Creek bald eagles use a portion of Forest lands for their foraging habitat. The Laramie District has no known bald eagle nests at this time.
Visual inspections of riparian vegetation on Pole Mountain (Laramie District) were conducted to ensure that adequate residual cover for Preble's meadow jumping mouse remained after grazing by livestock. Some localized problems were noted in riparian areas where the stubble heights of *Carex* species after grazing were less than 4 to 6 inches. These areas were generally less than 10 acres and resulted from a concentration of livestock before being moved to another pasture. Presence/absence surveys for Preble's meadow jumping mouse were not conducted, but are planned and funded for Fiscal Year 2004. No further monitoring was conducted on the Medicine Bow as part of the National Lynx Survey in 2003. No change to the Forest Plan is necessary at this time.

Monitoring Item 21: Wildlife and Fish Habitat Improvement

In 2003, the Forest created a total of 26 structures, 3 fisheries and 23 wildlife improvements. The Laramie Ranger District improved wildlife habitat adding 7 bear-proof containers to recreation sites. The Brush Creek/Hayden District purchased and added 4 bear-proof containers (each with the capacity for 2 40-gallon cans) to recreation sites. In addition, the Wyoming Game and Fish Department donated 12 55-gallon bear-resistant cans that were placed throughout recreation sites on Brush Creek-Hayden District. Douglas District improved big horn sheep habitat by seeding and mulching 500 acres of the Hensel Fire Rehabilitation Area. No change to the Forest Plan is indicated at this time.

Wildlife and Fish Habitat Improvement



*** Forest Plan Annual Output Objective (Forest Plan, page III-7) = ----------**

Monitoring Item 22: Elk Habitat Effectiveness

The three Ranger Districts on the Medicine Bow NF reported no change in roads for FY 2003, therefore elk habitat effectiveness was interpreted as continuing to meet Guideline 7031MB (Forest Plan, page III-76). This Guideline pertains to the maximum road density within fourth-order watersheds. The Brush Creek Hayden District reported the following elk habitat effectiveness estimates for the Sierra Madre Mountain Range. These estimates are useful in illustrating that vegetation cover is contributing to some of the limitations in habitat effectiveness on this Forest. Habitat capability is expressed as an index from 0 to 1, with 1 being ideal elk habitat. Below, the "existing condition" column portrays elk habitat capability as it currently exists. The "no roads" column describes the increase in capability if all roads were decommissioned. This illustrates that the area is not capable of achieving a rating of 1 because other characteristics in the vegetation cover are limiting. Finally, the hunting season column describes elk habitat effectiveness during the hunting season. Elk habitat capability declines dramatically during the hunting season. This pattern is similar on all Districts.

Winter Range Habitat Capability for Elk in the Sierra Madre			
Winter Range	Existing Condition	No Roads	Hunting Season
Battle	0.39	0.48	0.24
North Sierra Madre	0.49	0.50	0.32
Holroyd	0.38	0.45	0.16

We recommend revising the approach to estimating elk habitat effectiveness in the Forest Plan Revision.

A new approach should involve vegetation cover, road density, and an estimate of security areas.

Monitoring Item 23: Riparian Condition Rating

During 2001, rangeland management specialists on the Medicine Bow/Routt National Forest evaluated riparian vegetation within grazing allotments using utilization and ecological condition factors to determine compliance with the Forest Plan Standards and Guidelines. Due to the conversion of all inventory and monitoring information from the FSRAMIS database to the INFRA database, and creating the allotment and pasture information in that database, reports of actual monitored acres for 2003 were highly variable and, in some cases, not available. Accordingly, the reported acres for 1999 are duplicated again for this year, with the hope that the reports can be run at some time in the future with more accurate information (the Medicine Bow National Forest and Thunder Basin National Grassland contain approximately 56,125 acres of riparian habitat within grazing allotments).

CONDITION OF RIPARIAN VEGETATION WITHIN GRAZING ALLOTMENTS

Description	Acres
Total riparian area on the Forest (verified plus estimated):	56,125
Area monitored during 2003:	16,032
Area verified meeting Forest Plan objectives:	3,534
Area estimated meeting Forest Plan objectives:	21,493
Area verified moving toward Forest Plan objectives:	2,269
Area estimated moving toward Forest Plan objectives:	6,847
Area verified not meeting or moving toward Forest Plan objectives:	23
Area estimated not meeting or moving toward Forest Plan objectives:	287
Area of undetermined status:	N/A

Monitoring Item 24: Habitat Capability Trends of Management Indicator Species

Financial and personnel commitments to developing a new Forest Plan and support for summer 2003 wildfires limited monitoring of MIS population trends. Furthermore, a new MIS list was being developed as part of the Medicine Bow Forest Plan Revision, therefore it was unclear which species would need to be monitored in future years. Most observations of MIS were from site clearances completed in support of timber, fuels, minerals, lands, and recreation program projects. These sightings of MIS included 23 goshawks, 5 bald eagles, 7 marten, 2 beaver, 61 blue grouse, 46 elk, 45 mule deer, 1 peregrine falcon, 2 red-backed voles, 2 red-naped sapsuckers, 40 ruby-crowned kinglets, 9 sandhill cranes, 12 turkeys, and 4 sage grouse. In addition to the 4 sage grouse observed on Forest lands, BCH District intensively surveyed 4 sage grouse leks approximately 3-8 miles from the Forest boundary and observed 201 individuals in those lek counts. Those sage grouse are expected to use Forest lands as brood-rearing habitat. Searches were conducted for other species of interest, and the following were observed: 49 golden crowned kinglets (S), 4 olive-sided flycatchers (S), 1 osprey (S), 18 three toed woodpeckers (S).

On Thunder Basin National Grasslands, more than 1300 acres of prairie dog colonies appear to have re-established since FY02 (Cully and Johnson 2004). Cully and Johnson (2004) reported 140 black-tailed prairied dog colonies covering 5,629 acres (2,278 ha) in FY03 compared to 144 colonies covering 4,324

acres (1,750 ha) in FY02. This equated to 30% increase in prairie dog colonies from 2002.

In 2003, 15 active sage-grouse leks and 136 total individuals were monitored on Thunder Basin National Grassland in cooperatoin with the Wyoming Game and Fish Department's annual monitoring. The above represents a decrease of 1 lek and 93 individuals compared to 2002, when there were 16 active sage-grouse leks and 229 total individuals counted. Between 2002 and 2003, sharp-tails maintained their single known lek with a minor increase of 3 individuals. Caution should be used when interpreting this grouse data because there was a higher monitoring effort in 2002 than in 2003.

Amphibian inventories were conducted to determine distribution, status and trends for these management indicators on the North Zone. Tiger salamanders and northern leopard frogs (both Forest Service sensitive species), wood frogs (sensitive and MIS) and boreal western toads (sensitive and MIS) were located during surveys. Over 435 acres of amphibian habitats were surveyed to search for boreal toads at historic locations and to determine presence of amphibians in areas planned for management activities on the Medicine Bow National Forest; 42 acres of amphibian habitats were surveyed on the Thunder Basin National Grassland. The U.S. Fish and Wildlife Service amphibian survey protocol was used to conduct amphibian surveys. Key amphibian findings include:

- The Ryan Park boreal toad monitoring plan was implemented for the second year to gain additional information about a potential boreal toad breeding population identified in 2001. Adult and juvenile boreal toads were captured and placed in a captive breeding program at the Saratoga National Fish Hatchery. Monitoring will continue in FY2004 to identify eggs or tadpoles at this location.
- A total of 18 toads, at several new locations, were found on the Forest during monitoring this year.
- A boreal toad distribution study to be conducted in cooperation with the Rocky Mountain Research Station will begin in FY2004. Methods include using instream hoop nets to capture dispersing juvenile toads and better document toad distribution in watersheds on the Medicine Bow-Routt National Forests.

A change in the list of Management Indicator Species was recommended to better focus monitoring efforts on management issues. Such a change was incorporated at the time of Forest Plan Revision

Monitoring Item 25: Colorado River Cutthroat Trout (CRCT).

During Fiscal Year 2003, the North Zone Aquatics Team continued to support interagency Colorado River cutthroat trout (CRCT) restoration in the headwaters of the Little Snake River; our primary partner is the Wyoming Game and Fish Department. Monitoring was conducted to determine status/trends of CRCT populations, collect samples for disease/genetic testing, assess success of ongoing non-native trout control and restoration projects, identify potential impacts of land management activities, and determine need for additional structural protection of populations. Results of monitoring and inventory feed into adaptive management strategies for conservation and recovery of this rare native trout for and are described below:

- Over 42 miles of CRCT habitats were monitored in FY2003 at a cost of approximately $8,000. Within the trout's native range, we electrofished portions of the Haggerty Creek, Haskins Creek, Deep Creek, Sandstone Creek and North Fork Little Snake River drainages. In addition, areas of experimental introduction outside CRCT native range were sampled in tributaries to Rock Creek (Elk Creek and Stud Creek) and French Creek (Cascade Creek and Big Falls Creek). CRCT were located in many of these representative reaches, but were not located in others, indicating

the need for a more systematic, basinwide inventory method to determine the extent to which CRCT are present in these drainages.

- Monitoring from 2000-2002 indicated the North Fork Little Snake River still could not be considered free from competing/hybridizing non-native trout despite three earlier chemical treatments. Large rainbow trout were confirmed above a natural waterfall where they were first identified in 2001 and observed again in 2002. Further monitoring is planned to evaluate sources and potential control measures for these rainbow trout. As in 2001, brook trout survived or returned following chemical treatments, and were present in several reaches in 2002. Additional removal by electrofishing and chemical treatment was planned for summer 2003. Two further chemical treatments were conducted in August 2003, but a single brook trout was found during post-treatment cleanup, so a third, intensive treatment was conducted in one of the earlier treated reaches to ensure completeness of non-native trout removal. Followup monitoring will be conducted again in 2004 to determine the success of these treatments and whether the stream is ready for CRCT reintroduction.
- A habitat inventory training session for a method specific to cutthroat trout was conducted in conjuction with Supervisor's Office and South Zone fisheries personnel. This method can be used to determine probability of cutthroat persistence in habitats potentially affected by existing and proposed land management activities. A peer-reviewed journal article applying this method to greenback cutthroat trout populations on a neighboring national forest prepared by a North Zone Fisheries Biologist and collaborative author from the Forest Service Rocky Mountain Research Station was accepted for publication in the *North American Journal of Fisheries Management*. During FY2003 we also began work on a companion article testing this method for Colorado River cutthroat trout populations on the Medicine Bow-Routt and Arapaho-Roosevelt national forests; this method will be used to assess and make recommendations for restoring connectivity of CRCT habitats affected by transportation infrastructure and water development facilities in coming years.

Monitoring Changes: A new management indicator species list and monitoring items for those species will be implemented beginning in FY2004 as a result of the recent Forest Plan revision. Colorado River cutthroat trout are no longer considered an aquatic management indicator species under the new Plan, so this monitoring item will no longer be tracked. However, monitoring items "Viability 6" (aquatic sensitive species viability) and "Watershed 3" (instream flows) in the revised Plan are relevant to tracking issues critical to CRCT conservation. Biological evaluation and monitoring of CRCT habitat and populations will also continue as part of the Forest's responsibility for managing Region 2 sensitive species, including Colorado River cutthroat trout, during site specific project planning.

Monitoring Item 26: Common Trout Species

In Fiscal Year 2003, the North Zone Aquatics Team continued implementation of systematic MIS monitoring. Under this strategy, representative reaches of major streams in 5th level watersheds are monitored to update population information from existing Wyoming Game and Fish Department (WGFD) sources. Population monitoring took place in portions of the French Creek, Little Laramie River, Rock Creek, Big Creek, Douglas Creek, Encampment River and Sandstone Creek watersheds. The Grassland program included population sampling in the Cheyenne River drainage, including tributaries and small reservoirs. Fisheries findings include:

- Common trout populations were monitored in 30 stream reaches on the Laramie and Brush Creek/Hayden Ranger Districts at a cost of approximately $9,700. This information significantly enhanced the currency of our MIS data in two 5th level watersheds and portions of 3 other 5th or 6th level watersheds. We will continue this sampling strategy as permitted by funding in FY2004.

- ❖ Eight stream reaches and one small impoundment were also sampled in warmwater ecosystems on the Thunder Basin National Grassland. Plains minnow, a native species newly included on the Region 2 sensitive species list, was identified in two reaches within the Little Thunder Creek watershed. Plans for 2004 include further expansion of this program to more thoroughly evaluate existing or potential effects from coal bed methane production water on fish or amphibian habitats and populations in Antelope Creek and other watersheds in cooperation with the WGFD.
- ❖ Barriers to common trout movement were identified at two culverts in the French Creek watershed.
- ❖ Brook trout and rainbow trout were identified in CRCT recovery waters (see Monitoring Item 25).
- ❖ Cooperation continues with the WGFD and BLM to develop an additional warm water impoundment as a sport fishery and as wetland habitat near Weston on the Thunder Basin National Grassland.

Monitoring Changes: Common trout species are still considered aquatic management indicators under the revised Forest Plan. Monitoring items "MIS 1" (habitat capability), "MIS 2" (habitat suitability), "MIS 3" (population trends), "Viability 2" (riparian and wetland species viability), "Viability 6" (aquatic sensitive species viability) and "Watershed 3" (instream flows) in the revised Plan are relevant to tracking issues key to common trout habitat management. No change to the Plan is needed.

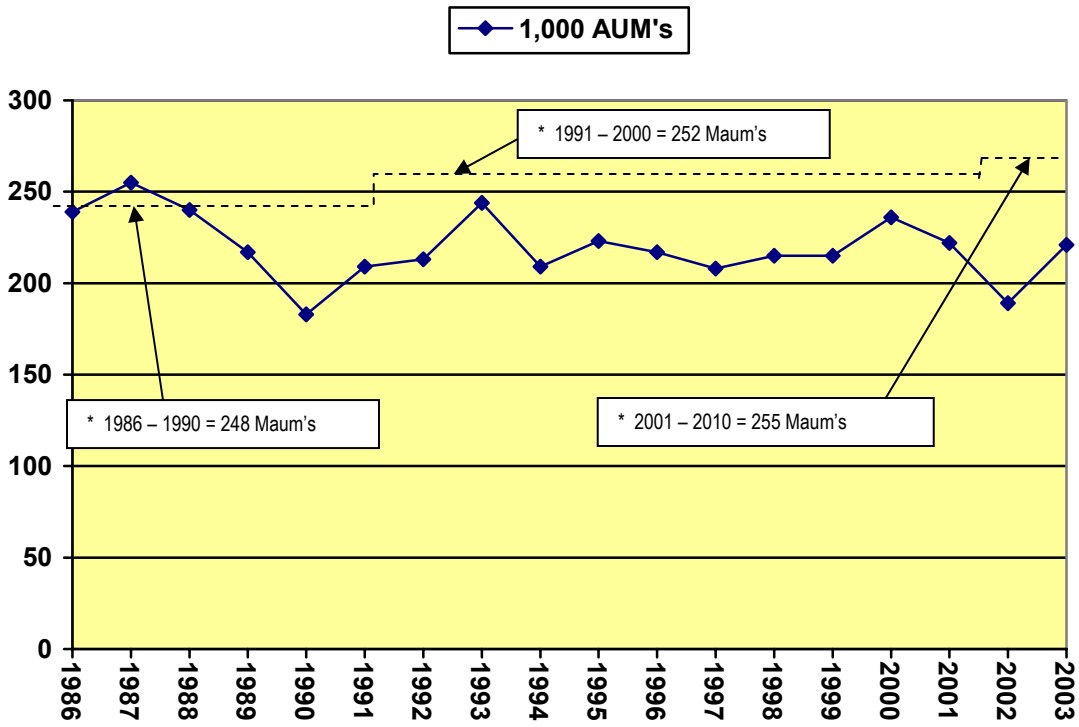
Monitoring Item 27: Grazing Use

The Forest converted the FSRAMIS database program to a new one called INFRA during 1999 to monitor permitted and actual grazing use on National Forest System lands. Actual grazing use is evaluated to ensure that Forest Plan Direction is followed. Livestock grazing use must not deviate more than 10 percent from the Forest Plan objective of 255,000 AUMs annually between the years 2001 and 2010. The table below shows the results of monitoring actual use during 2003.

Total AUM's Forest Plan	Total AUM's Used in F.Y. 2003	Percent Deviation From Forest Plan
255,000	221,200	- 13

The amount of grazing use on the Forest was about 87% of the projected Forest Plan level. The amount of use was about 30% less than permitted on the National Forest units due to 2003 being the fourth consecutive year of this drought, and following 2002 – the driest year since Wyoming became a state (in 1890). However, the Thunder Basin NG had some of the best climatic conditions to be found anywhere across the state, and non-use for resource protection there was less than 10%, making the percent of grazing use much higher for the entire Unit. Many operators across all the Units went home early, a few went on late. Over half of the producers on the Forest Units also reduced their herds, taking non-use, resulting in lower outputs. State-wide, ranchers have now sold off about 40% of their base herds; the economic effects are rippling throughout the local and state economies. The Allowable Variance for this Item was exceeded by only three percent, and no change to the Forest Plan is required at this time.

Grazing Use



* **Forest Plan Annual Output Objective (Forest Plan, page III-7) = ----------**

Monitoring Item 28: Forage Utilization

This monitoring item requires examining 20 percent of the range allotments on the Forest annually. Measurements are normally made in areas of heaviest use or in key areas. Utilization levels are not to exceed 10 percent of the allowable use guides for the grazing systems and range types shown in the Forest Plan (Chapter III, pages 37-41). The results of monitoring forage utilization during 2003 are shown below:

Total allotments on the Medicine Bow NF…… 282
Allotments monitored…… 128
Percent of total allotments monitored…… 45%

NOTE: The total number of allotments includes only those with grazing permits. It does not include vacant allotments, special use pastures, or other use areas (such as recreation horse use).

While the requirement is to annually monitor 20% of the range allotments on the Forest, 45 percent were monitored in 2003. Given the higher national workload priority to reduce the buildup of fuels across all lands, in compliance with the National Fire Plan, this accomplishment is quite good – and certainly higher than might have been anticipated. Rangeland Management Specialists are integral players in providing vegetation input to fuels planning projects, managing to prevent the introduction and/or spread of noxious weeds, and helping to carry out prescribed burns.

Of greater importance is the fact that the continued Wyoming-Colorado drought required rangeland management specialists to be on the ground a great deal, checking rapidly-changing conditions, and working with ranchers to maintain management system flexibility and, in several cases, to remove the livestock earlier than normal. The magnitude of that coordination and cooperation required a lot of time on the ground to assure standards were being met on as many acres as possible; the level of monitoring varied from visual observations and estimates to transect readings. Documentation in the files, especially in ocular readings, could have been more complete, but the most important priority was to check condition on as many acres as possible, and assure proper management results at season's end.

Ranger District	*Total Allotments on the District*	*Number of Allotments Monitored in FY 2000*	*Number of Allotments Not Meeting Plan*
Brush Creek/Hayden	35	35	0
Laramie	16	16	0
Douglas	231	77	0
FOREST TOTAL	282	128	0

The data reveal that all 128 allotments that were monitored met the Forest Plan requirements for utilization (except in occasional small areas), which continues the vegetative improvement shown during previous years – even in the midst of the drought. An analysis of the data for these allotments indicates that most of the upland areas were utilized properly, or under-utilized. All Districts required removal of livestock when proper use was reached in the riparian areas. The data suggest that improved management (better distribution, salting, water development, and seasons of use) and improved management systems are resulting in proper utilization of nearly all riparian areas. The Forest Plan Standards and Guidelines for utilization were reviewed during the Revision process to determine to what degree they are still appropriate. No changes are required at this time.

Monitoring Item 29: Range Condition and Trend

This monitoring item requires that 10 percent of the range allotments on the Forest be examined to determine the trend in range condition on an annual basis. The objective is to identify the condition/trend in relation to the Desired Future Condition or Desired Plant Community. The techniques for monitoring are described in the Rangeland Analysis and Management Training Guide for the Rocky Mountain Region and involve the use of benchmarks. Benchmarks are small areas where long-term trend studies are established and maintained so the manager can assess the resource effects due to various activities. They are used as reference points that are sensitive to management changes, and may consist of permanent transects, paced transects, or photographs. Benchmarks are placed in primary range areas, or those areas that produce or are capable of producing desirable forage, and are predicted to improve as a result of proper management. The results of monitoring for vegetation condition and trend during 2003 are shown below:

Total allotments on the Medicine Bow NF……. 282
Allotments monitored……. 40
Percent of total allotments monitored……. 14
Number of allotments with declining condition/trend… 0

The Forest exceeded the requirement for monitoring 10 percent of the range allotments for condition and

trend, even with efforts from available personnel focused primarily on Monitoring Item 28 because of the concern over the worst drought in recorded history and the desire to avoid cases of excessive forage use. None of the allotments measured were in a declining trend.

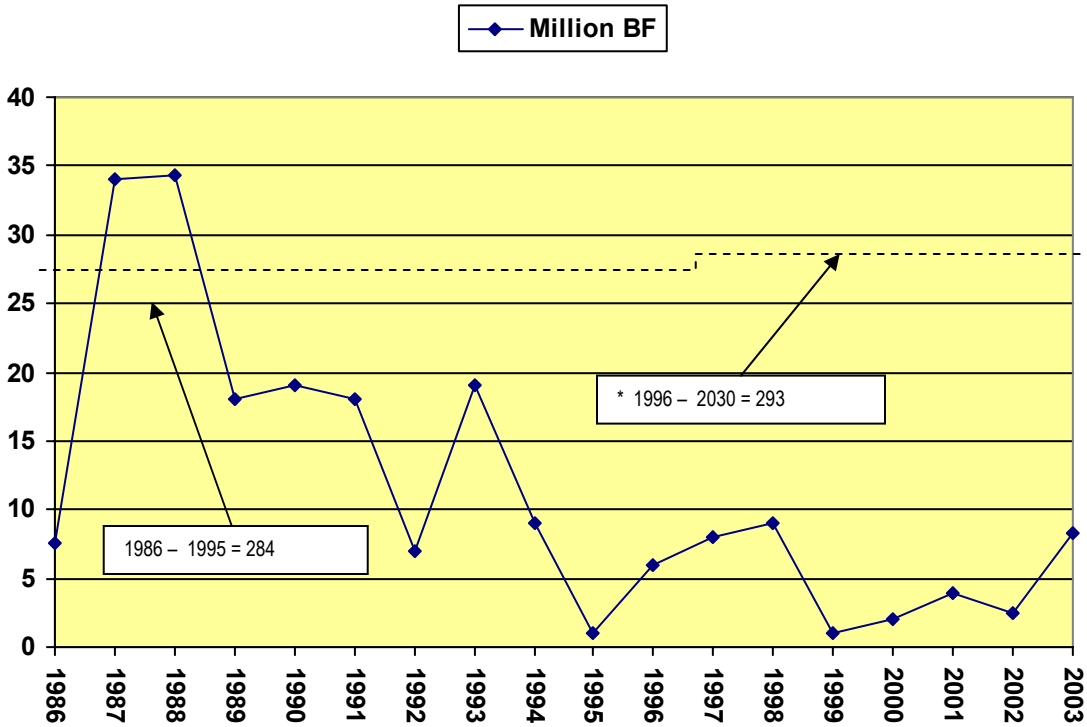
New methods have been developed to represent and sample vegetation management because it can take decades to measure any appreciable change in rangeland condition. A rangeland examiner expected to interpret vegetative trend must be highly trained and able to examine and compare years of previously collected data. Annual fluctuations in climate further complicate determining any trend on an annual basis. Trend studies every 5-10 years would be sufficient to monitor changes in rangeland condition. These studies should be focused on allotments that have had declining range condition in the past and where improved management has been initiated to verify that condition is improving. This subject was addressed during the Forest Plan Revision process; however, no change is presently required.

Monitoring Item 30: Allowable Sale Quantity (ASQ)

The goal for this item is that the total amount of timber sold must be within the Allowable Sale Variance for a ten-year period. The variance for a single year, however, may vary considerably because the amount of timber that is sold can be adjusted during successive years. The Allowable Variance for this item is that the amount of timber sold cannot exceed, or must not deviate more than 5 percent under 293.0 MMBF for the ten year period (Forest Plan, page IV-46). The total amount of chargeable volume that was sold during the first planning period was 166.1 MMBF, which is 58 percent of the total output predicted in the Forest Plan (page II-12, page III-8).

Fiscal year 1996 initiated the second ten-year period of implementing the Forest Plan, and the predicted output increased to 293.0 MMBF for the period 1996-2005 (page III-8). The amount of timber sold during 2003 was 8.3 MMBF, which is 28 percent of the Annual Allowable Sale Quantity. From FY 1996 through 2003, the Medicine N.F. sold 31.9 MMBF, or 14 percent of the anticipated volume objective of 227.2MMBF. No change to the Forest Plan is needed as a result of this item, however, the issue has been addressed in the Revised Forest Plan.

Allowable Sale Quantity (ASQ)



*** Forest Plan Annual Output Objective (Forest Plan, page III-7) = ---------**

Monitoring Item 31: Restocking of Harvested Areas

The FSVEG data base for each Ranger District was used to determine how many acres were harvested during 1998. The total amount of area treated for this item includes the clearcut, seed-tree, removal cut, and selection harvest methods. The District data bases were than used to determine how many acres were surveyed during 2003 and disclose how many acres were certified as satisfactorily restocked, as required by NFMA (35 CFR 219.27(C)(31)). The table below summarizes this information.

Reforestation Survey Data:	Acres Harvested During 1998	Total Acres Surveyed	Acres Certified as Stocked	Acres Not Adequately Stocked
Forest Total:	290	290	290	0

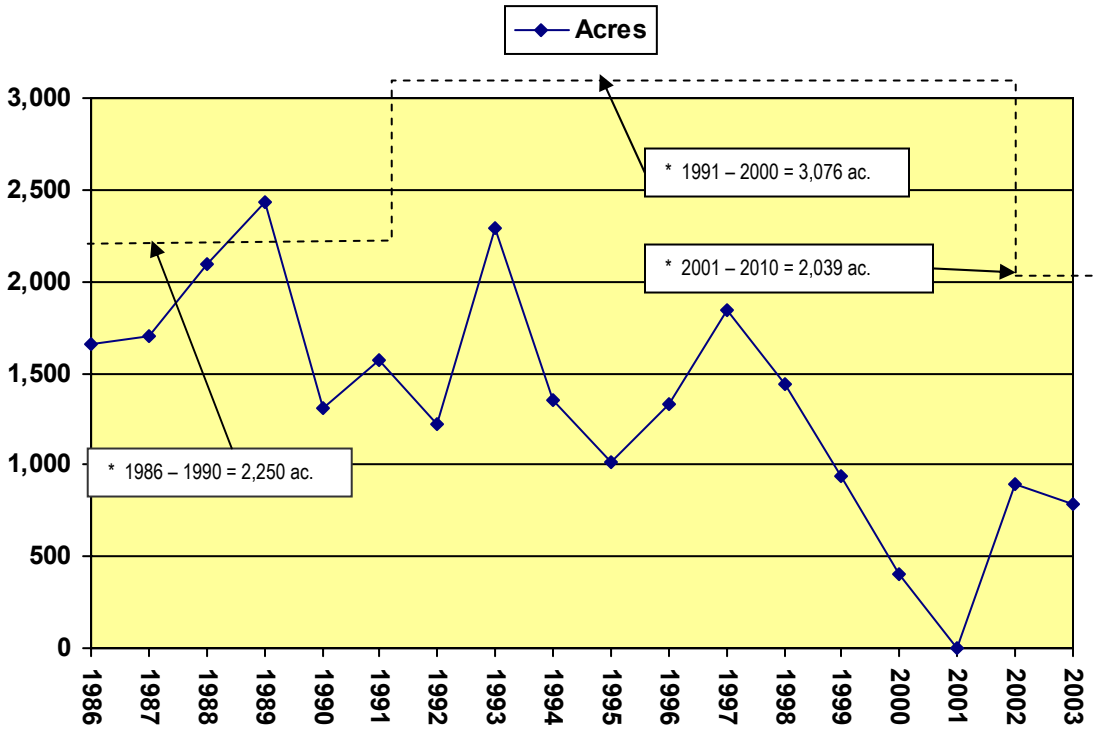
Final-harvesting occurred on 290 acres during 1998, thereby requiring a fifth-year survey during 2003 to determine stocking levels. All 290 acres were adequately stocked, which meets the Allowable Variance.

Forest Plan monitoring involves all aspects of reviewing a resource program, such as reforestation. In this case, reviewing both the field conditions and the computer data needs to be performed to ensure meeting the Allowable Variance (95 %). No change to the Forest Plan is now required, however, restocking is a monitoring item included in the 2003 Revised Forest Plan.

Monitoring Item 32: Timber Stand Improvement

During 2003 the Medicine Bow National Forest performed timber stand improvement on 790 acres. The outstanding needs for TSI on the Forest is approx 6,600 acres. The amount that is approved for thinning has been reduced to provide potential lynx habitat. Thinning dense stands is strongly discouraged under current lynx habitat guidelines. District silviculturists estimate that potentially 80 percent of TSI projects have been deferred until determinations can be made on the impacts to lynx populations.

Timber Stand Improvement: Annual Treatment Acres



*** Forest Plan Annual Output Objective (Forest Plan, page III-8 = -------**

The annual amount of TSI performed on the Forest was an important factor that was used to help determine the Long-Term Sustained-Yield (LTSY) Capacity when the Forest Plan was developed. More emphasis needs to be placed on accomplishing TSI work on the Forest.

Under the premise of the original Forest Plan, planning and budgeting for Timber Stand Improvement should be made a high priority or it may affect the amount of timber available in the future. Receiving less than the projected budget for timber related activities, however, makes it difficult to program adequate TSI treatments under the current Forest Plan. In addition, the application of guidelines to protect potential habitat for lynx often makes TSI projects difficult or impossible to execute. This problem is related to implementation rather than the Plan itself, therefore, no changes are currently needed. The intent and ouput objectives for this item were analyzed during Forest Plan revision.

Monitoring Item 33: Clearcut Unit Size

During 2003, the Medicine Bow National Forest did not implement any clearcuts treatments. No change to the Forest Plan is required.

Monitoring Item 34: Created Openings

In fiscal year 2003, all vegetation treatment designs for planned projects that would create openings were reviewed for compliance with General Direction 1066 MB, and Standard and Guideline 6014 and 6316 in Chapter III of the Forest Plan. All scheduled created openings met this management direction. The Standards and Guidelines for created openings are being met. This item does not require an immediate change to the Forest Plan.

Monitoring Item 35: Lands Not Suited For Timber Production

This item is monitored and reported on an annual basis, as required by Chapter IV of the Forest Plan (Page IV-51). This also meets the intent of the regulation at 36CFR219.27(c)(1), "no timber harvesting shall occur on lands classified as not suited for timber production pursuant to Section 219.14, except for salvage sales necessary to protect other multiple-use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate".

No timber was harvested from lands classified as unsuitable for timber production during FY 2003. All the timber harvest activities were in compliance with Chapter III of the Forest Plan and the direction stated above. No change to the Forest Plan is needed at this time.

Monitoring Item 36: Water Yield

The Forest annually estimates the amount of water yield that occurs as a result of timber harvest and other vegetation treatments. Water yield coefficients for different vegetation types were developed for the Medicine Bow Forest Plan revision effort and used to estimate water yield due to vegetative manipulation. Timber harvest acres and method of harvest (e.g. clearcut) were extracted from each Ranger Districts R2RIS database. The amount of water yield as a result of 2003 timber harvest activities on 282 acres of the Forest was estimated to be 88 acre-feet. Water yield from prescribed fires are expected to be minor due to the limited amount of precipitation and dry soil conditions in the sagebrush vegetation where the burns typically occurred. The Gramm and Sixmile wildfires (920 acres) on the Forest were estimated to produce an average water yield increase of 298 acre-feet. These values represent an average water yield for the period immediately following vegetation manipulation and do not include any water yield due to vegetation management activities prior to 2003.

Compared to the estimated baseline water yield of 1,017,000 acre-feet produced from the Forest each year, the water yield volume for a single year of vegetative treatment is normally less than one percent of the runoff from the Forest. The infrequent and large wildfires which occurred on the Forest this past summer altered significantly more vegetation than timber harvest and therefore are expected to have a greater effect on water yield. Monitoring the amount of water yield for Item 36 has resulted in updates to the Revised Forest Plan for a variety of reasons including:

* The allowable variance (cannot decrease to less than 20 percent of the estimated flow increase), does not provide a baseline or timeframe for comparison.

* Updated reseach on water yield augmentation technology has not been incorporated into the HYSED model.
* While water yield does result from vegetation management, increased streamflow has not been detected in larger watersheds where potential benefical use of water may occur.
* Changes in water yield have not occurred to the degree predicted in the 1985 Forest Plan for a variety of reasons, including differences in actual versus potential vegetative manipulation shown in the Forest Plan.

The issue of timber harvest was addressed during the Forest Plan Revision process, and includes a discussion of the relationship of water yield to the level of harvest during future years. The need for this monitoring item and for management areas similar to the existing 9B management area, designated for emphasis on increased water yield through vegetation management, was evaluated during the Forest Plan Revision process. The Revised Forest Plan reflects a shift from managing water yield as an objective on a large scale, to managing vegetation for forest and watershed health, with water yield being an outcome of that management. Monitoring annual output of water yield from vegetation management was not recommended in the Revised Forest Plan.

Monitoring Item 37: Sediment Threshold Limits

Sediment yield may be altered as a result of water yield increases and ground disturbing activities which cause erosion. Increased sediment as a result of management activities was evaluated for each project that was implemented on the Forest during Fiscal Year 2003. It was determined that no project was likely to produce levels of sedimentation that would preclude beneficial uses of water. Ground disturbing activities (e.g. road construction) are believed to have a greater effect on sediment yields than increases in water yield. Changes in average annual sediment yield due to ground disturbing activities are difficult to predict and measure, therefore the effects of increased sedimentation are best addressed through the use of Best Mangement Practices (BMPs) (see Monitoring Item 39). Monitoring the amount of sediment yield increase for this Item has resulted in updates to the Revised Forest Plan for a variety of reasons including:

*The hydrologic sediment model (HYSED) prescribed in the 1985 Forest Plan only accounts for sediment yield due to water yield increases, and not surface erosion from ground disturbing activities.
*Other hydrologic models predict surface erosion (with high uncertainty for sediment yield predictions) from management activities, are not addressed in the Forest Plan.
*Threshold limits (per HYSED modeling) for sediment yields have not been sufficiently validated during 18 years of 1985 Forest Plan implementation.
*Monitoring soil erosion and use of BMPs is more effective to protect resources from sediment and is addressed in Monitoring Item 39.

Standards and Guidelines stated in Chapter III of the 1985 Forest Plan were intended to prevent adverse effects from increased sediment yield. Sediment levels and channel stability in Billie Creek are still believed to be outside of limits prescribed in the Forest Plan (see Annual Monitoring and Evaluation Report for Fiscal Year 1999) as a result of erosion from the breach of an irrigation diversion ditch. Restoration of a gully below the diversion ditch was accomplished in 2001 and should limit additional inputs of sediment to Billie Creek at this site. Stream conditions are expected to take years to recover. The Forest is working with the Department of Environmental Quality to determine if Billie Creek may exceed narrative water quality standards for aquatic habitat and sediment. No amendments to the Forest

Plan are necessary at this time to address this Item. Monitoring sediment yield thresholds was not recommended in the Revised Forest Plan, but monitoring of the implementation and effectiveness of BMPs is included to address concerns about increased sediment yields from management activities.

Monitoring Item 38: Water Quality

The Forest Service designs, implements and monitors Best Management Practices (BMPs) as the primary means to protect water quality from nonpoint sources of pollution (see Monitoring Item 39). Water quality monitoring is necessary to determine the effectiveness of BMPs and ensure compliance with State water quality standards. Water quality monitoring was conducted on several types of projects during 2003: grazing allotments, dispersed recreational activities, timber harvest operations for treatment of Spruce Beetle, and a recreational gold dredging operation. In conjunction with the Wyoming DEQ, and the Laramie Rivers and Saratoga, Encampment and Rawlins Conservation Districts, there were 97 water quality samples taken at 21 stations on the Forest.

Fecal coliform and Escherichia coliform (e coli) water samples were taken in grazing allotments and near heavily used dispersed recreation sites on the Forest. The majority of these samples were well below the primary recreation use numeric criteria established by the State of Wyoming for fecal coliform, suggesting fecal pollution is not widespread on the Forest. Elevated levels of fecal coliform, above the numeric criteria, were measured during a fall, but not spring sampling period on North Branch North Fork Crow Creek and Middle Crow Creek. Due to forage conditions and elevated levels of fecal coliform on the North Branch North Fork Crow Creek in 2002 (see Annual Monitoring and Evaluation Report for Fiscal Year 2002), the Forest Service had shortened the normal grazing season in this area and adjusted rotation schedules, but riparian grazing utilization standards were still not met in the vicinity of the sample points with elevated levels of fecal coliform. A variety of actions have been recommended for management of grazing and dispersed recreation in these areas in 2004 to address the elevated levels of fecal coliform. Additional fecal coliform and e coli sampling is planned for 2004 to determine the persistence and extent of the bacteria contamination in upper Crow Creek.

Water quality samples were taken to determine if Carbaryl, a pesticilde used in the hand spraying of trees to prevent Spruce Beetle infestation reached nearby surface waters. Project design and BMPs for this project appear to have been effective at protecting water quality, as no Carbaryl was detected.

Forest Service personnel sampled turbidity above and below a recreational dredging operation on Douglas Creek. Turbidity levels were within state standards.

Forest staff will continue to analyze each proposed project and suggest Best Management Practices to protect water quality. Soil and water mitigation measures will be monitored during and after implementation to determine the effectiveness for protecting water quality (see Monitoring Item 39). A limited number of water quality samples will be taken to determine if BMPs are adequate to protect state water quality standards. Adjustment are underway or planned to improve the implementation and effectiveness of BMPs for the projects or programs where elevated levels of fecal coliform were documented. No amendments to the Forest Plan are necessary at this time to address this Item.

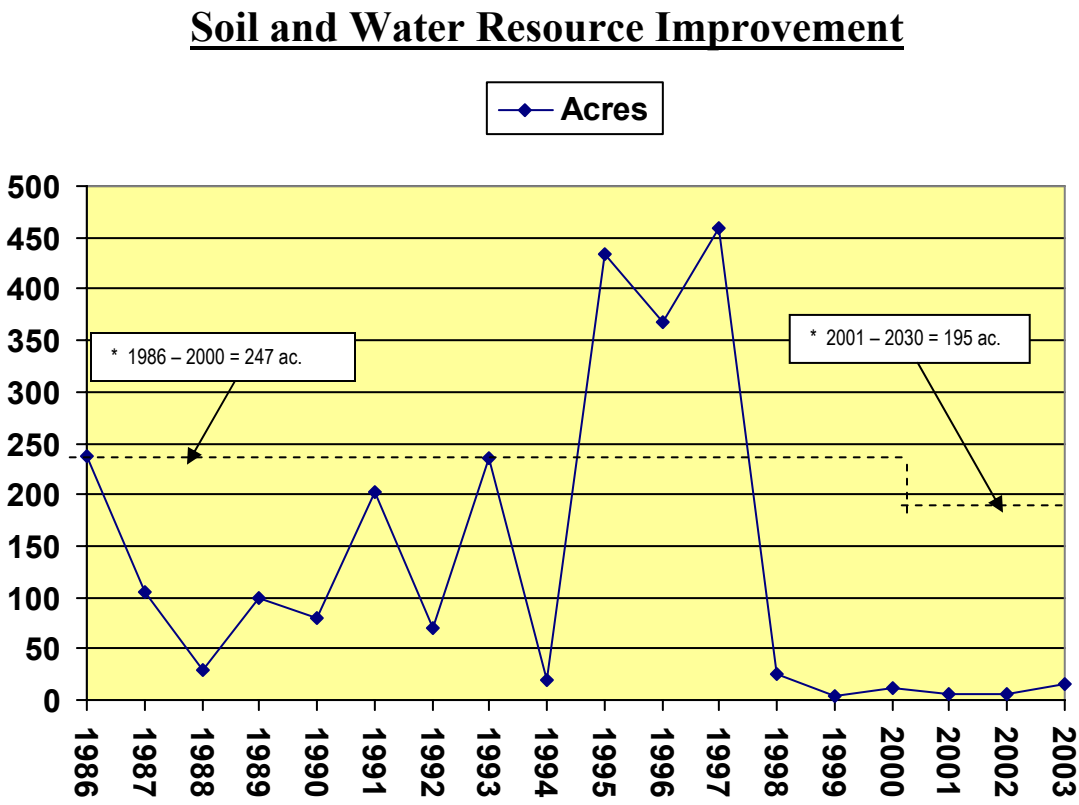
Monitoring Item 39: Soil Erosion

Forest staff visually inspected the implementation and effectiveness of best management practices on a variety of projects in 2003: dispersed recreational activities, construction activities at a ski area,

irrigation diversion ditches and timber sales for erosion control effectiveness. Regional office personnel participated in a field review with Forest staff to provide an overview and evlauate the Best Management Practice Effectiveness Evalutation Process (BMPEP). This program is designed to focus and document implementation and effectiveness of best management practices and is being considered for adoption nationally within the Forest Service. The majority of BMPs evaluated were implemented and effective. In general, the Forest is meeting the requirements for soil protection, as stated in the Forest Plan. The Forest has a process in place to define BMPs for projects, monitor to ensure BMPs are applied and effective, mitigate unforseen problems and adjust practices for future activities. No amendments to the Forest Plan are necessary at this time.

Monitoring Item 40: Soil and Water Resource Improvements

The Forest accomplished 15 acres of soil/water improvements during 2003 by road decommissioning. This is only eight percent of the Forest Plan objective of 195 acres annually. Planning continued for the Little Snake River and Beaver Dam Park stream and riparian habitat improvement projects.



*** Forest Plan Annual Output Objective (Forest Plan, page III-9) = ----------**

The low accomplishment figure continues to be due to the method of allocating funds to individual Forests, which resulted in the Forest receiving significantly less funding for this program than previous years. Implementation of soil and watershed improvement projects was also limited due to budget procedures which required holding funds to cover potential costs associated with transfer of station (TOS) for a new hydrologist technician position on the Douglas District. Once it was determined there would be no TOS costs associated with filling that position, the funds became available for use in the watershed improvement program. Unfortunately, within a month these funds again became unavailable

for watershed improvement projects, so the funds could be shifted to cover the costs associated with wildfire suppression. The budget trend is expected to continue, and expected soil and watershed improvement accomplishments in the Revised Forest Plan have been significantly reduced from average levels accomplished during the life of the 1985 Forest Plan.

Monitoring Item 41: Forest Road Development

The stated objectives for this item are listed on page III-10 of the Forest Plan. The outputs from the Forest Road Development Program during 2002 are shown on the Evaluation Table of this report. The two main reasons for not meeting the stated goals for this item include the reduced timber program and the current National effort to develop the most cost-effective transportation system considering both construction and maintenance funding.

Forest road development accomplishments during Fiscal Year 2003 consisted of 0.8 miles of new road construction for general use or timber sales. A total of 5.5 miles of system roads were decommissioned during Fiscal Year 2003 for soil and water rehabilitation purposes. An additional 9.7 miles of unclassified roads were also decommissioned. No change to the Plan is currently needed.

Monitoring Item 42: Trail Construction and Reconstruction

The Laramie District performed annual maintenance on 96 miles of non-wilderness trails, and 23 miles of wilderness trails. The District completed construction on three bridges on the North Fork trail. Volunteer trail crews also completed work involving major drainage problems on the Pole Creek trail. Laramie district trail crews completed construction on a 2 m extension of the Summit Loop ski trails on Pole Mountain. Two minor re-routes were also completed on the Chimney Park ski trail system.

Either the trail crew or a volunteer crew successfully maintained all trails on the Laramie Peak unit. The Casper Backcountry Horsemen maintained the Roaring Fork Trail as far as Goochie Park as a volunteer project. The Laramie Peak Trail continues to be most highly used trail and is in need of heavy maintenance/reconstruction because of its popularity as an ORV trail. Damage is occurring on tight corners and some crossings with heavy trenching and run-off. No new trails were constructed on the Douglas District in 2003.

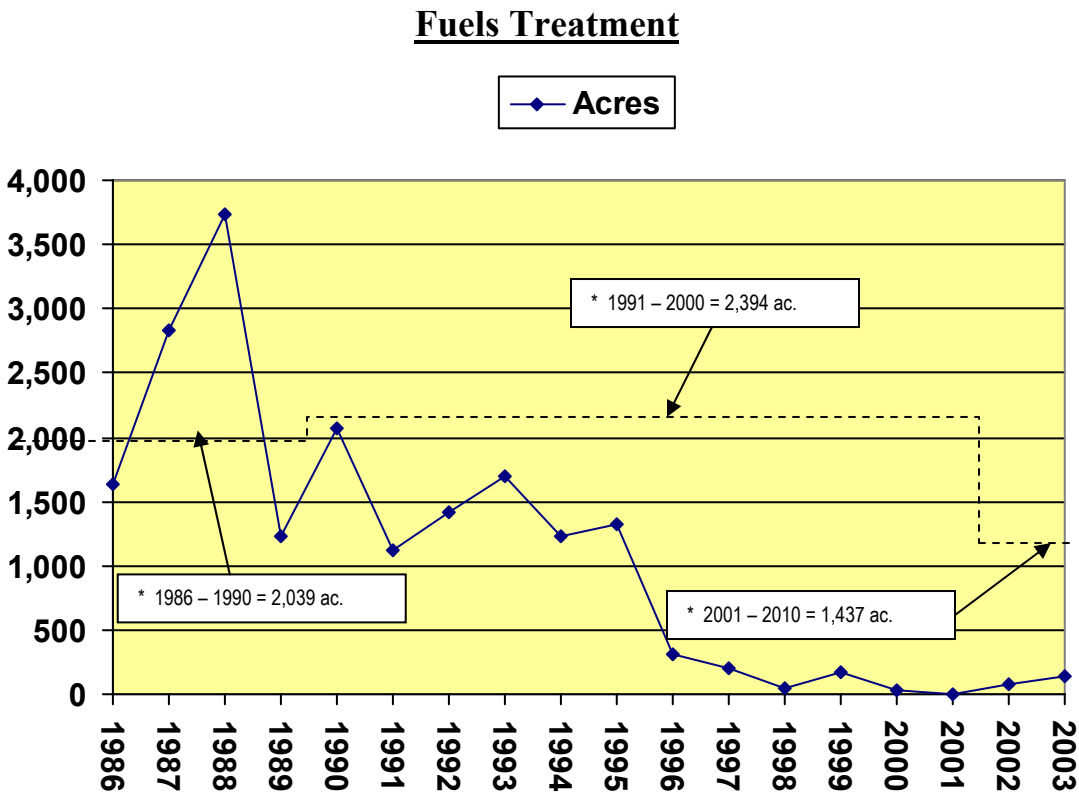
Maintenance was done on 94% of the Brush Creek/Hayden District's trails and 100% on Wilderness trails. Summertime maintenance was also performed on 18 miles of winter use trails (cross-country skiing). The trail crew spent 28 days on fire assignments.

There were bulletin boards installed at 2 trailheads and 4 trailhead signs were also installed. The crew repaired registration boxes at three trailheads, but these were destroyed later in the season. In addition to replacements, an additional five registration boxes are needed for trailheads. The three trailheads that had new registration boxes were: Commissary Park, Baby Lakes, and Pipeline. Those that need registration boxes in addition to the above trailheads are Green Mountain Falls, Roaring Fork, Verde Mine, Purgatory, and Encampment River at Odd Fellows. No change to the Plan is needed.

Monitoring Item 43: Fuel Treatment

During FY 2003, the Forest Service treated 147 acres as a result of various vegetation management activities as a result of timber sale activity. This information was recorded in the FSVEG database, and

the annual Silva 99 Report. No change to the Forest Plan is needed regarding this item.



*** Forest Plan Annual Output Objective (Forest Plan, page III-10) = ----------**

Monitoring Item 44: Forest Insects and Diseases

This monitoring is dependant upon aerial surveys and ground investigations by Regional Office personnel, including entomologists and pathologists. On the ground investigations are conducted by District Office personnel on the Brush Creek/Hayden, Douglas, and Laramie Ranger Districts.

Aerial surveys of the Medicine Bow NF in FY 2003, estimated that 864 acres were affected by spruce beetle (9% increase from 2002), and 10,491 acres were affected by mountain pine beetle (48% increase from 2002). With the continued drought, spruce and mountain pine beetle infestations are anticipated to increase in the next few years.

Dwarf mistletoe is a parasitic plant of most western conifers, including limber and lodgepole pine. Past inventories estimate that approximately 60 percent of the lodgepole pine stands on the Medicine Bow NF are infected with dwarf mistletoe. The most effective treatment for eliminating mistletoe from an infected stand is clearcutting, in FY 2003 no clearcuts were implemented on the Medicine Bow NF.

Two rust diseases of concern on the Medicine Bow NF are Comandra blister rust (*Cronartium comandrae*), and white pine blister rust (*Cronartium ribicola*). Comandra blister rust is a native rust fungus and is an occasional problem in lodgepole pine. Surveys for white pine blister rust (an

introduced species) indicate increasing infestations in limber pine stands. White pine blister rust usually results in mortality of the infected host trees.

Another concern is the occurrence of root disease and hazard tree problems in campgrounds, other developed sites, and administrative sites. Serious injury and property damage may occur without warning when hazardous trees or limbs fall to the ground. Careful and continuous evaluation of developed sites is needed to ensure identification and removal of hazard trees in these areas.

The MBR has requested 2004 funding to survey and inventory several campgrounds across the Forest. Silver Lake Campground has received cultural treatments for spruce beetle, Teal Lake Campground is planned for cultural treatments for mountain pine beetle. Other campgrounds scheduled for hazard tree evaluation include Lost Creek CG, Hidden Lakes CG, Teal Lake CG, Gore Pass CG. No change is needed at this time.

Monitoring Item 45: Land Exchanges

Monitoring for this Item consists of reporting the number of acres that are exchanged with other land owners near or adjacent to the Forest. Land exchanges may be proposed by the Forest Service or by a private party, business, or organization, and occur when a proposal is advantageous to both parties and meet all legal requirements. No land exchanges were consummated during 2003. The Forest Plan prediction of completing 160 acres annually (Table III-1, page III-10) is an average goal that was expected to vary greatly from year to year. No changes to the Forest Plan are needed at this time.

Monitoring Item 46: Right-of-Way Acquisition

Monitoring for this item consists of reporting the actual number of rights-of-ways that are acquired on an annual basis. During Fiscal Year 2003 the Forest reported the acquisition of two rights-of-ways, which, similar to the previous year, is significantly less than the 25 cases that were predicted in the Forest Plan. No changes to the Plan are needed at this time.

Monitoring Item 47: Landline Location

During Fiscal Year 2003, a total of 18 miles of landlines (property boundaries) were located and marked on the Forest, which is 72 percent of the annual objective for this item. The reduced output was due to less than normal funding and difficult surveys, therefore, no change to the Forest Plan is recommended.

Monitoring Item 48: Compliance with Terms of Land Use Authorizations and Consistency with the Forest Plan

Monitoring this Item includes reviewing initial or renewal applications for special use permits to ensure that they are consistent with the Forest Plan. The application may need to be revised, or it may be denied if it is not consistent with the requirements of the Plan. Monitoring also includes inspection of existing uses for compliance with the terms of the authorization.

During Fiscal Year 2003, the Ranger Districts inspected a total of 401 uses, or about 66 percent of the total permitted uses on the Forest. The inspections verified that the uses were either in compliance, or the permittees were advised as to the work necessary to achieve compliance. No changes to the Forest Plan are needed at this time.

Monitoring Item 49: Compliance with the Terms of Operating Plans (Minerals)

Monitoring this item consists of reviewing operating plans for minerals extraction to ensure compliance with the requirements of the Forest Plan. This includes inspecting the work performed on the ground, and comparing the activities to the stipulations of the Operating Plan. During Fiscal Year 2003, a total of 506 mineral operations were examined, and all were in compliance with the operating plans. The majority of these examinations took place on the Thunder Basin National Grassland. No change to the Forest Plan is currently needed.

Monitoring Item 50: Demand for Live Green Sawtimber

During Fiscal Year 2003, a total of 385 MBF (770 CCF) of sawtimber was harvested. Volume under contract as of October 1, 2003 was 10,920 MBF (21,841 CCF). There is concern with the timber industry that the volume "under contract is decreasing on the Medicine Bow NF. The trend of declining volume under contract should be reversed as the Forest offers more timber sales in response to increasing bark beetle epidemics. No change to the Plan is needed.

X. NEED TO IMPROVE MONITORING OR IMPLEMENTATION

The first year of Monitoring the Forest Plan occurred during 1986. It was determined that the management Standards and Guidelines in the Forest Plan were being followed, and most of the Average Annual Projected Outputs listed on Table III-1 were being achieved. No changes to the Plan were recommended by the ID Team at that time.

Various problems with some of the methods used for monitoring were discovered over time, however. The major concern was the inconsistency of data collection and reporting among Ranger Districts. The other concern was that some items were not suitable for Monitoring, or the information collected did not achieve the desired results. These Monitoring Items were adjusted by Amendment Number 4 to the Forest Plan, approved July 14, 1987. This amendment improved Chapter IV of the Plan to make the direction more clear and easier to implement.

Fiscal Year 2003 was the eighteenth year of Monitoring how well the Forest Plan was being implemented. The Forest ID Team has identified a few concerns that need to be addressed as a result of the annual monitoring effort. Most of the items can be corrected by improving Monitoring procedures or implementation methods. In a few cases, the problem may need to be corrected as an outcome of additional scientific research.

Section IX,(E) of this report contains a complete description of each of the 50 Items that were monitored during 2003, and the results of that monitoring. The following recommendations were made in order to correct some of the deficiencies that were identified by the Responsible Person for each Item. All the recommended changes consist of adjusting implementation or monitoring procedures, and will not directly affect the Forest Plan. The actual accomplishment of these recommendations will depend upon the availability of personnel and funding during Fiscal Year 2004 to perform the necessary analysis, documentation, and coordination of the proposed changes.

Monitoring Item 1: Off-Road Vehicle Damage

The buck and pole fence at White Rock Canyon on the Brush Creek/Hayden District still needs to be repaired to prevent off-road vehicles from damaging the area behind the fence. This work will be coordinated between the Ranger District and the Forest Recreation Staff Specialist. In addition to replacing the fence, this area will be considered in Phase II of the 2000 Forestwide Travel Management Decision within the Snowy Range Travel Management analysis in FY2005.

Monitoring Item 18: Winter Range Carrying Capacity

This item needs to be addressed by the Bighorn Sheep/Domestic Sheep Working Group that will be formed from a variety of interested parties. Issues to address include: management of existing domestic

sheep allotments within bighorn sheep habitat; methods to minimize contact between domestic and wild sheep herds; and working with private landowners to develop long-term solutions.

Monitoring Item 19: Snag Retention

Snag retention issues that need to be studied during future years include determining: the reduction of large snags due to firewood gathering in heavily roaded areas; if there is a need to increase snag density standards based on current literature; if there is a need to increase snag density based on loss to windthrow; if there is a conflict between snag retention guidelines and OSHA safety regulations; and the impact of such regulations on the actual number of retained snags. This topic is addressed the 2003 Medicine Bow Revised Plan

Monitoring Item 22: Elk Habitat Effectiveness

The approach to estimating elk habitat effectiveness in the Forest Plan needs to be changed. A new approach should involve vegetation cover, road density, and an estimate of security areas. This topic is addressed in the 2003 Medicine Bow Revised Plan through security areas.

Monitoring Item 38: Water Quality

The Laramie District Ranger will work in conjunction with the Wyoming Department of Environmental Quality and the Laramie Rivers County Conservation District to address water quality issues on Pole Mountain. A variety of actions have been recommended for management of grazing and dispersed recreation in these areas in 2004 to address the elevated levels of fecal coliform. Additional fecal coliform and e coli sampling is planned for 2004 to determine the persistence and extent of the bacteria contamination in upper Crow Creek. Soil and water mitigation measures will be monitored during and after implementation to determine the effectiveness for protecting water quality.

Monitoring Item 44: Insects and Disease

Insect and disease infestations have increased during recent years. Monitoring the spread and extent of these damaging agents is dependent upon aerial surveys and ground investigations by Regional Office personnel, including entomologists and pathologists. Forest personnel will work closely with Regional Office personnel and request on-site assistance and biological evaluations if levels of infestation exceed endemic conditions and move into epidemic situations.

RESEARCH NEEDS

Monitoring efforts during 2003 did not disclose immediate needs for research efforts to support the implementation and monitoring of the Medicine Bow National Forest's Plan. However, the National Forest Management Act (NFMA) requires that the Forest Plan revision process include a study of indicated research needs forestwide. The Forest Plan revision has been completed, and the Record of Decision was signed by Regional Forester, Rick Cables, on December 29, 2003. Research needs are addressed on page 4-9 of the revised Land and Resource Management Plan (2003).

XI. NEED TO CHANGE, REVISE, OR AMEND THE FOREST PLAN

The results of monitoring implementation of the Medicine Bow National Forest Land and Resource Management Plan during Fiscal Year 2003 have been analyzed by the Forest Interdisciplinary Team and Staff Specialists. Based on this review, it was determined that the intent of the Forest Plan is being met by most resource programs during implementation of site-specific project activities.

Implementation and monitoring of project activities needs to be as effective as possible, in order to protect the resources and resource uses of the land. The results of monitoring and evaluating implementation of the Forest Plan during 2003 only revealed some minor deficiencies in relation to several of the Monitoring Items. Subsequently, recommendations have been made to improve Forest Plan monitoring, or implementation of some project activities, which are described in Section X of this report. Any major changes to the Forest Plan requires a comprehensive analysis and evaluation, which was accomplished during the Forest Plan Revision Process (refer to Section VI of this report).

XII. REVIEW OF PREVIOUS YEAR RECOMMENDATIONS

The following list of recommendations to improve monitoring or implementation was developed by the ID Team and recorded in the 2002 Annual Monitoring Report (pages 51, 52). Under each recommendation is a description of what was accomplished for that item during FY 2003.

Monitoring Item 1: Off-Road Vehicle Damage

The buck and pole fence at White Rock Canyon on the Brush Creek/Hayden District still needs to be repaired to prevent off-road vehicles from damaging the area behind the fence. This work will be coordinated between the Ranger District and the Forest Recreation Staff Specialist.

Accomplishment: This item still needs to be addressed. ORV damage continues to occur in the area behind the fence, and appears to reflect a growing trend of illegal ORV use across the Forest.

Monitoring Item 11: Compliance with Cultural Resource Regulations

Project leaders and contracting officers need to maintain their efforts to keep the Forest Cultural Resource Staff informed of modifications to ongoing projects.

Accomplishment: This item is being accomplished. The Ranger Districts are making fewer changes to projects late in the process, and when they do, the Heritage Team has been informed.

Monitoring Item 16: Old Growth Retention

Each Ranger District needs to continue the task of designating an adequate number of acres of old growth within 4B Management Areas in order to comply with this Monitoring Item. This needs to be accomplished during site-specific project planning, and will be coordinated between the District Rangers and the Forest Timber Staff Specialist.

Accomplishment: This item is being accomplished. During project planning the Ranger Districts are identifying and designating those stands to be retained as old growth for wildlife.

Monitoring Items 18 - 22: Winter Range Carrying Capacity, Snag Retention, Threatened and Endangered Species, Wildlife and Fish Habitat Improvement, and Elk Habitat Effectiveness

Because of the importance of these items, Ranger District Wildlife Biologists and Supervisor's Office Staff Officers need to continue to focus on monitoring these features. The summary reports for these items in Section IX,(E) of this document stress the need to continue careful monitoring into the future.

Accomplishment: Progress is being made toward improving the monitoring activities for these items. Each Ranger District is placing more emphasis on monitoring wildlife data during project environmental analysis, and subsequently validating those observations during project implementation.

Monitoring Item 39: Soil Erosion

The timing of installation and removal of erosion control measures needs to be clearly and specifically stated in project objectives and monitored during project implementation. Monitoring turbidity needs to be stressed in making State water quality standard determinations. Recreational placer dredging and diversion ditch operations are two areas deserving of careful oversight. Forest engineers, District minerals/special-use specialists and District Rangers need to be aware of these needs.

Accomplishment: This item is being accomplished. As projects are implemented on the ground, more attention has been given to identifying and analyzing the effectiveness of erosion control measures for the various ground disturbing activities.

SUMMARY: All but one of the changes recommended in Section X of the 2002 Evaluation Report were accomplished during 2003. Proper implementation of these items is deemed necessary to, "protect, restore, or enhance the environment (40 CFR 1500.1(c))." The reasons for accomplishing or not accomplishing the recommended actions are discussed by the individual Forest Resource Staff Specialists in Section IX(E) of this Report. In general, the accomplishment of any recommended items in future years will depend upon overall Forest priorities and the availablity of personnel and funding to perform the required activities.

XIII. LIST OF PREPARERS

The Annual Monitoring Evaluation Report for Fiscal Year 2003 was compiled by the planning staff specialist of the Medicine Bow-Routt National Forests. The following list displays the name and resource program of the Forest Leadership Team, and also the Forest ID Team members that contributed the information and evaluation for the Monitoring Items.

NAME	FUNCTIONAL RESOURCE AREA
SELECTED MEMBERS OF THE FOREST LEADERSHIP TEAM	
Mary H. Peterson	FOREST SUPERVISOR
Lynn Jackson	Director - Planning, NEPA/FOIA/Appeals
Susan Kay	Director - Business Management Group
Mike Murphy	Director - Program Support Group/Recreation
Richard Rine	Director - Renewable Resources
FOREST STAFF SPECIALISTS	
Becky Bean	Accounting Technician
Gary DeMarcay	Archeologist
Greg Eaglin	Fisheries Biologist
Tom Florich	Lands - Special Uses
Ray George	Recreation Program Manager
David Gloss	Hydrologist
Paula Guenther-Gloss	Fisheries Biologist
Jena Hickey	Wildlife Biologist
Tommy John	Soil Scientist
Barbara McKown	Accounting
Bob Mountain	Range Management
James Myers	Forester, Timber
Karen Price	Personnel
Mary Sanderson	Recreation
Jeff Tupala	Landscape Architect
Ann-Marie Verde	Transportation Planner
Kirk Wolff	Hydrologist

CERTIFICATION

I have reviewed the Annual Evaluation Report for the Medicine Bow National Forest and Thunder Basin National Grassland that was prepared by the Forest Interdisciplinary Team for Fiscal Year 2003. I believe that the results of Monitoring and Evaluation, as documented in this Annual Report, meet the intent of both, Chapter IV of the Forest Plan and current Regulations (36 CFR 219.12(k).

The Forest ID Team and Leadership Team have not identified any significant changes in conditions or demands of the public that would change the goals, objectives, or outputs of the Forest Plan (36 CFR 219.10(g)) prior to completion of the scheduled Revision. Therefore, I have determined that an Amendment to correct any identified deficiencies of the Plan is not immediately necessary nor practical considering completion of the Forest Plan Revision process.

I have also considered the recommendations made by the ID Team in Section X of this report. I concur that additional emphasis needs to be placed on the Forest Monitoring Program, in order to meet the intent of Chapter IV of the Forest Plan and the implementing the 1982 regulations of NFMA at 36 CFR, Part 219, Section 219.12(k).

In conclusion, I concur with the findings of the 2003 Annual Monitoring Evaluation Report for the Medicine Bow National Forest and Thunder Basin National Grassland. This is not an appealable decision, according to 36 CFR 215.7, "Decisions Subject to Appeal." Contact Steve Nielsen at the Medicine Bow-Routt National Forests, 2468 Jackson Street, Laramie, Wyoming, 82070, or call (307) 745-2404, if you have any specific concerns, questions, or comments about this report.

MARY H. PETERSON Date
Forest Supervisor

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