MEDICINE BOW NATIONAL FOREST
THUNDER BASIN NATIONAL GRASSLAND

LAND AND RESOURCE MANAGEMENT PLAN

ANNUAL MONITORING AND EVALUATION REPORT

FISCAL YEAR 2001

TABLE OF CONTENTS Page Number

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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 sixteenth annual report evaluates the results of the monitoring activities that occurred on the Forest during Fiscal Year (FY) 2001, 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.

Although work to revise the 1985 Medicine Bow Land and Resource Management Plan was initiated in Jaunary of 1992, the subsequent combination of the Medicine Bow and Routt National Forests saw revision efforts shift to the completion of the previously initiated revision of the Routt's Plan. This revision was accomplished in 1998. In 1995, a Northern Great Plains plans revision project, including the Thunder Basin National Grassland, was initiated. This effort resulted in the creation of a revised plan for the Thunder Basin National Grassland in July of 2002. This accomplished revision for the management of about a third of the land area analyzed in the 1985 Plan. After a hiatus in plan revision imposed by the 1998 Appropriation Act, the Medicine Bow's Plan Revision effort was formally reinitiated in Octobert of 1999. It is anticipated that a Draft EIS will be published in December of 2002,

with the Final EIS being released during late 2003. Refer to Section VI for a more complete discussion of this history.

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 2001, 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 2001. 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 2001 are discussed in Section X, Need to Improve Monitoring or Implementation. These changes will be addressed during Fiscal Year 2002.

Section XII, Review of Previous Year Recommendations, discusses the changes recommended by the ID Team in the 2000 report, and what was accomplished during the 2001 year of monitoring.

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 (36 CFR 219.12[k]). 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 2001, 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, require that implementation of the Forest Plan be evaluated annually on a sample basis, as specified in the 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 2001 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 2001.

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 sixteen years has been used by the ID Team to evaluate each Monitoring Item and formulate conclusions for most Items 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 2001. 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 2001 was estimated by the ID Team to be $ 87,850.00. This is four percent higher than the estimated cost for FY 2000.

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 are responsible for assigning specific tasks to the staff specialists, 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 maintains the record 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 2001. These costs are grouped by resource and are shown in the following table:

FOREST MONITORING COSTS	
Resource Program - Fiscal Year 2001	**Cost**
Recreation	18,000
Visual Resource Quality	800
Cultural Resources	5,000
Biodiversity	750
Wildlife	7,500
Fisheries	17,800
Range	39,800
Timber	5,000
Soils	2,500
Water	3,000
Transportation	1,000
Fuel Treatment	800
Forest Pest Management	800
Lands	650
Special Use Permits	650
TOTAL MONITORING COST	**$ 87,850.00**

Monitoring costs in the preceding table are consistant with prior year expenses with some exceptions. Fisheries expenditures increased 93% over the previous year. This reflects increased monitoring accomplished with the hiring of a seasonal monitoring and inventory crew. Range monitoring costs were elevated 28% over the previous year. Range conservationists were able to dedicate more time to monitoring this season. Time ordinarily allocated to working with interdisciplinary teams on range-

related environmental analysis was suspended. These teams instead focused on supporting high priority fire and fuels projects as part of a national initiative. Expenses for monitoring timber-related items declined 46% from the prior year. In this case timber specialists were needed to support the fire and fuels initiative and less time as available for monitoring timber functions. Overall monitoring expenses on the Forest, however, increased only 4%.

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 the Record of Decision was signed on November 20, 1985. When the decision to revise the Forest Plan was made during 1991, it was also determined that no more changes would be made to the Plan in the form of amendments unless they were considered 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, five of the 18 amendments were considered to be necessary and were 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 a significant amendment or 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 were recommended by the ID Team as a result of monitoring during FY 2001.

VI. SIGNIFICANT CHANGES IN RESOURCES OR PUBLIC ISSUES AND DEMANDS

A Forest Plan is normally revised on a ten-year schedule, or at least every fifteen years. 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 FY 2001 continues to be lower than the annual output that was predicted in the Forest Plan. This is one of the key issues that will be addressed during the Forest Plan Revision Process. Subsequently, no changes to the Plan are recommended as a direct result of Monitoring during FY 2001.

Comments received during both National and local public involvement activities indicated that several other issues continued to be controversial during 2001, including; roadless area allocation and management, travel management, the suitability of lands for timber harvest and production, the viability of wildlife species, water production and quality, and increased competition for recreation opportunities. These topics will be considered during the Forest Plan Revision process.

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 2001, 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 upon completion of 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 2000, and what was actually accomplished during Fiscal Year 2001.

The Interdisciplinary Team provided the data for the Annual Monitoring Evaluation Report for Fiscal Year 2001, 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 Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan (Forest Plan) was approved on November 20, 1985. The Forest Plan 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 followed the implementing regulations of the National Environmental Policy Act of 1969.

In 1992, the Thunder Basin National Grassland was included in the Northern Great Plains Plans Revision process by way of a Notice of Intent to revise eight National Grasslands and two National Forests within four states. The Thunder Basin National Grassland Plan (Revised) and the Northern Great Plains Final Environmental Impact Statement were released in July of 2001. A six month public comment period began then and ended in January of 2002. In addition, the Forest Service prepared a Supplemental Information Report (SIR) to determine if the black tailed prairie dog colonies had changed significatnly because of an outbreak of sylvatic plague on the Thunder Basin National Grassland in the spring of 2001. The Regional Forester (Region 2) considered public comments and information from the SIR to help make a formal decision concerning the revision of the Thunder Basin's land and resource management plan, formalized in a Record of Decision (ROD) which he signed on July 31, 2002.

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 4000 comments were received in response to issuing the NOI and holding six public meetings. Comments were also received following a review of the draft Management Area Prescriptions, Standards and Guidelines, and the Purpose and Need Statement. During 2001, the planning team used this comments to define major revision issues and to 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 are expected to be published during December 2002, and will be available for public review and comment for 90 days. The Draft EIS will then be adjusted in response to the comments, with release of the Final EIS and Revised Forest Plan anticipated during late 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 importance related to managing the resources, and the impact on Forest personnel and funding. The Forest is currently involved in two such programs, which are described below:

LYNX AMENDMENT:

Several National Forests in Colorado and southern Wyoming are in the process of having their Forest Plans amended, in order to develop management direction to help support the Canada Lynx. This effort consists of a comprehensive scientific investigation, which is being conducted by nationally recognized 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 the Forest Plans to determine if any of that direction may adversely affect lynx or its' 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 is scheduled for release during August, 2002 followed by a 60-day comment period. The Final EIS is expected to be completed and released during early 2003. The Medicine Bow Plan Revision process will include the lynx amendment proposal in the Draft Revised Plan and Draft EIS.

SPECIES CONSERVATION PROJECT:

An integral part of the Forest Service mission is to manage for the diversity and viability of plant and animal species on the National Forest System lands. In order to accomplish this, the best available information needs to be acquired and used for resource management planning and decision-making. In order to accomplish this goal, 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. Once completed, this information will be used to develop scientifically sound and efficient methods of managing the public lands. Ecosystem and species assessments are currently being prepared for this effort by independent scientists that are under cooperative agreements or contracts with the Forest Service.

VIII. COMPARISON OF ANNUAL PROJECTED/ACTUAL OUTPUTS AND EXPENDITURES

Monitoring data for the years 1986 to 2001 are exhibiting a supply trend for most of the outputs displayed in Chapter III of the Forest Plan. This information helps to evaluate whether the annual outputs are meeting the levels that were predicted in the Plan, or whether a change is needed. An Amendment to the Plan may be necessary in order to balance the supply with the demand for some items, or the topic may need to 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 produced during Fiscal Year 2001.

FOREST PLAN EVALUATION TABLE

Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2001 Actual Output Accomplished	Percent Projected Output
RECREATION				
Public Developed	MRVD (1)	195	267	137
Downhill Skiing	MRVD	28	21	75
Dispersed (includes off-road motorized)	MRVD	729	790	108
Off-road Motorized	MRVD	132	30	23
Semi-Primitive Non-motorized	M Acres	178	219	120
Semi-Primitive Motorized	M Acres	214	269	126
Roaded Natural	M Acres	1,202	278	23
Rural	M Acres	65	36	55
Urban	M Acres	7	0	0
Trail	Miles	2.7	0	0

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2001 Actual Output Accomplished	Percent Projected Output
WILDERNESS				
Area Managed	M Acres	79	79	100
Wilderness Use	MRVD	13.0	17.0	131
WILDLIFE & FISH				
Winter Range Carrying Capacity	M Elk M Deer	4.1 22.0	4.4 35.0	107 159
Structures	Number	46	0	0
Big Game Hunting (2)	MRVD	35.5	40.0	113
Small Game Hunting (2)	MRVD	43.0	41.0	95
Fishing (2)	MRVD	85.4	87.5	98
Nongame Use (2)	MRVD	5.5	10.0	182
RANGE				
Grazing Use	MAUM (3)	255	221.6	87
TIMBER (Commercial Sale Offerings)				
Sawtimber (4)				
(Chargeable Vol. to ASQ (5)	MMBF MMCF	29.3 6.14	3.8 0.78	13 13
Roundwood				
(Nonchargeable Vol. to ASQ)	MMBF MMCF	5.0 1.0	2.6 0.47	52 47
Reforestation				
Natural	Acres	1,437	281	20
Planting	Acres	72	0	0
Seeding	Acres	N/A	0	N/A
Timber Stand Improvement	Acres	2,039	1,046	51
Firewood (Pers and Commercial)	Cords	22,400	2,926	13
WATER (6)				
Water Yield Increase	Ac/Ft	Baseline	320	N/A
Water Meeting Quality Goals	Water Violations	0	0	N/A

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2001 Actual Output Accomplished	Percent Projected Output
MINERALS				
Review Plans	Op. Plans	790	460	58
HUMAN & COMMUNITY				
Senior Employ. Program	Enrollee Yrs	25	5	25
YCC Program	Enrollee Yrs	7	1.5	21
LANDS				
Purchase/ Acquisition	Acres	0	0	0
Exchange	Acres	160	0	0
R-O-W Acquisition	Cases	25	1	4
Landline Location	Miles	25	25	100
SOILS				
Resource Improvement	Acres	195	5	3
FACILITIES				
Construction for General Use	Miles	1.0	0	0
Reconstruction for General Use	Miles	57.3	2.2	4
Construction for Timber Sales	Miles	28.9	2.4	8
Reconstruction for Timber Sales	Miles	22.7	1.5	7
Construction for Minerals	Miles	40.0	0	0
Roads Closed	Miles	52.1	3.1	6
PROTECTION				
Fuel Treatment(7)	Acres	1,437	0	0

FOREST PLAN EVALUATION TABLE				
Resource Activity	Unit of Measure (M = Thousand) (MM = Million)	2001 - 2010 Projected Average Annual Output	Fiscal Year 2001 Actual Output Accomplished	Percent Projected Output
EXPENDITURES (8)				
Total Budget	M Dollars	34,615	19,363	56
Med Bow Budget	M Dollars	18,699	N/A	N/A
RETURNS TO TREASURY				
Other Than Minerals (8)	M Dollars	2,133	721.1	34
Minerals (9)	M Dollars	16,100	2,404.8	15

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

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

(9) 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 2001 is only an estimate.

IX. FOREST PLAN EVALUATION

The results of the FY 2001 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)." 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 environmental documents during 2001 indicated that all the analyses and documents complied with the requirements of the NEPA, including the disclosure of cumulative effects. An evaluation of the discussions of cumulative effects in these documents 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 any nearby lands.

In contrast, it has been identified that 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 sixteen years. This translates into additional economic benefits realized by the adjacent

communities. Although the amounts of these benefits have not yet been determined, the economic and social aspects of this trend will be 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 will be 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 Team has evaluated the results of the Monitoring activities that occurred during Fiscal Year 2001. The Team concluded that the conditions, public issues, or demands have not changed on the Forest since the Notice of Intent to revise the Forest Plan was issued during October, 1999. Therefore, the ID Team has decided not to recommend changing the revision schedule, which is due for completion during late 2003.

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, as shown in previous Monitoring Reports.

During Fiscal Year 1996 the budget was allocated to the combined Medicine Bow-Routt National Forests, therefore the funds could not be identified by individual Forest. The total estimated budget was derived from each Forest Plan (Med. Bow Forest Plan, page III-10: Routt Forest Plan EIS, 1997 Revision, page S-15), and then compared with the final budget that was allocated to the Forest during Fiscal Year 2001. The table below displays the predicted annual budget for the combined Forest, and the actual amount of funding that was allocated during Fiscal Year 2001:

FISCAL YEAR 2001 BUDGET FOR THE MEDICINE BOW-ROUTT NATIONAL FORESTS:

Forest Budget	Projected Annual Budget (M $)	Actual Annual Budget (M $)	Percent of Projected
Medicine Bow	18,699	N/A	N/A
Routt	10,033	N/A	N/A
TOTAL:	28,732	20,058	70

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 2001. 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.

A variety of reasons may cause this situation, depending upon the resource output. Due to reduced funding levels and other contributory factors, the output objectives were not achieved as predicted in the Forest Plan for the following individual items: Grazing Use, Allowable Sale Quantity, Timber Stand Improvement, Soil and Water Resource Improvement, Forest Road Development, Trail Construction and Reconstruction, Fuel Treatment, Land Exchange, and Right-of-Way Acquisition (Refer to Forest Plan Evaluation Table in Section VIII of this report).

The total budget for the combined Forests during FY 2001 was 70 percent of the amount projected in the two Forest Plans. 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 ID Team and Leadership Team have 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. The topic of budget versus outputs will be addressed during the Forest Plan revision process

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

The Forest Plan provides long-range management direction in the form of goals and objectives. Goals describe a desired future condition and are expressed in general terms. Objectives are responsive to the goals, and are measurable in both time and quantity. The goals of the Medicine Bow National Forest Plan are described on pages III-3 thru 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 2001 included; 281 acres of reforestation using natural regeneration, 312 acres of timber harvest by clearcutting, 24 acres of timber harvest by partial cutting, and 1,046 acres of Timber Stand Improvement. The table below displays this information for FY 2001. 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 2001 ACCOMPLISHMENT
Sagebrush Conversion	193	0
Aspen Regeneration	400	0
Conifer Remove from Aspen	350	0
Reforestation - Natural	1,437	281
Reforestation - Planting	72	0
Reforestation - Seeding	N/A	0
Harvest by Clearcut	1,437	312
Harvest by Partial Cutting	1,866	24
Timber Stand Improvement	2,039	1,046

(1) Some treatments were contracted during 2001, 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 2001, 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, such as for Monitoring Item 45, Land Exchange.

After sixteen 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 need to 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 2001, and the course of action for any recommended changes.

Monitoring Item 27: Grazing Use

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

The amount of grazing use on the Forest continues to show a slight declining trend during the past several years. This was primarily due to continuing drought conditions across the State. This 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 = - 87 %

The amount of timber sold during Fiscal Year 2001, 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; litigation that prevented implementation 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 2001 is 25.4 MMBF, or 86 percent less than what was predicted in the Plan. An adjustment to the timber program is necessary, which is one of the major topics that will be addressed during Forest Plan Revision.

Monitoring Item 32: Timber Stand Improvement

Allowable Variance = +/- 25 %
Actual Variance = - 49 %

The Forest goal for Timber Stand Improvement (TSI) during 2001 was 2,039 acres. A total of 1,046 acres were treated, which is 51 percent of the amount predicted in the Forest Plan. The Allowable Variance was exceeded by 24 percent, but is a notable improvement from the previous year. A significant reason for the reduced output of TSI accomplishment relates to the Forest's efforts 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 as much as 80% of potential TSI projects have been withdrawn, or never proposed at all, owing to this factor.

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 overly dense after clearcutting or fire, and these types of stands 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 may affect the amount of timber available in the future.

The SILVA 99 Report for 2001 showed that approximately 6,978 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. The intent and ouput objectives for this item need to be reanalyzed during Forest Plan Revision.

Monitoring Item 40: Soil and Water Resource Improvements

Allowable Variance = +/- 10 %
Actual Variance = - 97 %

The Forest Plan objective for this item is 195 acres per year, but only 5 acres were accomplished during 2001. 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. This will be analyzed during the Forest Plan Revision process. No change is needed at the present time, however.

Monitoring Item 41: Forest Road Development

Allowable Variance = +/- 25 %
Actual Variance = - 67 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 2001 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 Roads Analysis that makes recommendations for a final transportation system, which balances the needs of resource management and the availability of personnel and funding. Based on the Roads Analysis, site-specific proposals for any new road construction or decommissioning will be analyzed and documented in compliance with the NEPA process, including public involvement. This topic will also be discussed during the Forest Plan Revision Process, but no change to the Plan is currently needed.

Monitoring Item 42: Trail Construction and Reconstruction:

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

The scheduled output for this item is 2.7 miles per year, as shown in the Forest Plan (page III-6). During Fiscal Year 2001, the Forest did not accomplish any trail constuction or reconstuction, which is 100 percent less than the stated objective. This was the result of the lack of available funding and personnel, which may or may not occur during future years. This is a highly variable output. It should be noted that prior years often show 200% accomplishment, as was the case in 2000.

Recommendation: The amount of funding and personnel that is available on an annual basis cannot be predicted, therefore, the output for this item varies from year to year. No changes to the Forest Plan are recommended at this time.

Monitoring Item 43: Fuel Treatment

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

The stated objective for this item in the Forest Plan is 1,437 acres annually for the period 2001 – 2010. No management activity fuels were treated on the Forest during 2001. It should be noted that this item alludes to the treatment of fuels (such as logging slash) created by forest management activities. This does not include prescribed fire projects, such as are being planned as part of the present National Fire Initiative.

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 rather than the Forest Plan, therefore, no change is needed.

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 2001.

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. For example, there was 640 acres of accomplishment for this item in 2000; 400% of the projected accomplishment. 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 = - 100 %

The Forest Plan objective is 25 cases per year, however, the Allowable Variance is measured for the ten-year period. Only one case was accomplished during 2001.

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 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.

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 to also meet the needs of the American people. Project-level design reports and monitoring activities indicate that most of the management direction and requirements in Chapter III of the Plan were met during 2001. 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 monitoring the 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 2001.

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

Monitoring off-road vehicle (ORV) damage includes field observations by District personnel and reports submitted by the public. Resource damage (destruction of vegetation and creating ruts that cause erosion) generally occurs as a result of two conditions. The first situation is when travel occurs off Forest Service Transportation system roads, which may or may not be authorized depending on applicable area restrictions. The second situation occurs when damage is caused by people driving around obstacles on travelways, such as snow drifts or bog-holes. The potential for damage is greatest when the ground is wet, regardless of the situation.

Travel Management Order No. 2001-3 was signed by the Forest Supervisor on August 1, 2001. The result of several years of public involvement and NEPA analysis, this Order (applicable to the entire

Medicine Bow National Forest and its Laramie Peak Division, a total of 762,000 acres) is a milestone in the Forest's efforts to reduce resource damage from off road vehicle misuse. This order essentially disallows wheeled vehicle use off system roads and trails.

In support of the new Travel Management Order, Ranger Districts installed information signs at the entrances to the Forest, and also installed some carsonite posts with route numbers. The Sandstone telephone line road from Wyoming Highway 70 to Battle Creek Bridge was closed to motorized travel.

A total of 6.85 miles of roads in the Pole Mountain area were closed in order to prevent both off-road and on-road damage. The following roads and non-system extensions were affected by this closure:

FDR 700.F = 1.7 miles	Extension to 700.A 0.2 miles
FDR 700.J = 0.5 miles	Extension to 700.F 0.7 miles
FDR 700.JA = 0.15 miles	Extension to 700.J 0.3 miles
FDR 700.I = 0.3 miles	Extension to 700.R 0.5 miles
FDR 700.Q = 0.2 miles	Extension to 700.AA 0.6 miles
FDR 700.M = 0.3 miles	Extension to 700.BB 0.4 miles
	Extension to 701.E 0.5 miles
	Extension to 705.J 0.5 miles

The Forest accomplished road inventory work during 2001, including a survey of the location and condition of information signs such as, "route number," "end of route," and "closed to motorized use."

The Douglas District developed a brochure to explain the current travel regulations, as well as future changes to travel management that will be made on the Thunder Basin National Grassland. These information pamphlets were distributed throughout the summer and during hunting season. In addition, hunter packets, which included the travel management order, were handed out during hunting season by recreation, range, and fire personnel. The majority of the individuals contacted agreed that something needed to be done about ATV use and user-created trails. The order was judged to be effective and seemed welcome by most hunters and other users. There were no public complaints of irresponsible ATV use during the 2001 hunting season.

On the Brush Creek/Hayden District, the buck and pole fence at White Rock Canyon had been cut and ATV's were traveling behind the fence into the canyon. This fence still needs to be repaired, in order to close off the user-created trails.

On the Douglas District, vandalism has often occurred to the road signs on the Arapahoe Trail near Laramie Peak. An illegally constructed ATV trail on Green Mountain west of Wheatland has been recently discovered and is under investigation by law enforcement personnel. Intense use by ATV's in the Cow Creek Mountain area, both on and off-trail, is causing damage to the drainages. Both the Deer Creek trail and the south Warbonnet trail, which were illegally constructed by ATV users, have been successfully closed to ATV users. No evidence has been found that these trails are being used by motorized vehicles; however, the trailhead sign at Deer Creek was vandalized. No change to the Forest Plan is deemed necessary at this time.

Monitoring Item 2: Trail Condition

All the Ranger Districts reported the results of trail inspections, which are scheduled annually. The information for these inspections is used to schedule maintenance work and formulate budget and capital investment proposals.

The East Fork and the Roaring Fork trails had signs installed to inform the public that the trails are non-motorized as stated in the Forest Plan. Both trails were incurring increased use and resource damage. The Rock Creek Trail has damage due to a rockslide, which has not been repaired. The damage will be assessed and a plan will be developed to repair the trail. The trail has also been posted as "not recommended for stock use," but needs more signs on the connecting trails (Crater Lake). All trails on the Douglas District had maintenance performed and are in good repair. No new trails were constructed.

The Lone Tree Bible Camp continues to use the Laramie Peak trail every Wednesday, with as many as 150-200 users at one time. The impact to the resources due to this use is becoming more apparent. . Monitoring these groups will continue.

The Laramie District inventoried 20 percent of the wilderness and non-wilderness trails, in order to determine the deferred maintenance needs. These condition surveys are available for each trail that was inventoried. While the majority of the trails surveyed were in good condition, some needs for deferred maintenance were identified for each trail, including waterbar deterioration, insufficient signs and trail marking, and inadequate drainage. The District performed annual maintenance on 96 miles of non-wilderness trails, and 23 miles of wilderness trails. No change to the Forest Plan is needed at this time.

Monitoring Item 3: Dispersed Recreation Use and Experience

Dispersed recreation use and experience is monitored and reported as the number of people-at-one-time per acre (PAOT) annually by area (Management Areas 2A and 3A) during an estimated 100-day season. Forest Plan General Direction (page III-100, 115) specifies, "low to moderate contact with other groups and individuals" in dispersed recreation management (3A and 2A) areas.

The Brush Creek/Hayden District closed road number FDR 452.1k into a dispersed campsite. The public continued to camp closer and closer to Jack Creek, and during 2001 several new roads were pioneered up the steep embankment east of road FDR 452.1k. Fences were built to close these user-created roads, and the area behind the fences was rehabilitated. The recreation and range staff continued to administer the "tag program," which informs the public of the 21-day limit for camping in a single location. Campers were "tagged," and violations were issued if they stayed on the forest beyond the allowed time. "No camping" signs were posted at several trailheads, including the East Fork, Green Mountain, and Pipeline trailheads.

LaBonte Canyon continues to be the most popular dispersed camping area on the Laramie Peak portion of the Douglas District. Most users seem to feel personally responsible for "their" site and take good care of it. As a result, minimal damage is being caused to these sites.

A survey designed to elicit the attitudes, experiences, and preferences of winter recreationists on the Laramie District was administered during November and December of 2001. The survey will continue through the winter of 2002/2003, with the results being made available during May, 2003. No change to

the Forest Plan in relation to this item is needed.

Monitoring Item 4: Dispersed Campsite Condition

This Item consists of inventorying the Frissel Condition Class of dispersed (undeveloped) campsites during project analyses, or as scheduled in Chapter IV (page IV-20) of the Forest Plan. Standards and Guidelines (6023, 6197) in Chapter III (page III-22) of the Plan requires that all Category 4 and 5 sites must be closed or rehabilitated.

On the Brush Creek/Hayden District, sites were monitored along the Cedar Pass Road (FDR 261) and along the Jack Creek Road (FDR 452). A decision was made to close an area from the Jack Creek Campground to the Jack Creek Work Center within 100 feet of Jack Creek due to resource damage. Two individuals damaged the meadow at the entrance to the Jack Creek Campground. The incident was investigated and the individuals were issued written citations.

The Laramie District continues to survey dispersed campsite conditions utilizing GPS technology, however, these efforts have been significantly hampered due to insufficient funding. Several dispersed sites were rehabilitated or closed to comply with existing Forest Plan Standards and Guidelines. A general survey on the Douglas District indicates these sites are relatively stable, with no specific problems being identified. No change to the Forest Plan is needed.

Monitoring Item 5: Developed Site Use

Campground use averages 35 percent during the high-use summer months. Based on fees collected from campgrounds and day-use areas, approximately 115,000 individuals utilized the developed recreation facilities on the Laramie District. The Centennial Visitor Center recorded 12,803 visitors during the 2001 calendar year, compared to 10,644 visitors during the previous year.

Campgrounds continue to be operated under the recreation fee demo program. A total of $ 154,000 was collected during 2001 from developed recreation sites and the sale of day-use passes. This is about $ 6,000 more than the previous fiscal year. The Douglas District collected $ 4,266 during 2001, which was $ 500 less than the previous year (due to wildfires some sites were closed during 2000). Collections were $ 500 more than the previous year's collections through August, indicating a sudden shift occurred after the events of September 11.

User preferences for camping facilities are changing along with activity preferences. ATV users are congregating at Esterbrook Campground to use the roads and trails around the area. The campsites are not large enough to accommodate all the RVs, trailers, ATVs, and other equipment, therefore, causing visitors to park along the road and in any available open area. Reconstruction, or some other management action, may be necessary.

In addition to campgrounds, the Forest maintains a successful cabin rental program, which is administered by the National Reservation System. No change to the Forest Plan is needed at this time.

Monitoring Item 6: Developed Site Condition

Monitoring this item consists of examining and reporting the existing condition of developed recreation sites. The Forest Plan requires that existing facilities be maintained in Condition Class 1 or 2. Sites scheduled for rehabilitation are listed in Appendix I of the Forest Plan (pages I-5,6) and will be analyzed and evaluated prior to project development.

On the Brush Creek/Hayden District, maintenance was performed on many older toilets because there are no replacement funds. Some of the toilet vent systems were replaced on several of the old toilets, while broken picnic table planks, barrier posts, and fire grates were also repaired. The let-down fence at Bottle Creek Campground was repaired and part of it replaced.

On the Douglas District, the buck and pole fence around Esterbrook Campground was removed, with half of it being rebuilt using rec fee demo collections. Bear-proof garbage containers were installed at Esterbrook Campground after another year of bear activity. In addition, signs were placed around the campground showing photos of bear damage, as well as materials and education being provided to all campers about the precautions necessary to prevent further bear damage. Bear activity also occurred at Friend Park Campground. Similar signs and education were provided at this campground, with bear-proof garbage containers awaiting installation during 2002.

The well at Deep Creek Campground was repaired using deferred maintenance money, as was the Bow River Campground well. A new well was drilled at Bottle Creek Campground using the same type of funding. The Mirror Lake Picnic Ground access road was rebuilt and paved. This project is 95 percent complete, with only some road repair remaining to be done. This is a major upgrade from the preexisting potholed, unsurfaced road, portions of which were often covered with water when the lake was high.

A concerted Forestwide effort resulted in reducing hazardous trees on all Districts. Esterbrook Campground was surveyed by the Regional Silviculturalist/Fire Planner, in order to prepare for a future full-scale vegetative analysis that could result in proposed thinning or burning projects. The timber stands in this area are in need of thinning to reduce the threat of wildfire.

The Laramie District inventoried 100 percent of the developed sites to determine the amount of deferred maintenance needs. Condition surveys are available for each site inventoried. While the majority of the sites and facilities were in fair to good condition, deferred maintenance needs were identified for each site, including tent pads, tables, delineators, fire rings, minor maintenance of outhouses, and deterioration of the campsite spurs. No health and safety needs were noted, and the majority of the deferred maintenance issues are relatively minor. No change to the Forest Plan is needed at this time.

Monitoring Item 7: Downhill Skiing Use

During the 2000-2001 ski season, a total of 48,559 tickets were sold at the Snowy Range Ski Area. This represents approximately 24,280 Recreation Visitor Days (RVDs), which is a 21 percent increase from the 1999-2000 season. No change to the Forest Plan is recommended at this time.

Monitoring Item 8: Wilderness Use

The amount of wilderness use on the Forest continues to increase, with an associated increase in the number of violations of wilderness regulations being recorded also. Examples include the use of mountain bikes in the Encampment River Wilderness and a vehicle accident in the Platte River Wilderness while retrieving big game during hunting season.

Wilderness rangers on the Laramie District observed no substantial changes in visitor contacts or evidence of increased human impacts to popular sites. No change to the Forest Plan is needed in relation to this monitoring item.

Monitoring Item 9: Wilderness Campsite Condition

The Forest trail crew and Wilderness Guard did maintenance on a variety of Wilderness trails during 2001. Fire rings and camp structures were dismantled, and the campsites were inventoried. The Encampment River Bridge was repaired where a horse had stepped through one of the approach boards. The crew also hiked the Continental Divide National Scenic trail and dismantled any fire rings that they found in the Huston Park Wilderness. The Wilderness Guard also patrolled Wilderness boundaries during hunting season and handed out hunter packets to campers. The crew checked Wilderness portal signs and oiled or replaced them as needed. No change is needed to the Forest Plan.

Monitoring Item 10: Adopted Visual Quality Objectives

The following District projects were reviewed for compliance with the applicable Visual Quality Objectives (VQOs) during the 2001 field season:

Brush Creek/Hayden District: The Pop Springs Timber Sale located in the Green Ridge area was completed during FY 2000. Several units located within the foreground of the Deep Jack Road (FDR 830) were reviewed during 2001. The harvested units were designed to blend in with the landscape. Some slash can be noticed in the rear of the units, but the surrounding lodgepole pine forest minimizes the visual impact. Groups of trees and shrubs adjacent to the road and new ground vegetation reduce the amount of contrast of the stand treatments. These units met the adopted Visual Quality Objectives (VQO) of partial retention in foreground and modification in all other areas for Management Area 7E.

Laramie District: The Douglas Creek Timber Sale located southwest of the Keystone area was completed during FY 2001. The middleground units were reviewed from the highpoint on road FDR 543 near the Lake Creek area. These units blend in well with the surrounding landscape. The units are located in the area designated as Management Area 7E with the adopted VQO of partial retention in foreground and modification in all other areas. The units met the modification VQO.

Douglas District: Buck and pole fences were installed within the Esterbrook Campground last summer. The fences complement and blend with the surrounding ponderosa pine forest and maintain the landscape character. The campground is designated as Management Area 1A, with the adopted Visual Quality Objective of modification. The project met the modification VQO. No changes to the Forest Plan are necessary at this time.

Monitoring Item 11: Compliance with Cultural Resource Regulations

During Fiscal Year 2001, a total of 157 projects were submitted to the Heritage team for cultural resource input into National Environmental Policy Act analysis documents and for compliance with Section 106 of the National Historic Preservation Act. These projects were reviewed by the Heritage team to determine the potential to be affected, with field inventories and compliance reports being sent to the State Historic Preservation Officer (SHPO). One Programmatic Agreement (PA) was negotiated with SHPO and the Advisory Council. This PA was negotiated to modify and streamline the 106 compliance for projects in the Beetle Management and Mechanical Fuel Reduction Programs on the Forest. The Forest is in compliance with the National Range PA and the Regional Memorandum of Understanding (MOU) regarding the effects of range Allotment Management Plans. During FY 2001, the Regional Office negotiated a PA regarding the Prescribed Fire Program in response to the National Fuel Reduction Initiative. The Forest is currently in compliance with this Regional PA.

Insuring that project leaders and contracting officers keep the Forest Cultural Resource Staff appraised of modifications to ongoing projects is an area where the Forest can do much to insure our continued compliance with Section 106 of the NHPA. This is an area for improvement in implementation and not a matter for changes in Forest Plan direction.

Monitoring Item 12: Protection of Historic Sites

As stated above in Item 11, Class I inventories were conducted for 157 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. The Forest Heritage Team conducted two Passport-in-Time projects and two other volunteer projects, resulting in 903 volunteer hours. The Douglas Ranger District was able to survey 5,700 acres for cultural resources with the help of a partnership, which was valued at $ 75,000. These partnerships and volunteer projects meet the Forest's requirements under Section 110 of the National Historic Preservation Act. 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, however.

Monitoring Item 13: Horizontal Diversity

The monitoring report for Fiscal Year 1992 provided an analysis of the level 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 2001. The problems inherent in reporting this item (data quality/completeness; the large number of acres that must change in order to cause a percentage change) are the same as previous years. The utility of this monitoring item will be evaluated during the Forest Plan Revision. No change is needed now.

Monitoring Item 14: Vertical Diversity

The monitoring report for Fiscal Year 1992 provided an analysis of the level 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 2001. The problems inherent in reporting this item (data quality and completeness; the large number of acres that must change in order to cause a percentage change) are the same as for previous years. The utility of this monitoring item will be evaluated during the Forest Plan Revision. No change is needed.

Monitoring Item 15: Aspen Retention

Site, location, and size-class information for aspen is stored in each Ranger District RMRIS database (formerly R2RIS). The number of acres of aspen in Management Areas 4D (emphasis on aspen management), and the amount of aspen included within other Management Areas comprises the total amount of aspen on the Forest. As the amount of aspen changes due to natural succession or project activities, the information is updated in the District databases 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 2001 indicated that 84,042 acres 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 item should be evaluated during the Forest Plan Revision to ensure that it is valid and relevant to the Forest Plan Standards and Guidelines in Chapter III. No change to the Forest Plan is needed.

Monitoring Item 16: Old Growth Retention

Information for this item is stored in each Ranger District R2RIS database. During FY 2001 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 "spacial consistency;" the delineation of stands that are complete, coherant, 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 are making progress toward meeting the stated goal. The requirement is being met, however, in 3A and 9A Management Areas, and also on a forestwide basis (page III-14,c). 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 will be addressed during the Forest Plan Revision process to ensure accuracy and usefullness. No changes to the Forest Plan are necessary at this time.

Monitoring Item 17: Diversity of Coniferous Tree Species

The information for this item was derived from the District R2RIS databases for 2001, and showed no significant change from the detailed, "benchmark" 1992 data. This item should be evaluated during the

Forest Plan Revision process to ensure that it is valid and relevant to the Forest Plan Standards and Guidelines in Chapter III. No change is required at this time, however.

Monitoring Item 18: Winter Range Carrying Capacity

On the Laramie Ranger District, approximately ten percent of the designated winter range was inspected by District Range personnel. Some areas that function as transition range or wilderness were also inspected. Methods included ocular estimates as well as range utilization monitoring. Winter range habitat on the North Platte River, Centennial Ridge, Sheep Mountain, and Pole Mountain areas continue to provide adequate forage for deer, elk, and bighorn sheep (where present) as evidence by population increases being recorded for all three species.

Due to a history of fire suppression, decadent sagebrush is considered to be the main factor for reducing the quality of habitat for mule deer and bighorn sheep on the District. It is estimated that Laramie District has enough winter forage to accommodate 1,250-1,500 elk and 7,300-8,000 mule deer. The following information was used to arrive at these figures:

1. Range utilization Monitoring.
2. Sheep Mountain Analysis of the Management Situation (1982).
3. Wyoming Game and Fish herd unit surveys.
4. Big game harvest data.
5. Conversations with Wyoming Game and Fish Department Biologists.
6. Previous estimates of carrying capacity.

On the Douglas District available winter range carrying capacity remained the same as in 2000 for both the Thunder Basin National Grassland and the Laramie Peak area.

No change to the Forest Plan is necessary at this time.

Monitoring Item 19: Snag Retention

The Laramie Ranger District reported that several units on the Douglas Timber sale were visited to determine compliance with snag retention guidelines. Large snags were left in various patterns, including small patches along the edge of sale units and scattered throughout the units. The units that were visited were determined to be in compliance with the Forest Plan Standards and Guidelines. Snag retention issues that need to be studied during future years include: determine the reduction of large snags due to firewood gathering in heavily roaded areas; determine if there is a need to increase snag density standards based on current literature; determine if there is a conflict between snag retention guidelines and OSHA safety regulations and the impact on the actual retention of snags. The Douglas District indicated that past extensive mountain pine beetle infestations have provided enough snags District-wide so sang retention is not a problem. This effort will depend upon the availability of personnel and funding. This item needs to be addressed during the Forest Plan Revision.

No change to the Forest Plan is necessary at this time.

Monitoring Item 20: Threatened and Endangered Species

Wildlife biologists performed surveys for Threatened and Endangered (TE) Species during fiscal year 2001. Boreal Toad monitoring occurred on known and historical sites during May and June, including Bird Creek, Lake Owen, the Sunken Gardens area, the middle fork of the Little Laramie River (Laramie District) and in the Battle Creek, Brush Creek and Fox Creek drainages (Brush Creek/Hayden District). No egg masses or tadpoles were found. Boreal toads were located on Bird Creek, one during a daytime survey, and one during an evening survey. It is highly possible that the same individual was encountered during both surveys. The Douglas District carried out amphibian surverys (12.25 miles on the Thunder Basin NG and 12.25 on the Laramie Peak Division) which resulted in a single potential observation of a boreal toad. On the Douglas District surveys were conducted to determine the presence or absence of the federally Threatened Prebles's meadow jumping mouse. Approximately 30 acres (in three separate drainages) were surveyed. Of the three jumping mouse species live-trapped, none were found to be Prebles. No endangered species were recorded on the Laramie Peak portion of the Douglas District this year. The results of the surveys were provided to Wyoming Game and Fish personnel and Wyoming Natural Diversity Database.

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 spp. after grazing were less than 4 to 6 inches. These areas are 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 2002.

Boreal owl nest boxes (149) were monitored for use. No active nests were located. One known bald eagle nest was visited on the North Platte River. It contained at least one young of the current year that was ready to fledge.

Twenty-five stations for lynx detection (scented rub pads) were placed and monitored during 2001, with no lynx detected as a result (Laramie and Brush Creek/ Hayden Districts).

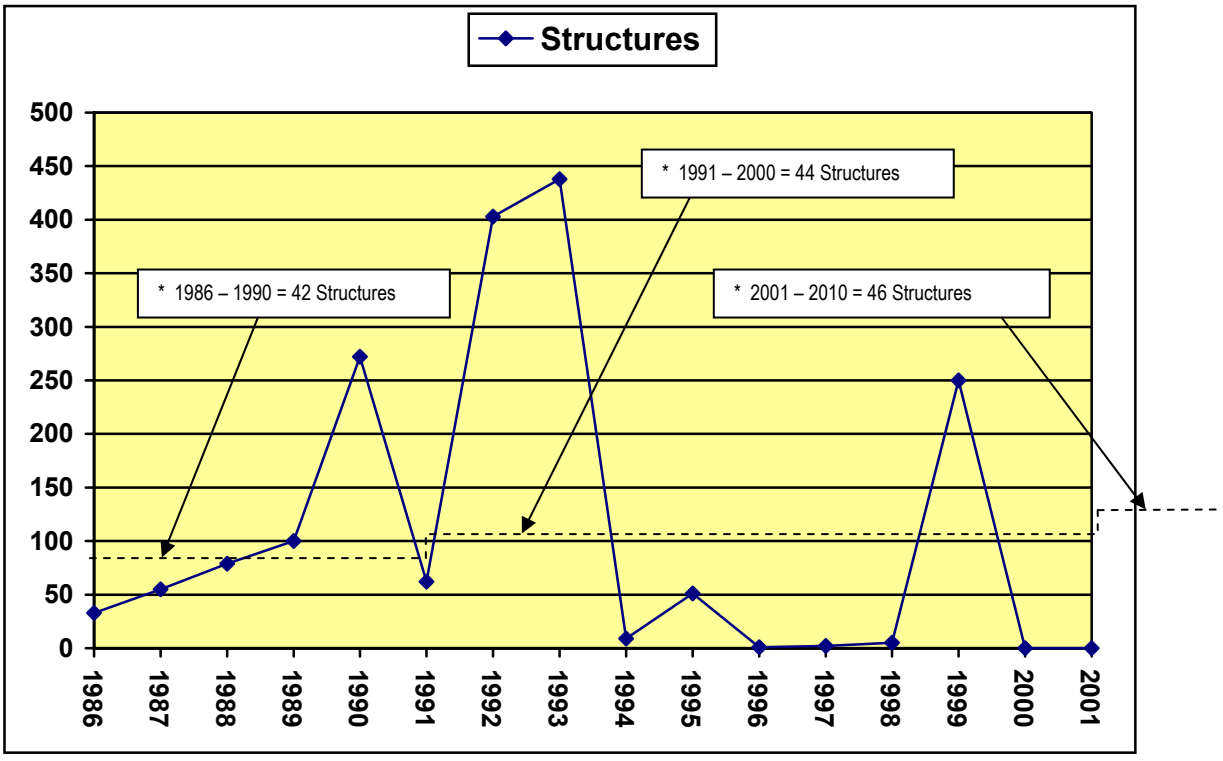
No change to the Forest Plan is necessary at this time.

Monitoring Item 21: Wildlife and Fish Habitat Improvement

The Laramie Ranger District accomplished 100 acres of habitat improvement, including seeding of roadbeds and harvest units, and posting wildlife signs on snags in past timber sale areas, including the Duck, Rail, Saddle, and Douglas Timber Sales. The Brush Creek/Hayden District performed 105 acres of subalpine fir removal to enhance aspen stand stability in the Cedar Creek area. On the Douglas District, 96 acres of Ponderosa Pine within the Albany Peak area on the Laramie Mountains were cut to improve big horn sheep habitat. No structural improvements were accomplished this year.

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 Laramie, Brush Creek/Hayden and Douglas Ranger Districts reported monitoring information for meeting Standard and Guideline 7031MB (Forest Plan, page III-76). This Guideline pertains to the maximum road density within fourth-order watersheds. Using a weighted road density (considers the number of miles of open road and the amount or level of use per square mile), the Districts determined that they are currently meeting open road density requirements for all watersheds that were analyzed. No change to the Forest Plan is necessary at this time.

Monitoring Item 23: Riparian Condition Rating

During FY 2001, rangeland management specialists evaluated riparian vegetation on the Forest using utilization and ecological condition factors to determine compliance with the Forest Plan Standards and Guidelines. Riparian areas are considered as inclusions in larger vegetation stands and are displayed as a percentage of that stand, rather than as a separate site. Riparian area estimates were historically derived from the Resource Information System (R2RIS) database for each Ranger District. During 1999, however, the information was transferred into the Region 2 INFRA database.

Due to the conversion and transfer of all inventory and monitoring data from the FSRAMIS database into the INFRA database, the information derived for this monitoring item was highly variable or was not available. Therefore, specific data for this item was not reported for Fiscal Year 2001, but should be available for 2002. No changes to the Plan are recommended at this time.

Monitoring Item 24: Habitat Capability Trends of Management Indicator Species

The Districts updated the R2RIS database during 2000, and it is believed that the data currently reflects a relatively accurate inventory of the vegetation, in order to support the Habcap computer model. During 2001, approximately 6,000 acres of Goshawk habitat were surveyed (2,000 acres on the Laramie District, and 4,000 acres on the Brush Creek/Hayden District) along with 23 acres of Goshawk survey carried out by the Douglas District on timber sale areas prior to sale. 6,382 acres of amphibian habitat were surveyed for the presence/absence of wood frog, chorus frog, tiger salamander, boreal toad, and northern leopard frog (4,000 acres on Laramie District, 424 acres on the Brush Creek/Hayden District, and 1,958 acres on the Douglas District.). The Districts also reviewed the Game and Fish Department herd objectives for elk, mule deer, and bighorn sheep population information. In addition, the Brush Creek Hayden District intensively surveyed four sage grouse leks (utilizing existing "range-wide protocols). This is a very detailed order of survey. Three Columbian sharptail grouse leks were also surveyed.

An analysis of the information suggests that habitat is being retained and protected in adequate proportions to sustain populations for all species. Although ample habitat appears to be present for boreal toads, their over-all decline in the western United States is often attributed to the introduction of a Chytrid fungus (Boreal Toad Conservation Plan and Agreement, Revised February, 2001). No change to the Forest Plan is necessary at this time.

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

During Fiscal Year (FY) 2001, North Zone fisheries personnel continued to support the Wyoming Game and Fish Department (WGFD) Colorado River cutthroat trout monitoring in the headwaters of the Little Snake River. Extensive monitoring was conducted, in order to determine the status/trends of CRCT populations, collect samples for disease or genetic testing, assess the success of ongoing non-native trout control projects, and determine the need for additional protection of CRCT populations by using structural improvements. More than 30 miles of CRCT habitats were sampled by electrofishing as part of this effort. Important stream segments from past years were re-surveyed, including Mill Creek, Deep Creek, Hell Canyon, West Branch, North Fork Little Snake, and Roaring Fork. In addition, surveys were conducted in Big Sandstone Creek and several tributaries to determine the presence/absence of CRCT in those waters. The results of monitoring will help to support adaptive management strategies for conservation and recovery of this rare native trout during 2002, which are described below:

- CRCT populations in Deep Creek were found to be thriving, with high densities of healthy trout present throughout several miles of secure habitat.

- Habitat and populations in Hell Canyon did not indicate adverse impacts from the 2000 Hell Canyon wildfire.

- Monitoring in the Upper West Branch indicated that the previous chemical treatment appeared to be successful. Although small numbers of CRCT were translocated to habitat above the barrier, the stream as a whole is still at continued risk from competition and/or hybridization with non-native salmonids. As a result, the West Branch barrier is scheduled for a cooperative reconstruction project in 2002.

- Alternative control measures for non-native trout are being evaluated for the North Fork Little Snake River Monitoring results from 2000 and 2001 indicate that the North Fork cannot be considered free from competing/hybridizing non-native trout, despite two previous chemical treatments. Large rainbow trout were located for the first time above a natural waterfall that previously had not been breached. Additional monitoring is planned to evaluate the source and potential control measures for these rainbow trout. The surveys also showed that brook trout had survived or returned following the chemical treatments and were present both above and below the barrier. More control measures are needed to remove these competing fish.

- The CRCT population in Mill Creek appears to be stable. Minor repairs were made to the fish barrier to retain the integrity and prevent potential failure. Aspen enhancement is also being considered in this watershed to improve the riparian and aquatic habitats.

- Disease sampling indicated that while CRCT populations are free from whirling disease and other fish pathogens, there are sources of infection located in close proximity downstream of the CRCT recovery waters. This indicates the need for extreme caution in managing CRCT habitats to prevent the introduction of devastating fish pathogens.

- Electrofishing in two miles of the Roaring Fork to determine the success of a treatment performed during 2000 found that brook trout were present above the barrier. This indicates that

the treatments were only partly successful, and that long-term maintenance needs to be considered for continued management of this population.

No change to the Forest Plan in relation to CRCT monitoring is recommended at this time. However, during revision of the Forest Plan, this monitoring item should be changed to focus on population size, status and trend, and miles of habitat isolated/protected from non-native trout influences.

Monitoring Item 26: Common Trout Species

Common trout were surveyed in the headwaters of the Little Snake River during 2001 as part of the CRCT restoration program described in the previous monitoring item. Brook trout and rainbow trout were identified in the CRCT recovery waters as part of that monitoring effort. Plans to monitor population status and trends for common trout in other montane areas of the North Zone could not be carried out prior to snowfall, but are planned for continuation during 2002. On the Thunder Basin Grassland, District personnel continue to cooperate with the Wyoming Game and Fish Department to monitor warm water impoundments to determine their utility as sport fisheries and wetland habitats. Plans for 2002 include expansion of this program to evaluate existing or potential effects from coal bed methane production.

Amphibian inventories were conducted to determine the presence of these Management Indicator Species (MIS). Tiger salamanders and northern leopard frogs (both Forest Service sensitive species), wood frogs (sensitive and MIS) and boreal toads (sensitive and MIS) were located during the surveys. More than 400 acres of amphibian habitats were surveyed to search for boreal toads at historic sighting locations and to determine the presence of amphibians in areas planned for management activities. The U.S. Fish and Wildlife Service amphibian survey protocol was used to monitor wetland/riparian areas that had previously been examined for amphibians. The key findings included:

- No boreal toads were located in historic sighting areas, including the Rock Creek Park or Bird Creek areas.

- A new, potential boreal toad population was located by a private landowner, and was tentatively verified by Forest Service personnel conducting project surveys in the Medicine Bow Range. A detailed monitoring plan has been prepared for implementation during 2002.

- Tiger salamanders were documented in several new Sierra Madre locations.

No change to the Forest Plan in relation to aquatic Management Indicator Species monitoring is recommended at this time. However, during revision of the Forest Plan, this monitoring item should be revised to focus on population size, status and trend, miles of habitat inventoried or improved, and to recognize the importance that amphibians play in monitoring management conditions on the Forest.

Monitoring Item 27: Grazing Use

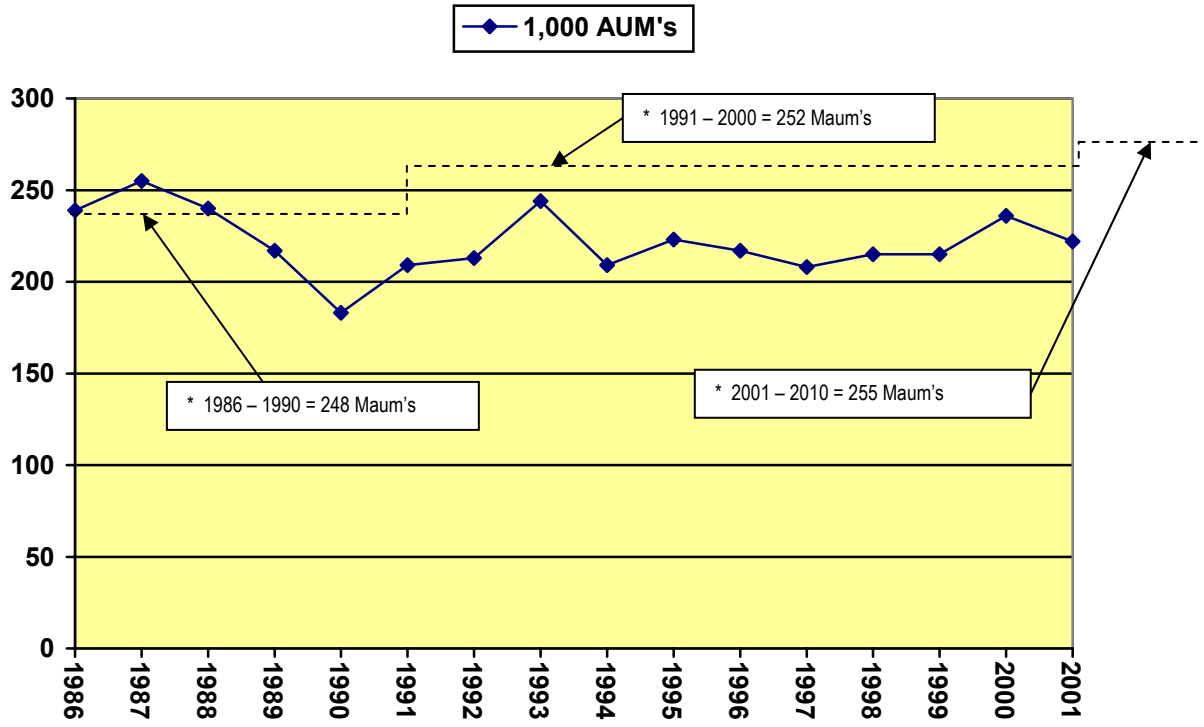
The Forest converted the FSRAMIS database program to a new one called INFRA during 1999 to monitor permitted and actual grazing use on National Forest System lands. Actual grazing use is evaluated to ensure that Forest Plan Direction is followed. Livestock grazing use must not deviate more

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 2001.

Total AUM's Forest Plan	Total AUM's F.Y. 2001	Percent Deviation From Forest Plan
255,000	221,600	- 13

Actual grazing use for 2001 was somewhat lower than the previous year, and there continues to be a slow overall trend of declining use for a variety of reasons, especially the continuing drought conditions across the State. Other reasons include: non-use for personal convenience, waived livestock numbers, cancellation of partial and total permitted use because of permit violations, and reduction of numbers due to overstocked conditions. The Allowable Variance for this Item was exceeded by three percent, but no change to the Forest Plan is required at this time.

Grazing Use



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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. Utilization levels must not exceed 10 percent of the allowable use guides for the grazing systems and range types shown in the Forest Plan (Chapter III, pages III-37 to 41). The results of monitoring forage utilization during 2001 are shown below.

Total allotments on the Medicine Bow NF 282
Allotments monitored..... 90
Percent of total allotments monitored 32

NOTE: The total number of allotments includes only those with grazing permits and allotments that are currently vacant. It does not include special use pastures or other use areas.

Ranger District	Total Allotments on the District	Number Allotments Monitored FY 2001	Allotments Not Meeting Plan
Brush Creek/Hayden	42	20	0
Laramie	18	16	0
Douglas	222	54	0
Forest Total	282	90	0

The data reveals that all 90 allotments that were monitored met the Forest Plan requirements for utilization, which shows a continuing trend of improvement from previous years. An analysis of the data for these allotments indicates that most of the upland areas were utilized equal to or less than the standard stated in the Forest Plan. Several Districts required removal of livestock when proper use was reached in the riparian areas. The data suggests that improved management (better distribution, salting, water development) are resulting in proper utilization of riparian areas. The Forest Plan Standards and Guidelines for utilization need to be reviewed during the Revision process to determine if 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 on an annual basis to determine the trend in range condition. 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 Range Ecosystem Analysis Guide and involve the use of benchmarks. Benchmarks are small areas where long-term trend studies are established and maintained so that the manager can assess the resource impacts 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 range-trend sampling by photographs. Benchmarks are placed in primary range areas, or those areas which produce or are capable of producing desirable forage, and are predicted to improve as a result of proper management. The table below shows the results of monitoring range condition trend during FY 2001.

Total allotments on the Medicine Bow NF 282
Allotments where trend was measured..... 37
Percent of total allotments monitored 13
Number of allotments with declining trend……..0 Reported

The Ranger Districts exceeded the requirement for monitoring 10 percent of the range allotments for condition and trend. Although range personnel focused on Monitoring Item 28 because of the concern

about drought conditions, none of the measured allotments were in a declining trend. This meets the Allowable Variance for this item, and also the goal of avoiding excessive forage use on some allotments.

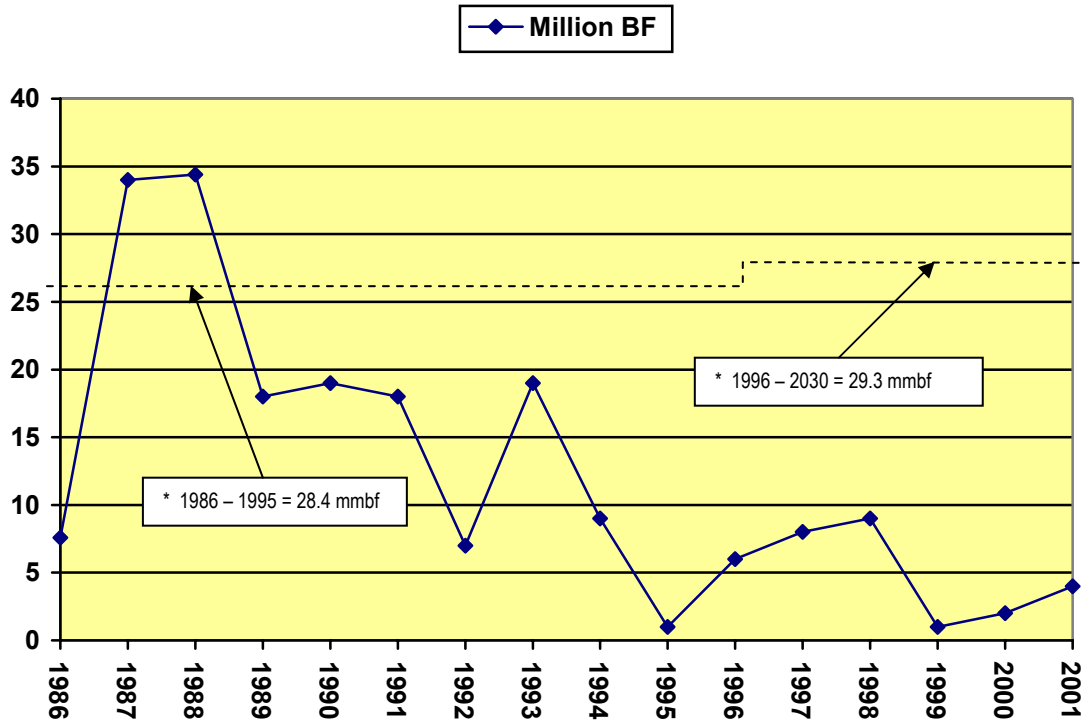
New methods have been developed to represent vegetation management, because it often takes decades to measure any appreciable change in range condition. A range examiner expected to interpret range trend must be highly trained and able to examine and compare years of previously collected data. Annual fluctuations in weather conditions also complicate determining any trend on an annual basis. Trend studies conducted every 3-5 years would be sufficient to monitor changes in range condition. These studies should focus on allotments suspected of having declining range conditions, and where improved management has been initiated to verify that the range condition is improving. This subject may be addressed in 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 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 1996 – 2005 (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 Plan, and the predicted output increased to 293.0 MMBF for the period 1996 – 2005 (page III-8). The amount of timber sold during Fiscal Year 2001, did not achieve the Annual Allowable Sale Quantity stated in the Forest Plan. Subsequently, the total amount of timber sold from 1996 to 2001 is currently at 25.0 MMBF, or 86 percent less than what was predicted in the Plan. Both the Allowable Sale Quantity and the Long-Term Sustained-Yield will be examined during the Forest Plan Revision process to determine if any change is needed. No immediate adjustments are necessary, however.

Allowable Sale Quantity (ASQ)



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

Monitoring Item 31: Restocking of Harvested Areas

The RMRIS database for each Ranger District was used to determine how many acres were harvested during 1996. The total amount of area treated for this item includes the clearcut, seed-tree, removal, and selection harvest methods. The District databases were then used to determine how many acres were surveyed during 2001 and disclose how many acres were certified as satisfactorily restocked, as required by the NFMA (36 CFR 219.27(c)(3)). The table below summarizes the information obtained from the RMRIS databases.

Reforestation Survey Data:	Acres Harvested During 1996	Total Acres Surveyed	Acres Certified as Stocked	Acres Not Adequately Stocked
Forest Total:	296	296	296	0

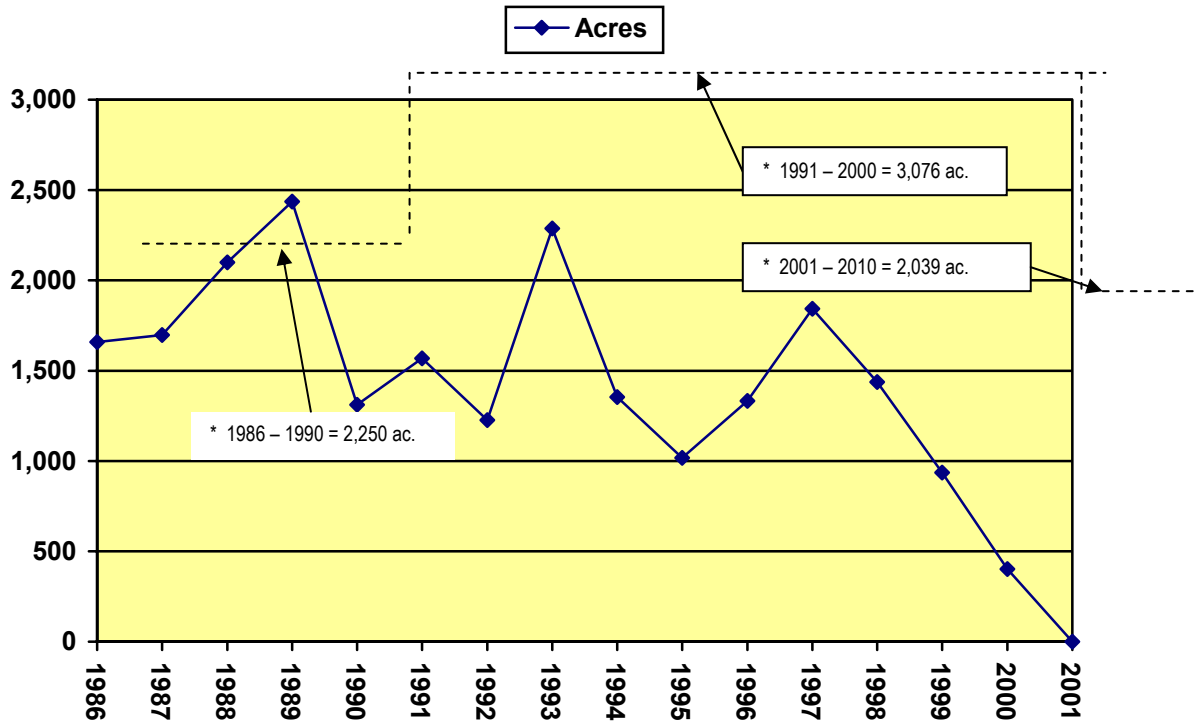
Final-harvesting occurred on 296 acres during 1996, thereby requiring a fifth-year survey during 2001 to determine stocking levels. All 296 acres were adequately stocked, which meets the Allowable Variance.

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 required at this time.

Monitoring Item 32: Timber Stand Improvement

Timber Stand Improvement (TSI) includes thinning lodgepole pine stands before they reach age 30, in order to achieve stocking control and promote higher growth rates. The Forest goal for TSI during 2001 was 2,039 acres, however, 1,046 acres were treated. This is 51 percent of the amount predicted in the Forest Plan and a significant increase from the previous year. The SILVA 99 REPORT for FY 2001 showed that 6,978 acres of thinning and release treatments are still needed on the Forest.

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 by the Districts 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. Further, the application of guidelines for lynx potential habitat makes many potential TSI projects difficult or impossible to execute. This problem is related to implementation rather than the Plan itself, therefore, no changes to the Plan are currently needed. The intent and ouput objectives for this item, however, need to be reanalyzed during Forest Plan revision.

Monitoring Item 33: Clearcut Unit Size

Each Ranger District entered data into their RMRIS database, which showed that 312 acres were clearcut on the Forest during 2001. The smallest clearcut unit was two acres and the largest unit was 23 acres. The majority of the units were ten acres or less in size. The result of monitoring indicates that all the clearcuts on the Forest were within the Allowable Variance, or were approved by the Regional Forester, as required by the NFMA regulations [36 CFR, Part 219, Section 219.27(d)(2)(ii)] and Chapter III of the Forest Plan (page III-46, General Direction 5). No adjustment to the Plan is needed.

Monitoring Item 34: Created Openings

During 2001, all proposed vegetation treatments that would create openings were reviewed for compliance with Management Prescription 07E, General Direction 1066MB, and Standard and Guideline 6014 and 6316 in Chapter III of the Forest Plan (pages III-193 to 196). All openings created during 2001 met this management direction, and no change to the Forest Plan is necessary at this time.

Monitoring Item 35: Lands not Suited for Timber Production

This item is monitored and reported on an annual basis, as required in Chapter IV of the Forest Plan (page IV-51). This also meets the intent of the regulation at 36 CFR 219.27(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 2001. All the timber harvest activities were in compliance with Chapter III of the Forest Plan and the direction stated above. No changes to the Plan are deemed necessary at this time.

Monitoring Item 36: Water Yield

The Forest annually monitors the amount of increased water yield that occurs as a result of timber harvesting and other vegetation treatments. The number of acres harvested and method of harvest (e.g. clearcut) was extracted from each Ranger District RMRIS database. This information was used to estimate increases in water yield as a result of vegetation management activities, which occurred during Fiscal Year 2001. Using average water yield coefficients for different timber types, the amount of increase as a result of 2001 harvest activities on the Forest was calculated to be 320 acre-feet, which is similar to the previous year. This value does not include water yield increases from vegetation management activities prior to 2001, nor any natural processes (e.g., beetle killed trees).

Compared to the baseline water yield of 1.017 million acre-feet produced from the Forest each year, the increase in the volume that is reported for a single year is insignificant. Monitoring the amount of water yield increase for this Item may need to be adjusted or eliminated for the following reasons:

- 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 related to water yield augmentation technology has not been incorporated into the HYSED model.

- While increased water yield does result from vegetation management, increased streamflows where potential benefical use of water may occur, cannot be detected in watersheds larger than a few square miles,.

- Water yield increases have not occurred as predicted in the Forest Plan for a variety of reasons.

The issue of timber harvest will be addressed during the Forest Plan Revision process, and will include a discussion of the relationship of water yield to the level of harvest during future years. The need for this monitoring item and management areas similar to the existing 9B Management Area (emphasis on increased water yield by vegetation treatment), should be evaluated during the Forest Plan Revision process. No amendments to the Forest Plan are necessary at this time.

Monitoring Item 37: Sediment Threshold Limits

Sediment yield may be altered as a result of water yield increases and ground disturbing activities that cause erosion. Hydrologic modeling (HYSED) was used to predict increases in sediment levels due to water yield increases for each project that was implemented on the Forest during Fiscal Year 2001. It was determined that no watershed exceeded the geomorphic threshold limit for sediment due to water yield increases from timber harvest or road construction. Changes in sediment yield as a result of 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 or measure. The effects of increased sedimentation are best addressed by the use of Best Mangement Practices (see Monitoring Item 39). Monitoring the amount of sediment yield increase for this Item may need to be adjusted or eliminated for the following reasons:

- The hydrologic sediment model (HYSED) prescribed in the Forest Plan only considers sediment yield due to water yield increases, and not surface erosion from ground disturbing activities.

- Other hydrologic models that predict surface erosion from management activities (but with high uncertainty for sediment yield predictions), are not addressed in the Forest Plan.

- Threshold limits (per HYSED modeling) for sediment yields have not been sufficiently validated during the 16-year history of Forest Plan implemenation.

- Monitoring soil erosion and the use of BMP's are more effective for protecting the resources from sediment. This is addressed in Monitoring Item 39.

Standards and Guidelines stated in Chapter III of the Forest Plan were intended to prevent adverse effects from increased sediment yield. Modeling sediment increases caused by increased water yield due to timber harvest did not indicate any exceedance of the Standards and Guidelines in 2001. Sediment levels and channel stability in Billie Creek are still believed to be outside the limits prescribed by 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 during 2001, which should limit any additional input of sediment to Billie Creek. However, stream conditions at the site of the breach are expected to take years to recover. No amendments to the Forest Plan are necessary at this time.

Monitoring Item 38: Water Quality

Several breaches of the West Fork Ditch were noted in 2001 and increased levels of sediment were noted in the West Branch North Fork Little Snake River (see Monitoring Item 39). Erosion and sedimentation from these ditch breaches may have exceeded water quality standards for turbidity. The Forest is working with the Department of Environmental Quality to determine if Billie Creek (see Monitoring Item 37) may exceed water quality standards for aquatic habitat and sediment. Sampling turbidity levels in the vicinity of ground disturbing projects should be increased to ensure compliance with water quality standards.

Forest staff will continue to analyze each proposed project and determine appropriate Best Management Practices to protect water quality. Soil and water mitigation measures will be monitored during and after implementation to determine their effectiveness for protecting water quality (see Monitoring Item 39). No amendments to the Forest Plan are necessary at this time.

Monitoring Item 39: Soil Erosion

Several projects were monitored during 2001. Forest staff visually inspected the effects of grazing, prescribed fire, an irrigation diversion ditch, and several timber sales for erosion control effectiveness. The following specific projects were monitored during 2001:

- Jays Roost Timber Sale
- Squirrel Creek Timber Sale
- Spring Creek Range Allotment
- North Laramie River Allotment
- Douglas Fuels Projects
- West Fork Irrigation Ditch

Two of the four timber harvest units that were surveyed did not meet the minimum distance guides (Forest Plan III-75, 2.a). In one case this was intentional (to encourage aspen growth) and was so reflected in the sale's environmental analysis. The other unit had a riparian buffer somewhat less than the distance guide, but the edge of the unit was located on a logical slope break for riparian protection. No soil movement was noted from the units into the buffer strip in either location and the intent of the riparian buffer guides appeared to be met.

An inspection of the West Fork Ditch revealed several areas where the ditch had been overtopped, which created erosion of the slope below the ditch. Sediment from the gully below the breaches was deposited in West Branch North Fork Little Snake River, which contains Colorado River Cutthroat trout. The Forest Service has notified the holder of the easement for this ditch and requested maintenance and repair of the facility. Based on adverse resource effects of recent breaches of water diversion facilities at

several locations (See Monitoring Item 37), Forest staff should increase inspection and monitoring of water use facilities to ensure adequate maintenance is occuring.

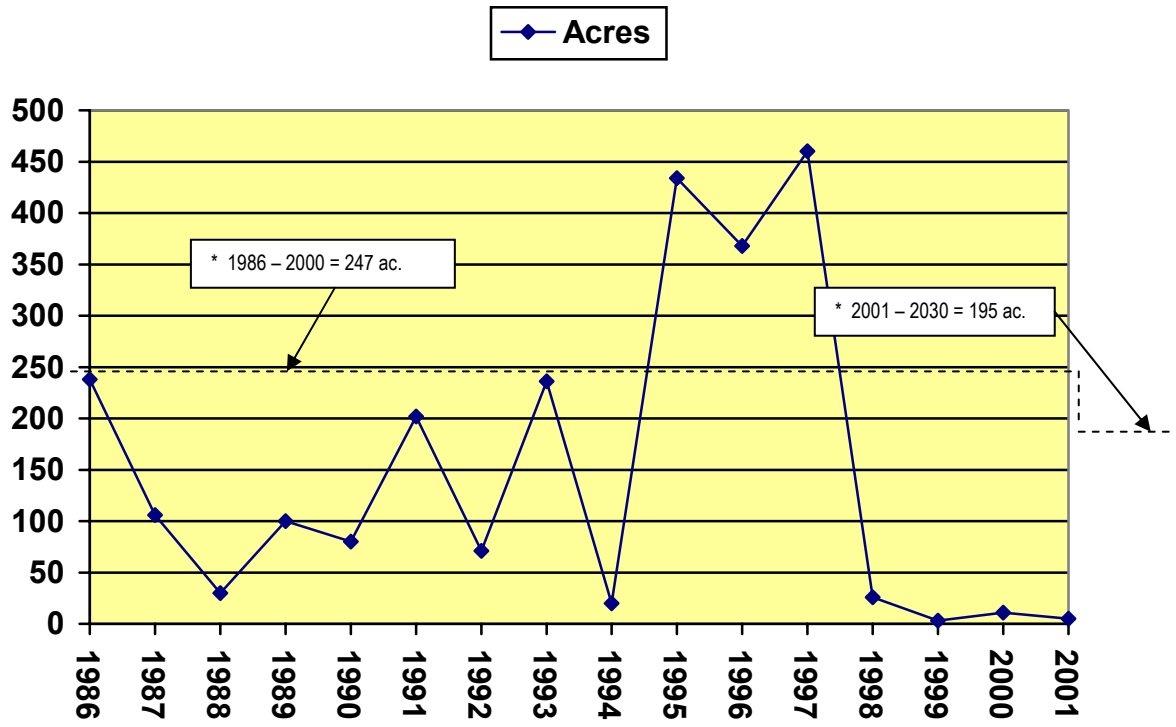
No soil erosion was noted on the other projects that were reviewed. There was a concern, however, about road maintainance on some of the low-level roads in the project areas. The drainage structures were not working as they should and there was some soil erosion occuring at various places along those roads. While no significant damage is occurring at the present time, maintainance should be performed to prevent further damage to these roads and surrounding areas. These roads were noted and the Forest engineering staff informed of the situation.

In general, the Forest is meeting the requirements for soil protection, as stated in the Forest Plan. No amendments to the Forest Plan are necessary at this time.

Monitoring Item 40: Soil and Water Resource Improvements

The Forest accomplished five acres of soil/water improvements during 2001, which is only three percent of the annual Forest Plan objective of 195 acres. Insufficient budgeting has limited project accomplishment. This budget trend is expected to continue, and may need to be addressed in the Forest Plan Revision, but no change is currently needed.

Soil and Water Resource Improvement



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

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 2001 are shown on the Evaluation Table (page 13) 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 2001 consisted of 2.4 miles of new road construction and 3.7 miles of road reconstruction. No miles of construction were reported for general use or for minerals access. A total of 3.1 miles of system roads were decommissioned during Fiscal Year 2001 for soil and water rehabilitation purposes.

The Forest has completed a forestwide roads analysis that will result in recommendations for a final transportation system that balances the needs of resource management and the availability of personnel and funding. Site-specific proposals for any new road construction or closures will be analyzed and documented in compliance with the NEPA process, including public involvement. This topic will also be discussed during the Forest Plan Revision Process, but no change to the Plan is currently needed.

Monitoring Item 42: Trail Construction and Reconstruction

All trails on the Brush Creek/Hayden District received maintenance during 2001, except for the Verde Mine trail and a section of the Continental Divide National Scenic Trail between the Pipeline and Roaring Fork trails. Two bridges on the Tie Hack trail were constructed during 2001. So far, three bridges have been built on the Tie Hack Trail, with two remaining to be constructed.

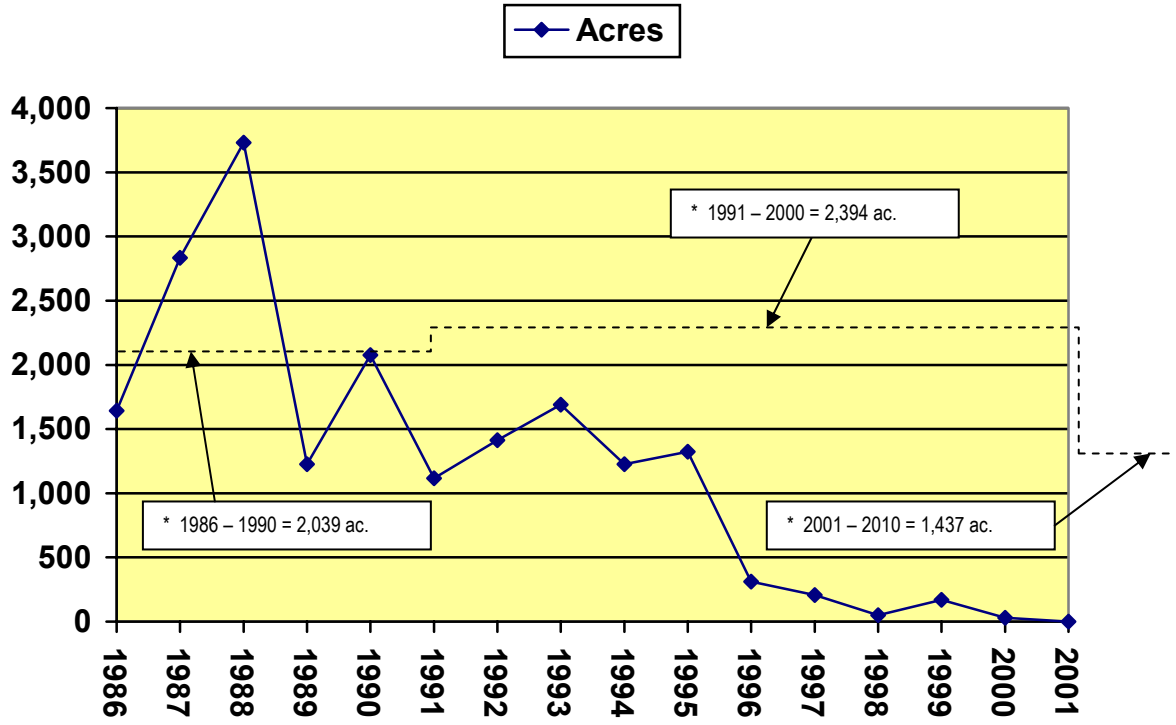
The Laramie District completed construction of two bridges on the North Fork Trail and also completed work involving major drainage problems on the Aspen Loop Trail at Pole Mountain. In addition, work was done on the bridge at the Lake Marie Falls to repair snow damage. The Ralph Hesson Fishing Pier may need minor repairs during spring 2002.

No trail construction or reconstruction was done on the Douglas District during 2001. No change to the Forest Plan is needed for this monitoring item.

Monitoring Item 43: Fuel Treatment

During 2001, the Districts did not treat any fuels that were left as a direct result of various vegetation management activities. This information was recorded in the RMRIS database and the annual SILVA 99 REPORT. This item depends on the amount of timber harvest, and is not related to the Forest Plan, therefore, no change to the Plan is currently needed.

Fuels Treatment



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

Monitoring Item 44: Forest Insects and Diseases

This monitoring item is partially dependent upon aerial surveys and ground investigations by Regional Office personnel, including entomologists. No aerial survey was conducted on the Forest during the FY 2001 field season. On-the-ground investigations are annually conducted on the Douglas, Brush Creek/Hayden, and Laramie Districts, in association with routine field activities.

During 2001, expanding population levels of mountain pine beetles reached epidemic status in northern Colorado. Just north in southern Wyoming, stands of lodgepole pine on the Forest have reached the age, size-class, and tree density that favor the onset of mountain pine beetle outbreaks. A few lodgepole pine stands on the Forest supported expanding mountain pine beetle populations in 2000 and 2001. These small outbreaks may continue to increase for several more years due to the abundance of susceptible pine stands. If a widespread outbreak of mountain pine beetle develops on the Forest, it may continue well into the implementation period of the revised Forest Plan.

In the Snowy Mountains, spruce beetle populations are more abundant due to a series of small windthrow events that occurred in 1997, 1998, and 1999. These fallen trees provided sufficient host material to breed large numbers of spruce beetles. At several locations during this period, spruce beetles started to attack and infest live, standing spruce. The potential exists for spruce beetle populations to increase in the Snowy Mountains in the future. Sizable populations of spruce beetle are developing on the adjacent Routt National Forest (Schaupp et al. 2002). These populations will likely spread north into the spruce stands of the Sierra Madre Mountains during the next several years. There is a high risk that

spruce stands in the Sierra Madre and Snowy Range Mountains may be affected by spruce beetles well into the implementation period of the revised Forest Plan.

Dwarf mistletoe (Arceuthobium spp.) is an important parasitic plant of most western conifers, including limber and lodgepole pines in Wyoming (Johnson 1986). Forest-wide surveys indicate that dwarf mistletoe infects 60 percent of all lodgepole pine stands on the Forest (Johnson et al. 1978). In response, the Forest treated 7,970 acres between 1979 and 1986, and 6,848 acres between 1987 and 1991 to reduce dwarf mistletoe occurrence. Dwarf mistletoe is absent from ponderosa pine stands on the Medicine Bow National Forest, although it does infect ponderosa pine in Colorado (Johnson 1986).

Dwarf mistletoe spreads at a relatively slow rate through a forest stand. Over long periods of time, especially in the absence of fire, lightly infected dwarf mistletoe stands become severely infected as the pathogen intensifies and spreads. Fire is an important regulator of dwarf mistletoe occurrence, particularly where large-scale, stand-replacing fires have occurred. These fires eliminate the dwarf mistletoe-infected overstory and understory pines and allow new seedlings to grow without the disease.

Two rust diseases of some significance to conifers on the Forest are Comandra blister rust (Cronartium comandrae Pk.) and white pine blister rust (Cronartium ribicola Fisch.). Comandra blister rust is a native rust fungus and is an occasional problem in lodgepole pine on the Forest (Johnson et al. 1978). Surveys have shown that white pine blister rust, an introduced rust fungus, is increasing in limber pine stands on the Forest (Harris and Allen 1999).

Another issue of concern is the occurrence of root disease and hazard-tree problems in campgrounds, other develop 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 Forest should retain the ability to conduct timber sales in developed areas for the purposes of hazard tree removal and overall vegetation management. This needs to be addressed in the Revised Forest Plan. Monitoring the incidence of insects and diseases on the Forest will continue. No change to the Forest Plan is presently needed in relation to this Monitoring Item.

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 2001. 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 2001 the Forest reported the acquisition of one right-of-way, 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 2001, a total of 25 miles of landlines (property boundaries) were located and marked on the Forest. The Forest Plan Average Annual Output is projected at 25 miles, therefore, no change to the Forest Plan is recommended at this time.

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 2001, the Ranger Districts inspected 235 uses, or about 39 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 2001, a total of 224 mineral operations were examined, and all were in compliance with the operating plans. No change to the Forest Plan is currently needed.

Monitoring Item 50: Demand for Live Green Sawtimber

During Fiscal Year 2001, a total of 3.43 MMBF of live-green sawtimber under contract was harvested from the Forest (this does not include personal use permits). On October 1, 2001, approximately 13.78 MMBF were still under contract, which is 4.0 years of volume scheduled for harvest based on the the 2001 annual harvest. This monitoring item ties to Amendment No. 5 to the Medicine Bow Forest Plan which provides for consideration of timber harvest scheduling changes if the volume under contract falls below a specificed level. Although the Allowable Variance for this item is within the stated limit, the entire timber program will be reanalyzed during Forest Plan Revision. No changes to the Forest Plan are needed at this time.

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, 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 2001 was the sixteenth 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. Some of the items can be corrected by improving Monitoring procedures or implementation methods, while others may require a change to the Forest Plan. In a few cases, the problem may need to be corrected as an outcome of additional scientific research. Most of the complex or controversial changes will be addressed during the analysis process for the Forest Plan Revision.

Section IX,(5) of this report contains a complete description of each of the 50 Items that were monitored during 2001, 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 2002 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.

Monitoring Item 11: Compliance with Cultural Resource Regulations

Each Ranger District needs to ensure that all projects on the Forest are completed according to Section 106 of the Historic Preservation Act and the associated Forest Plan requirements during FY 2002. This work will be coordinated between the Line Officers responsible for both NEPA and Section 106 compliance, and the Forest Cultural Resource Staff Specialist.

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.

Monitoring Item 18: Winter Range Carrying Capacity

Each Ranger District needs to monitor and report this Item during Fiscal Year 2003, as required in Chapter IV of the Forest Plan (page IV-34). This work will be coordinated between the Ranger Districts and the Forest Wildlife Biologist.

Monitoring Item 19: Snag Retention

Each Ranger District needs to monitor and report this Item during Fiscal Year 2003, as required in Chapter IV of the Forest Plan (page IV-35). This work will be coordinated between the Ranger Districts and the Forest Wildlife Biologist.

Monitoring Item 20: Threatened and Endangered Species

Each Ranger District needs to monitor and report this Item during Fiscal Year 2003, as required in Chapter IV of the Forest Plan (page IV-36). This work will be coordinated between the Ranger Districts and the Forest Wildlife Biologist.

Monitoring Item 21: Wildlife and Fish Habitat Improvement

Each Ranger District needs to monitor and report this Item during Fiscal Year 2003, as required in Chapter IV of the Forest Plan (page IV-37). This work will be coordinated between the Ranger Districts and the Forest Wildlife Biologist.

Monitoring Item 22: Elk Habitat Effectiveness

Each Ranger District needs to monitor and report this Item during fiscal year 2003, as required in Chapter IV of the Forest Plan (page IV-38). This work will be coordinated between the Ranger Districts and the Forest Wildlife Biologist.

Monitoring Item 38: Water Quality

The integrety of ditches needs to receive more inspection and oversight Forest-wide. Turbidity checks in stream reaches which could be impacted by ditch breaches need to be planned for and executed. Such inspections and turbidity readings need to be reported as part of this monitoring item in the 2002 monitoring report.

Monitoring Item 39: Soil Erosion

All Districts should select two or three low maintenance level roads, in addition to contemporary earth disturbing activities, and evaluate the effectiveness of the erosion prevention features in preventing erosion. Reporting will be made on the Soil Monitoring Worksheet, Section IV-56 of the Medicine Bow Forest Plan.

RESEARCH NEEDS

An important function of the monitoring process is referred to as Validation Monitoring (see Section IV of this report). This phase of monitoring is used to determine whether the original assumptions and coefficients used to develop the Forest Plan are still accurate and valid. Research activities provide the Forest Resource Specialists with the information necessary to decide whether to retain or to adjust specific Management Direction or Standards and Guidelines in the Plan. This topic will be developed and addressed during the Forest Plan Revision process.

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 for Fiscal Year 2001 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 the sixteenth year of monitoring and evaluating implementation of the Forest Plan revealed minor deficiencies in relation to several of the Monitoring Items. Subsequently, recommendations have been made to improve either 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 will require a comprehensive analysis and evaluation, and will be addressed during the Forest Plan Revision Process (refer to Section VI of this report).

XII. REVIEW OF PREVIOUS YEAR RECOMMENDATIONS

The following list of recommendations was developed by the ID Team and recorded in the 2000 Annual Monitoring Report (pages 42 and 43). Under each recommendation is a description of what was accomplished for that item during FY 2000.

Monitoring Item 1: Off-Road Vehicle Damage

Each Ranger District needs to monitor and report any observed vehicle damage for this Item during Fiscal Year 2001, as required in Chapter IV of the Forest Plan. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

Accomplishment: This Item was accomplished by each of the Ranger Districts.

Monitoring Item 2: Trail Condition

Each Ranger District needs to inspect and monitor the condition of trails for this Item during Fiscal Year 2001, as required in Chapter IV of the Forest Plan. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

Accomplishment: This Item was accomplished be each of the Ranger Districts.

Monitoring Item 3: Dispersed Recreation Use and Experience

Each Ranger District needs to monitor and report on the amount of dispersed recreation use for this Item during Fiscal Year 2001, as required in Chapter IV of the Forest Plan. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

Accomplishment: This was accomplished using a survey, which will be released during May, 2003.

Monitoring Item 4: Dispersed Campsite Condition

Each Ranger District needs to inspect and report the condition of dispersed campsites for this Item during Fiscal Year 2001, as required in Chapter IV of the Forest Plan. Any site that is found to be in Frissel Condition Class 4 or 5 needs to be scheduled for closure or rehabilitation. This work will be coordinated between the Ranger Districts and the Forest Recreation Staff Specialist.

Accomplishment: This Item was accomplished on each of the Ranger Districts.

Monitoring Item 16: Old Growth Retention

Each Ranger District needs 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. 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 was partially accomplished, and is a continuing need on the Forest.

Monitoring Item 29: Range Condition and Trend

Each Ranger District needs to monitor and report range condition and trend for this Item during Fiscal Year 2001, as required in Chapter IV of the Forest Plan (page IV-45). This work will be coordinated between the Ranger Districts and the Forest Range Staff Specialist.

Accomplishment: This Item was accomplished. The Ranger Districts exceeded the requirement to monitor ten percent of the range allotments for condition and trend during FY 2001.

Monitoring Item 31: Restocking of Harvested Areas

Each Ranger District needs to ensure that this item is monitored and reported for Fiscal Year 2001. A treatment prescription shall be prepared by a certified silviculturist for each harvest unit that is not adequately stocked within the five-year period. In addition, each District Silviculturist will ensure that any data related to this item will be properly entered into the District R2RIS Database. The information derived from this Monitoring Item will help provide data and support for the Forest Plan Revision. This effort will be coordinated between each District Silviculturist and the Forest Timber Staff Specialist.

Accomplishment: This item was accomplished. All inspected sites were fully stocked for FY 2001.

SUMMARY: Almost all of the changes recommended in Section X of the 2000 Evaluation Report were accomplished during 2001. 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 2001 was compiled by Stephen Nielsen, Forest Planner and NEPA/FOIA Coordinator for 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
Tom Cartwright	Wildlife Biologist
Lila Coca	Personnel Management Specialist
Steve Coupal	Engineering Program Manager
Greg Eaglin	Fisheries Biologist
Tom Florich	Lands - Special Uses
David Gloss	Hydrologist
Paula Guenther-Gloss	Fisheries Biologist
Tommy John	Soil Scientist
Barbara McKown	Accounting
Bob Mountain	Range Management
Gary Roper	Forester, Timber
Mary Sanderson	Recreation
Edward Snook	Hydrologist
Sue Struthers	Archeologist
Carl Sumpter	Land Surveyer
Jeff Tupala	Landscape Architect
Kenna Van	Personnel
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 2001. 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 the ongoing 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 2001 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 Stephen 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.

s/ *Mary H. Peterson* *September 10, 2002*

MARY H. PETERSON
Forest Supervisor

Date

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