

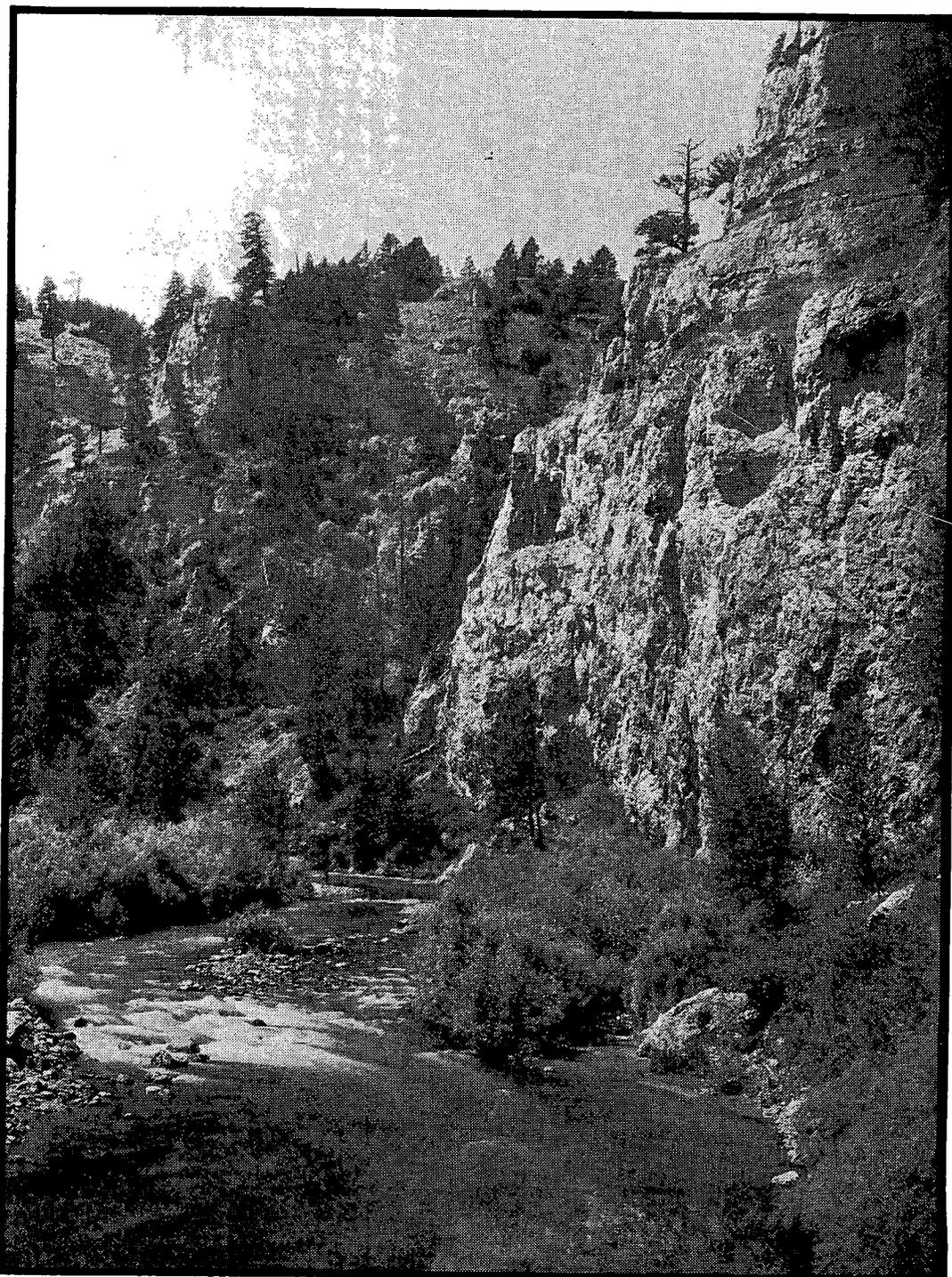


Lewis and Clark
National Forest
P.O. Box 869
Great Falls, MT.
59403



LEWIS AND CLARK NATIONAL FOREST PLAN

Monitoring and Evaluation Report



Belt Creek Canyon below Monarch in the Little Belt Mountains.



United States
Department of
Agriculture

Forest
Service

Lewis & Clark NF

P.O. Box 869
Great Falls, MT 59403
406 791-7700
FAX 406 761-1972

File Code:1920

Date:April 1995

Dear Forest User:

Enclosed for your review is the "FY 1994 Lewis and Clark National Forest Plan Monitoring and Evaluation Report". This report records our progress and accomplishments for our eighth year of Forest Plan implementation.

Since our last Monitoring and Evaluation report, the following personnel changes have occurred:

Forest Supervisor Dale Gorman retired in early January after 15 years on the Lewis Clark. John Greer, Staff Officer for the Forest Plan/Implementation Group is acting Forest Supervisor.

Glenda Scott joined the Forest early last summer as our Forest Silviculturist. Glenda came to us from the Phillipsburg District of the Deerlodge National Forest.

Thank you for your interest in the Lewis and Clark National Forest and please contact me if you have any questions.

Sincerely,


JOHN G. GREER
Forest Supervisor



Lewis & Clark National Forest Forest Plan Monitoring Report

Fiscal Year 1994 SUMMARY

This summary capsulizes the full report of the Forest Plan Monitoring and Evaluation for the Lewis and Clark National Forest during Fiscal Year 1994 (October 1993 through September 1994). Our monitoring items are listed in Chapter 5 of the **1986 Lewis and Clark National Forest Land and Resource Management Plan** (Forest Plan). Forest specialists monitor and report on 77 individual monitoring items. They evaluate their findings and make recommendations to the Forest Leadership Team.

Detailed information for each of the 77 items is disclosed in the full report.

In the full report, you will find three main sections. The Introduction includes a general discussion of the purpose of monitoring and the amendments that have been made to the 1986 Forest Plan. The second section outlines, in general terms, the decisions made in the Forest Plan. And the third section details each monitoring item, including the methods used in our monitoring, the findings from our monitoring efforts, and any recommendations for improving implementation of the Forest Plan direction.

MONITORING RESULTS

Recreation: Developed recreation use continues to exceed expectations in the Forest Plan. Dispersed recreation use seems to be leveling out with use less than predicted during the planning process. The more normal summer of 1994 saw an increase in developed, dispersed, and wilderness recreation on the Forest this year. In FY 1994, a new inventory of the Recreation Opportunity Spectrum was completed. It will be used in future Forest Plan updates. Decreased funding in FY 1994 forced the Forest to again prioritize maintenance at developed recreation sites. Primary, heavy use campgrounds are being maintained more often than those less used. Recreation Capital Investment funding was received for the construction of trailheads along Di-

vide Road. Two toilets at Crystal Lake Campground were replaced with modern accessible vault toilets and a group user area was developed. The Recreation Opportunity Guide for the Musselshell District has yet to be completed. Travel Plan violations have increased slightly, but Districts report increase is due to improved reporting rather than increased violations. Installation of new signing continues across the Forest.

Cultural Resources: The Forest continues to concentrate its efforts on inventorying and assessing potential impacts to cultural resources on site-specific project proposals. During FY 1994 no projects were initiated without consideration of cultural resources. Two Passport-In-Time projects were completed on the Forest. Passport-In-Time is a National Forest Service program which encourages public education through participation. A professionally produced video was completed to inform the public on the importance of heritage resource management and the Passport-In-Time program. A C. M. Russell auto tour was completed for the Judith Basin area.

Wilderness: Most prominent threats to preservation of the Wilderness resource include; spread of noxious weeds, degradation and overuse of popular trails and lakeside campsites, low numbers of naturally occurring fires, enforcement of grizzly bear sanitation regulations, use allocation, and increasing need for wilderness education.

Wildlife: In FY 1994 four of the six Bear Management Units (BMUs) were occupied by grizzly bear family units. Over the last three years, all six BMUs had females with cubs. The breeding pair of wolves continue to use the lands east of the Forest boundary in the Sun River area. Two yearlings were removed this spring, another shed it's radio collar and has not been located. The pair raised six pups during the summer of 1994. Sightings indicate that a

lone wolf is still utilizing the upper Sun River drainage.

During FY 1994, effects analysis for elk and other wildlife was completed for the Castle Mountains Range EIS.

Bighorn sheep and mountain goat populations were not monitored by the MDFWP on the Rocky Mountain Front in FY 1993 and 1994. Sighting of mountain goats in the Highwood Mountains continue. Sightings of lynx and wolverine are occurring on the Rocky Mountain Division. Wolverines have been detected at one general location on the Jefferson Division as well.

The Forest continued surveys for old growth. So far, over 25,000 acres of old growth has been designated mostly in timber management areas.

One pileated woodpecker was again sighted on the Jefferson Division of the Forest. The Forest continued issuing the Animal Inn brochure, Be An Innkeeper in their firewood permit packages. This is an effort being made to educate and inform the public on the value of dead and down materials within the forest.

Five streams on the Rocky Mountain Division were inventoried in 1994 to determine the presence of pure strain westslope cutthroat trout. Cutthroat trout samples were taken from six streams in the Judith River drainage, two streams in the Belt Creek drainage, two streams in the Smith River drainage, and one stream in the Musselshell River drainage. Results will be available in 1995. cursory surveys indicated that several other streams may contain westslope cutthroat trout, and these will be scheduled for sampling in 1995 and 1996.

On the Rocky Mountain Division harlequin ducks continued to be monitored. The population is estimated at 40 breeding pairs, producing 7-18 broods annually. The harlequin duck population on the Rocky Mountain Front is approximately 35% of Montana's total population.

Sensitive plant species are known to occur in four of the seven mountain ranges on the Forest. Twelve sensitive plant species are known from the Rockies, five from the Little Belt Mountains, and one each from the Big Snowy Mountains and Castle Mountains. There are no sensitive plant species known from the Crazy Mountains, Highwood Mountains or

Little Snowy Mountains. In FY 1994, over 2,600 acres were surveyed for sensitive plants.

Range: Grazing levels are within 1% of Forest Plan projections. Nonstructural range improvements are only 31% of those projected in the Forest Plan. This under accomplishment of range nonstructural improvements (prescribed burning) is causing a decline in forage production. Structural Range Improvements are 75% of the Forest Plan projection. The Forest has over achieved its noxious weed control projections again, some 1305 acres. This over achievement represents a higher commitment to noxious weed control resulting from the noxious weed analysis after the Forest Plan was approved. No allotment management plan (AMP) was completed in FY 1994. Progress on management plans continues; the Draft EIS for the Castle Mountains is scheduled to be released in the spring of 1995 and the North Little Belts NEPA analysis was started.

Timber: In FY 1994, an interdisciplinary presale review was conducted on the Smokey B and Corridor Timber Sales on the Kings Hill District. No timber activities exceeded the 40-acre clearcut standard. The review group felt that the prescriptions meet and usually exceed short term management area goals. Units have been located to minimize fragmentation and disturbance to elk security areas. Prescriptions have been chosen to be consistent with visual management objectives. Best management practices are being used for activities done in conjunction with the timber sale. However, in some cases, the proposed treatments are not adequately considering the biology of tree species, physical factors and damaging agents. This will affect our ability to meet long term desired conditions for those stands. The amount of timber offered for sale in FY 1994 declined due to the Smokey-Corridor law suite. Restocking of previously harvested areas are generally progressing well. The Forest continues to harvest less acres than projected in the Forest Plan. Thinning accomplishments continue to exceed our projections. The trend in both commercial and personal firewood removal seems to have leveled off.

Water and Soil: Monitoring results indicate that projects with a potential for impact on soil or water quality are being successfully reviewed assuring adequate protection of soil productivity and useability. A cumulative effects analysis was completed for the Running Wolf Timber Sales. Soil inventory collection and analysis was completed on 30,000 acres in FY 1994.

Of the projects reviewed for revegetation, most can be described as successful and complete. In the spring of 1992 a water quality monitoring station was established in O'Brien Creek above the municipal water reservoir. Analysis of the data collected from this station will be done after all proposed timber activity is completed in this watershed. Of the projects reviewed occurring in riparian areas, flood plains, and wetlands, results indicate that activities within these zones are being mitigated successfully to prevent impacts to soil and water resources. Of the 373 acres requiring restoration identified in the Forest Plan, all acres plus an additional 173 acres have been accomplished.

Analysis indicated that again some of the special use sites failed to meet the established public health testing requirements. This matter will be discussed with Forest managers and special use permittees in an effort to redeem this management and public safety responsibility.

Minerals: The FY 1994 target for minerals management was 31 cases. A total of 38 cases were processed. No Forest Service projects were determined to have an adverse effect on mineral operations. Three new Plans of Operation were reviewed for mineral activities in FY 1994.

During FY 1994, work continued on a Forest-wide oil and gas leasing analysis which will evaluate lands available for leasing and lease stipulations.

Lands: The condition of facilities authorized through special use permits is generally satisfactory. Ski area permits are regularly inspected before and during the ski season. In FY 1994, the Lewis and Clark Forest issued or reissued 66 special use permits for a variety of activities. In FY 1994, the Forest secured three road rights-of-way. The Forest Plan target for landline location is 26 miles per year. In FY 1994, the Forest was funded for and accomplished 21 miles or about 80% of the Forest Plan target.

Facilities: During FY 1994, 1.5 miles of road constructed and 14.1 miles of road reconstructed was completed in both programs (Capital Investment Program and Purchaser Credit Program). It is estimated that there are 1,365 miles of roads open

yearlong to motorized vehicles and 447 miles closed or restricted seasonally. The Forest Plan does not establish any target miles to be open to public motorized traffic.

The Forest Plan, as amended, programs an average of 14.0 miles of trail construction and reconstruction annually. In FY 1994, 13.1 miles of reconstruction work occurred.

Protection: In FY 1994, 84% of the sawtimber sold on the Forest was lodgepole pine. The Forest is continuing to break up large concentrations of natural fuels. Insect and disease surveys indicate that the Western spruce budworm continues to build on the Forest. About 99,000 acres of visible Western spruce budworm defoliation was reported on Forest lands. Post timber sale reviews showed that the Forest is meeting regional standards for slash disposal. There were no known complaints about any prescribed burning project affecting air quality, however there were complaints about wildfires. The under accomplishment in treating activity fuels is related to the timber harvest schedule. In 1994, the Forest had 25 wildfires which burned 3,918 acres. The total cost of fire suppression and protection in 1994 was \$773,000. This figure is above the 10-year average of \$590,000. During the first eight years of the Forest Plan, acreage lost to wildfires and fire suppression and protection costs were substantially above those projected by the Forest Plan.

Wild and Scenic Rivers: No project-level activities occurred along any of the nine eligible rivers or river segments which adversely impacted or degraded a river's qualifications and/or potential classification. Additional fisheries surveys and genetic analyses in 1994 expanded our knowledge of the fisheries values of Forest streams, another important criteria for determining eligibility for Wild and Scenic River status. Cutthroat trout were collected from fourteen sites across the Forest but the results of genetic analysis are not yet available for these samples. Based on current data, the streams with the most substantial values for native westslope cutthroat trout fisheries appear to be the upper South Fork Two Medicine River drainage, North and South Badger creeks, South Fork Birch Creek, South Fork Dupuyer Creek, North Fork Deep Creek, and upper Judith River drainage.

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	FOREST PLAN DECISIONS	2
III.	INDIVIDUAL MONITORING ITEMS	
A.	<u>RECREATION</u>	
A-1	ROS Setting	3
A-2	Recreation Direction Meets Visitor Expectation	3
A-3	Recreation Use	4
A-4	Condition of Developed Sites	5
A-5	Recreation Opportunity Guide	5
A-6	ORV Damage and Travel Plan	6
A-7	Condition of Visual Resources	7
A-8	Cultural Resource Management (Identification & Protection)	7
A-9	Cultural Resource Management (Effectiveness)	8
A-10	Cultural Resource Management (Interpretation)	8
A-11	Cultural Resource Management (Inspection)	9
A-12	Cultural Resource Management (Program Effectiveness)	9
B.	<u>WILDERNESS</u>	
B-1	Quality of the Ecosystem	10
B-2	Bob Marshall-Great Bear-Scapegoat Management	10
B-3	Change in Roadless Inventory	10
C.	<u>WILDLIFE</u>	
C-1	T&E Species: Grizzly Bear Habitat	11
C-1a	Trend Info. for Grizzly Bear Management Units	12
C-2	Gray Wolf, Bald Eagle, Peregrine Falcon Habitat	13
C-3	Elk Winter Range Capacity	16
C-4	Bighorn Sheep & Mountain Goat	18
C-4a	Bighorn Sheep Population	19
C-4b	Mountain Goat Population	19
C-5	Other Big Game Species	20
C-6	Small Game	20
C-7	Furbearers	20
C-7a	Rocky Mountain Division Sightings	21
C-7b	Jefferson Division Sightings	21
C-8	Old Growth Habitat for Goshawk	22
C-8a	Acres Designated as Old Growth 1988-1993	23
C-8b	Goshawk (Nesting Territories-Rocky Mountain Division)	23
C-8c	Goshawk (Nesting Territories-Jefferson Division)	24
C-9	Special Interest Species	24
C-9a	Golden Eagle (Nesting Territories-Rocky Mountain)	25
C-9b	Golden Eagle (Nesting Territories-Jefferson)	25
C-9c	Prairie Falcon (Nesting Territories-Rocky Mountain)	25
C-9d	Prairie Falcon (Nesting Territories-Jefferson)	25
C-10	Cavity Nesting Habitat	26
C-10a	Monitoring Results for Snag Management on Kings Hill	27
C-11	Aquatic Habitat	28
C-12	Habitat Improvement Outputs	29
C-12a	FY93 Targets & Accomplishments Compared to Forest Plan	30
C-12b	Wildlife Habitat Improvement	31

C-13	Oil & Gas Activity	30
C-13a	Rocky Mountain Front Guidelines Applied	32
C-14	Sensitive Wildlife and Fish	33
C-14a	Harlequin Duck (Minimum Brood Numbers on Rocky Mountain)	33
C-14b	Electrophoretic Testing Results for Cutthroat Trout	34
C-15	Sensitive Plant Program	36
C-15a	Sensitive Plants Known to Occur on the Forest	38
C-15b	Sensitive Plant Field Survey Accomplishments	39
D.	<u>RANGE</u>	
D-1	Range Outputs	40
D-1a	Range Accomplishments	40
D-2	Range Condition & Trend	41
D-2a	Range Condition and Trend (Each)	42
D-3	Supply	42
D-3a	Suitable Range (Thousand Acres)	42
D-4	Allotment Management Plan Status	43
D-4a	Status of Allotment Management Plans	43
D-4b	Allotment Management Plans (Each)	44
E.	<u>TIMBER</u>	
E-1	Silvicultural Prescriptions Meet MA Goals	45
E-2	Prescription Selections	45
E-3	Timber Openings	46
E-4	Timber Offered/ASQ for a Decade	47
E-4a	ASQ (Million Board Feet)	47
E-4b	Timber Program (Million Board Feet)	48
E-5	Restocking	48
E-6	Acres Harvested	49
E-6a	Timber Under Contract and Volume & Acres Harvested	49
E-7	Thinning & Silvicultural Accomplishments	49
E-7a	Timber Stand Improvement	50
E-8	Even-Age Harvest	51
E-9	Firewood Removal	51
E-9a	Commercial and Personal Use Firewood Removal	52
E-10	Suitable/Nonsuitable Lands	52
E-11	Projected Yields	53
E-11a	Growth Plots (Numbers)	53
F.	<u>WATER & SOIL</u>	
F-1	Adequacy & Cumulative Effects of BMPs	54
F-2	Revegetation	54
F-2a	FY94 Project List for Revegetation	55
F-3	Water Quality in Municipal Watersheds	56
F-4	Riparian Areas, Flood Plains and Wetlands	57
F-5	Other Effects	57
F-6	Water & Soil Backlog	58
F-6a	Restoration Projects Accomplished in FY94	58
F-6b	Soil & Water Restoration Accomplishments (acres)	59
F-7	Water & Stream Quality	60
F-7a	Water Quality Monitoring FY94	60
F-8	Stream Cover & Pools	61
F-9	Public Health	61

G.	<u>MINERALS</u>	
G-1	Effect of Mining Activities	62
G-1a	FY94 Project List for Mining Activities	63
G-2	Geophysical Prospecting	64
G-3	Drilling Effects	65
G-4	Rehabilitation	66
G-4a	FY94 Project List for Rehabilitation of Disturbed Areas	66
G-5	Mineral Availability	67
J.	<u>LANDS</u>	
J-1	Compliance With Use Permits	68
J-1a	Special Use Permits	68
J-2	Right-Of-Way Easements	70
J-2a	Easement Acquisitions	71
J-3	Land Ownership Adjustment	71
J-3a	Land Exchange (Acres)	71
J-4	Landline Location	72
J-4a	Landline Location Accomplishment (miles)	72
L.	<u>FACILITIES</u>	
L-1	Road & Trail Construction/Reconstruction	73
L-1a	Miles of Road Constructed/Reconstructed	73
L-1b	Trail Accomplishments for FY94	74
L-1c	Total Trail Reconstruction/Construction (Miles)	74
L-2	Miles of Road Open	74
P.	<u>PROTECTION</u>	
P-1	High Risk Stands	76
P-1a	Removal of High Risk Lodgepole Pine (percent)	76
P-2	Acres/Volume of Insect & Disease	76
P-3	Management Practices	77
P-4	Prescribed Fire & Air Quality	77
P-5	Fuel Treatment Outputs	78
P-5a	Activity & Natural Fuel Accomplishment (Acres)	78
P-6	Wildfire	78
P-6a	Wildfire Area Burned (acres)	79
P-7	Suppression & Protection Costs	79
P-7a	Suppression & Protection Costs	79
W.	<u>WILD & SCENIC RIVERS</u>	
W-1	Effects on Eligible Rivers	80
I.	<u>GENERAL</u>	
I-1	Costs & Values	82
I-2	Emerging Issues	82
I-3	Land Allocations	85
I-3a	Allocation of Management Areas and Acres	85
I-4	Employment/Income Projections	86
I-4a	Employment & Income Comparisons	86

IV.	COMPARISON OF OUTPUTS, ACTIVITIES, AND BUDGETS	
	<u>TABLE I - Comparison of Projected Outputs/Activities by Time Period</u>	87
	<u>TABLE II - Comparison of FY 1994 Expenditures/Accomplishments vs FP Projections vs</u> <u>Outyear Requests</u>	88
V.	LIST OF PREPARERS	90
VI.	APPROVAL	91
	APPENDIX A	93

I. INTRODUCTION

The *Lewis and Clark National Forest Land and Resource Management Plan* (Forest Plan) was approved in June 1986. Each year we monitor management decisions that have been implemented on the ground and report our findings. This report summarizes the monitoring and evaluation findings for Fiscal Year 1994 (from October 1993 through September 1994).

The purpose of forest plan monitoring and evaluation is to determine how well we have met our Forest Plan objectives and how we have applied the management standards and guidelines in the Plan. Our monitoring and evaluation process is outlined in Chapter V of the 1986 Forest Plan. Using this process, resource specialists have reported on 71 individual monitoring items.

Within the last eight years, seventeen amendments have been made to the 1986 Forest Plan. These changes have resulted from findings from our previous monitoring/evaluation reports and from several environmental analyses on site-specific projects.

These seventeen amendments include:

- **Amendment 1:** Incorporated recreation management for the Bob Marshall/Great Bear/Scapegoat Wilderness Management Complex. This amendment was implemented in 1987 by the adjoining Lewis and Clark, Lolo, Flathead, and Helena National Forests.
- **Amendment 2:** Verified those rivers meeting the two eligibility qualifications (free-flowing and containing at least one "outstandingly remarkable" resource value) under the Section 1(b) and 2(b) of the Wild and Scenic Rivers Act; assigned a potential classification to each eligible river as directed under Section 2(b) of the Act; and applied the appropriate standards to manage and protect each river. This amendment was implemented in 1989. Under this amendment, the following rivers met eligibility qualifications:

Smith River - 11.8 miles scenic
North Badger Creek - 7.3 miles scenic
Dearborn River - 18.1 miles wild
North Fork Sun River - 25.4 miles wild, 1.3 miles recreational

South Fork Sun River - 25.5 miles wild
North Fork Birch Creek - 6.6 miles wild
Tenderfoot Creek - 4.6 miles scenic
Green Fork of Straight Creek - 4.5 miles wild
Middle Fork Judith River - 4.8 miles recreational

- **Amendment 3:** Made changes, adjustments and corrected typographical errors and omissions identified during the preparation and review of the FY 87 and FY 88 Monitoring and Evaluation Reports. This amendment was implemented in 1989.
- **Amendment 4:** Changed the Forest-wide Management Standard dealing with Reforestation (E-3) to comply with the Northern Region requirement for certification of regenerated timber stands. This amendment was implemented in 1991.
- **Amendment 5:** Changed the management area designation on 685 acres in the South Fork project area from Management Area B to Management Area C. This amendment was implemented in 1991.
- **Amendment 6:** Changed all eleven Region One Forest Plans to partition Allowable Sale Quantity (ASQ) into two non-interchangeable components - from inventoried roadless areas and from existing roaded areas. This amendment was vacated by the Secretary of Agriculture. He found that the Regional Forester had sufficient discretion to assure that Forest Plan direction is implemented in accordance with the standards and guidelines without resorting to the amendment process.
- **Amendment 7:** Changed the management area designation on 22,930 acres in the Spring Creek project area. Management Areas B, C, E, and G were affected. This amendment was implemented in 1991.
- **Amendment 8:** Recomputed the small business share governing the timber sale set-aside program in the Lewis and Clark Market area to 70% from 80%. This amendment was implemented in 1991.
- **Amendment 9:** Changed the management area designation on 13,310 acres in the Little Snowies project area by creating a new management area (Management Area T). Redefined Management Area M (Paine Gulch Research Natural Area) to include all nominated Research Natural Areas including the new Minerva RNA in the Little Snowies.

Introduction/FP Decisions

Acres assigned to Management Area M will increase as areas are added. The amendment also removed the prohibition of boundary fencing on RNAs. This amendment was implemented in 1993.

- **Amendment 10:** Added monitoring items for Cultural Resources. This amendment will be implemented in 1994.
- **Amendment 11:** Introduced Weed Seed Free Feed policy for the Bob Marshall Wilderness Complex. This amendment will be implemented in July 1994.
- **Amendment 12:** Added a goal, objective, standards, and monitoring items to add emphasis to the Sensitive Species program. This amendment was implemented in 1991.
- **Amendment 13:** Added a more specific Forest-wide objective, glossary item and Forest-wide Standards for cave management. These additions will ensure the Forest is in compliance with the 1988 Federal Cave Resources Protection Act. This amendment was implemented in 1993.
- **Amendment 14:** Corrects an error in the Forest Plan that showed an area stratified for Grizzly Bear management on the Rocky Mountain Front as Management Situation 2. The stratification has been corrected to show as Management Situation 1.
- **Amendment 15:** Changed the management area designation on 4,970 acres in the Spring Creek project area to more effectively protect elk habitat. Management Areas B, C, and G were affected. This amendment was implemented in 1993.
- **Amendment 16:** Changed the management area designation on 27,909 acres in the Smokey-Corridor project area and 1,957 acres in the Rocky Mountain High Ski Area. This change required the creation of a new management area (Management Area S). This amendment was implemented in 1994.
- **Amendment 17:** This amendment designated five additional Research Natural Areas on the Forest: Bartleson Peak, O'Brien Creek, Onion Park, Wagner Basin, and Walling Reef. Along with Pain Gulch, the RNAs total 7,230 acres. This amendment was implemented in 1994.

Although the Forest Plans include management decisions that project well beyond the first decade of implementation, each Forest Plan will be thoroughly reviewed after 10 years. In preparation for this 10-year review and revision, we analyzed our progress at the midway point of five years. Through the Five-Year Review, we have determined whether additional changes are needed now, before the end of the first decade. The Five-Year Review was completed in December 1992.

II. FOREST PLAN DECISIONS

The Forest Plan is a compilation of decisions that guide our management of the Forest. In general terms, it contains three types of decisions:

■ **Goals, Objectives, and Desired Future Conditions** (pages 2-2 through 2-22 of the Plan) provide general direction for managing Forest resources.

■ **Standards** (pages 2-23 through 2-73) and **Management Direction** (Chapter III of the Plan) tell us *how* to put the plan into practice or *what* conditions we must meet while we implement the Plan.

■ **Management Areas** (described in Chapter III of the Plan) basically delineate the Forest into areas that are suitable and available for different types of management and resource production.

Given these major decisions, the Plan also includes a prediction of the average annual "outputs" produced by the Forest. These predictions are outlined in Table 2.1 (Plan page 2-10 and 11) and discussed in the Record of Decision.

The following pages contain reports for each monitoring item listed in the Lewis and Clark Forest Plan. The items are reported sequentially, as they appear in Chapter V of the Forest Plan.

RECREATION

A-1 Recreation Opportunity Spectrum Setting

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Recreation Opportunity Spectrum setting being implemented	Annually	+/- 10% of projected ROS setting

FINDINGS

Recreation Opportunity Spectrum settings by management area were established in the Forest Plan. The Plan projects an increase by 73,000 acres of "Roaded Natural" lands, with a decrease by the same amount of "Semi-primitive" lands over the next 50 years. This projection would average about 1,500 acres annually. These changes in ROS setting would occur because of road building in certain roadless areas. In FY 1994 there were no projects that involved road construction in roadless areas. Thus, there was no change in ROS settings.

Other ROS setting factors include visitor management; social encounters; remoteness; visitor impacts; site and facility management; and access. These factors have either not changed from previous years (visitor management, site and facility management, remoteness, and access) or have changed insignificantly (social encounters, and visitor impacts). None of these factors have changed enough to result in change in existing ROS settings.

In FY 1994, a new inventory of ROS classes was completed for the Forest. It will be used in the future revision of the Forest Plan.

A-2 Recreation Direction Meets Visitor Expectation

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Direction meets expectation of visitor	Annually	Adverse comments or correspondence

FINDINGS

The public appears to be generally satisfied with the recreation direction on the Forest. The following reflect recent input from Forest personnel.

1. An outfitter on one district was given a special use permit to use an existing dispersed camping site, causing a member of the public to complain to the Forest and the congressional delegation.
2. Volunteers continue to be very interested in helping the Forest Service emphasize its recreation attractions. Examples include trail con-

struction of the Hidden Basin Wildflower trail, development of a mountain biking brochure, and assistance with the C.M. Russell autotour.

3. We continue to receive complaints about road closures during hunting season, although there is no trend suggesting increased public concern in this area.
4. People have been happy with trail information brochures developed by the Judith District for mountain bikers and those using Crystal Lake interpretive trails. A Forest effort to update trail

Recreation

brochures for the east half of the Forest has helped fill a need for better trails information, and more work in this area is planned in order to provide mountain range-specific trail information.

- 5. There are frequent requests for ATV (All-Terrain Vehicle) trail information, but we have no brochure specifically on the subject.
- 6. There has been a positive response to the South Fork Trail Challenge Cost Share Turnpike Project with the Professional Wilderness Outfitter Association on the Rocky Mountain District. A 3/4 mile turnpike was constructed by falling trees and installing curbs along the trail. Horses and mules hales hauled nearly 200 cubic yards of gravel to prevent the trail from being water logged. Users no longer have to slog through foot-deep mud. The public has commented favorably on the same district about recent capital investment projects

at Beaver and Little Willow Trailheads and at South Fork Trailhead and Campground.

- 7. The Highwood Access Management Plan was implemented and generally well received by the public. New trails were constructed, trailheads were improved, area closures were imposed, unnecessary 4-wheel drive roads were closed, and a riparian pasture was constructed in the North Fork of Highwood Creek.
- 8. Heavy smoke in mid-September from wildfires in the Flathead National Forest prompted comments from residents and users in the North Fork of the Sun River drainage.

RECOMMENDATIONS

The Forest will continue work to improve trail and other recreation information. A new revision of the Forest Travel Plan map for the Jefferson Division may be available this year which will reduce questions and complaints about road closures.

A-3 Recreation Use

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Actual use of developed & dispersed recreation compared with projected use levels	Annually	+/- 25% variance yearly or +/- 10% over a 5-year period

FINDINGS

This year's use was as follows:

- Developed Recreation: 301,000
- Dispersed Recreation: 584,000
- Wilderness Recreation: 64,000

Recreation

Developed recreation increased about 13% from last year, reflecting a more normal year after a very wet 1993 summer recreation use season. Recreation associated with camping and picnicking increased 10% from last year.

For dispersed recreation, there was a 17% increase from last year, also reflecting the wet weather of 1993 and the more normal 1994. This year road use figures on certain Forest roads was not collected

because of a personnel change on the Forest. This information will be collected next year, as it provides one of the more accurate means of estimating trends in dispersed recreation. Montana Department of Fish, Wildlife, and Parks figures were again used to reflect hunting use, and are considered very reliable.

FY 1994 wilderness use increased 10% from last year, reflecting, again, the wet weather of 1993.

A-4 Condition of Developed Sites

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Recreation condition of developed sites	Annually	Less than acceptable standards, public safety hazards not corrected by 1990, poor conditions not corrected by 2005

FINDINGS

The physical condition of developed sites is largely a reflection of funding available in Recreation Operation and Maintenance and in Recreation Capital Investment. The Forest Recreation Operation and Maintenance budget for FY 94 was 5% greater than the previous year, but that year was 23% less than the previous year. We are not holding even in maintaining the quality of our developed sites, but continue to fall behind because of the lack of funds available for heavy maintenance. Primary, heavy use campgrounds are being maintained more often than those with less use. Service levels reflect both

the amount of public use and whether or not the facility is a fee site. Safety hazards at developed sites are being taken care of immediately when noted. Campground hosts can not be fully funded on all districts. Volunteers continue to provide valuable maintenance at our sites.

Recreation Capital Investment funding was received for the construction of trailheads along Divide Road. Two toilets at Crystal Lake Campground were replaced with modern accessible vault toilets and a group user area was developed.

A-5 Recreation Opportunity Guide

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Recreation Opportunity Guide	Annually	Failure to complete by 1986

FINDINGS

Recreation Opportunity Guides (ROGs) were completed on the Judith District. Only the Musselshell District ROG remains uncompleted. Emphasis is now being shifted to the completion of trail and other recreation information for each mountain range.

Recreation

A prototype for the Highwood Mountains will be the first brochure developed. The Forest is responding to an interagency effort to provide recreation for the State of Montana for tourist information interactive kiosks at state portal information centers. This information will also become available for local use on personal computers.

RECOMMENDATIONS

The Forest will complete its ROG information on the Musselshell District this year but will convert the information in stages into media that is more readily useable for the public.

A-6 Off-road Vehicle Damage & Travel Plan

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Off-road vehicle damage & Travel Plan effectiveness	Annually	Conflicts with Forest Management Area goals. Increase of 20 or more situations or variances

FINDINGS

This element is monitored by two items. The first item is the status of the Forest Travel Plan as it relates to Forest Plan goals. The Forest presently utilizes the Forest Travel Plan that was revised in FY 1988 specifically to implement the recreation settings in the Forest Plan. We anticipated the Forest Travel Plan would be updated and reprinted in FY 1994, but this has been deferred to FY 1995. The update will reflect on one map the project-level changes that have occurred since 1988 on the Jefferson Division. These changes reflect and are in accordance with Forest Plan. The Rocky Mountain Division updates will not occur until after 1998, when the Forest Visitors Map is updated and reprinted.

The second item is the number of Forest Travel Plan citations issued or the number of variances granted annually. The Forest had 72 violations reported. 11 were for road violations; 46 were trails violations; and 15 were for vehicles off roads in area closures.

The number of violations reported is not necessarily a reflection of the problem, but often of the presence or absence of agency personnel in an area and changing law enforcement personnel. There were less violations reported for the Forest this year than last, and the number of citation notices given was less than last year. Ranger districts felt that there was good acceptance of the Forest Travel Plan, but

did note below specific problem areas on these districts where more violations were being reported. Of the violations, 7 violators were identified and all were cited. Specific ranger districts information is as follows:

Rocky Mountain Ranger District - District reported 16 violations and no citations issued. Off road vehicle damage was less during the 1994 season compared with the rainy 1993 season. Off road vehicle trespass in roaded areas is occurring across the district, particularly in the Badger-Two Medicine area. No trends in increased violations have been noted.

Judith Ranger District - District reported 10 violations and issued 3 violation notices. ORV users are largely adhering to the Travel Plan and remaining on designated roads and trails. There is no new significant resource damage such as new ruts and increased soil erosion in areas closed to ORVs. Three areas, including Woodchopper Ridge, Ettien Ridge, and Hoover Mountain, have more frequent violations of the Travel Plan because of open, level terrain. Work in 1995 will focus in these areas to better control off-road use. Completion of the Highwood Mountains Access Plan and implementation of the Area Closure there have helped significantly reduce ORV problems.

Musselshell Ranger District - District reported 7 violations and issued no violation notices. No trend in violations was noted.

Kings Hill Ranger District - District reported 39 violations and issued 4 citation notices. OHV damage and violations are occurring in the Jefferson Creek, Dry Fork, and Deep Creek/Tenderfoot areas.

RECOMMENDATIONS

Continued emphasis on Travel Plan signing, and the updating of the Travel Plan in FY 1995 will provide the public with adequate information to comply with the Plan. Districts continue to work in those areas where there are more violations as noted above. No trends indicating significant non-compliance were noted. No significant resource damage was noted. No corrective action is needed.

A-7 Condition of Visual Resources

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Condition of the visual resource meets objectives in Forest Plan	Annually	Deviation from approved VQOs, ID Team review of environmental analyses

FINDINGS

The Smokey B Timber Sale was reviewed in the field for compliance with Visual Quality Objectives (VQOs). It was designed to meet VQOs and the review showed that it will accomplish this. Reviewed in the office was Leftover Turkey Salvage, Lynx Roundwood Resale, and West Hopley Sale. These sales will meet Forest Plan VQOs.

A-8 Cultural Resource Management (Identification and Protection)

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Comparison between Forest projects which need cultural resource consideration and Forest projects which received consideration of the cultural resources	Annually	More than 10% of the project out of compliance.

FINDINGS

During FY 1994 no projects were initiated without consideration of cultural resources. Consideration included survey for cultural resources, input into the NEPA process on identified projects, and 36 CFR 800 compliance procedures. Twenty-four cultural resource sites were identified, inventoried, and evaluated during the fiscal year. During FY 1994 no

eligible properties were nominated to the National Register of Historic Places.

Monitoring item A-8 requires a comparison between identified undertakings and the number of surveys conducted on an annual basis. During FY 1994, 44 projects were identified which required cultural resource consideration. These projects included ac-

Recreation

tivities which required survey and planning activities which required analysis of cultural resources across a broad area. During the fiscal year, 37 surveys for cultural resources were conducted in specific project areas and 3 cultural analyses for planning documents were completed. Several identified projects, and associated cultural work, are ongoing and the results will not be documented until FY 1995. Differences between the number of identified projects (undertakings) and the number of surveys is a result of unreported, ongoing projects (results not documented until FY 1995), changing project priorities or proposed project implementation dates, and deleted projects from the schedule for the year.

A review of the completed surveys and data input indicate that monitoring item A-8 was met during FY 1994.

Two Passport-In-Time projects on the Forest. Passport-In-Time is a National Forest Service program which encourages public education through

participation. For two weeks during the summer of 1994, volunteers working under the national program helped to excavate a prehistoric encampment located on the Kings Hill District. Working with Forest Service Archeologists, twelve individuals from around the country participated in site mapping, excavation, and artifact analysis. Ten volunteers also worked with Forest Archeologists conducting cultural resource survey and test excavations at a site on the Rocky Mountain District. The project was co-sponsored by the Bureau of Reclamation pursuant to the Memorandum of Understanding between the Bureau of Reclamation and the Forest Service. In conjunction with the project, and following the planning standard for public education, a professionally produced video was completed to inform the public on the importance of heritage resource management and the Passport-In-Time program. Information relating to the program and plains prehistory is currently on display at the Rocky Mountain District office.

A-9 Cultural Resource Management (Effectiveness)

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effectiveness of cultural resource mitigation proposed during the FY	Annually	10% of the inspected sites impacted

FINDINGS

Inspection of identified sites in project areas is required in monitoring item A-9. This requirement was not met during FY 1994 because the majority of identified projects had not been initiated or completed by the end of the field season. Monitoring of sites identified in FY 1994 will take place during the FY 1995 field season or upon completion of the associated projects.

Several previously identified sites (24TT228, 24TT229, 24TT230, 24JT1001, 24JT072, 24ME290, 24ME1002, 24ME094, and 24ME095), however, were inspected during the field season. None of these sites have been impacted by past projects but a few have been impacted by natural erosional processes.

A-10 Cultural Resource Management (Interpretation)

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Interpreting, nominating, or protecting cultural resource sites	Annually	If no sites have been interpreted, nominated, or protected during the FY

FINDINGS

Currently there are 219 sites recorded on the Forest. Of these sites, two have been interpreted, one has been listed on the National Register, and one is currently being stabilized (Judith Guard Station) for future preservation and interpretation. Because of the ongoing preservation project, the requirements of monitoring item A-10 have been met.

An auto tour which interprets the history of Charles M. Russell in the Judith Basin area was completed.

A-11 Cultural Resource Management (Inspection)

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Inspect interpreted sites for impacts caused by increased public awareness and visitation	Annually	If an interpreted site was damaged as a result of interpretation

FINDINGS

Monitoring item A-11 requires inspection of sites which have been interpreted. Both of the interpreted sites (24TT006 and 24TT228) were inspected during FY 94. Neither of these resources has been impacted by visitors. The requirements of monitoring item A-11 have been met.

A-12 Cultural Resource Management (Program Effectiveness)

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effectiveness of Heritage Program and implementation of Forest Plan	Annually	If previously unidentified cultural resources are discovered in surveyed areas

FINDINGS

During FY 1994, four inspections of previously surveyed areas were conducted. Two of these inspections were conducted on projects implemented in FY 1994 and two were conducted on projects completed prior to FY 1994. During these inspections one new cultural resource site was identified in a previously surveyed area. During the initial survey (prior to FY 1994), a few artifacts were discovered and recorded along the location of a proposed road

alignment. After road construction several new artifacts were exposed and subsequent reinspection indicated the presence of a cultural resource site. Evidently the new construction had exposed artifacts previously obscured by ground vegetation. The discovery of a site in a previously surveyed area will initiate closer inspection, and in some instances sub-surface testing, of areas which contain visible surface artifacts. These inspections meet the requirements of monitoring item A-12.

WILDERNESS

B-1 Wilderness - Quality of Ecosystem

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Wilderness - maintenance of existing quality of ecosystem	Annually	Degradation of environment

This monitoring item was deleted from the Forest Plan under Amendment No. 3 because wilderness monitoring has been outlined in detail in the Bob Marshall, Great Bear, Scapegoat Wilderness Recreation Management Direction (Forest Plan Amendment No. 1).

B-2 Bob Marshall-Great Bear-Scapegoat Management

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Bob Marshall-Great Bear-Scapegoat Management Direction	Annually	Failure to meet time table established in Appendix U of the Plan

FINDINGS

The monitoring results are presented in the annual Wilderness Reports in Appendix A of this Monitoring Report.

B-3 Change in Roadless Inventory

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Change in Roadless Inventory	Annually	+ or - 10% projected change in roadless inventory

FINDINGS

In FY 1994, there were no projects that effected any inventoried roadless area on the Forest. The net roadless acres on the Forest are 1,009,838.

WILDLIFE

C-1 T&E Species: Grizzly Bear Habitat

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Grizzly Bear - maintain occupied habitat capacity	Annually	Any indication of downward trend in grizzly bear population

OBJECTIVES

Monitor the maintenance of suitable and occupied grizzly bear habitat to detect any indication of a downward trend in population.

Follow the goals and objectives set forth in the Wildlife/Fisheries Program Document for the Lewis and Clark National Forest.

METHODS

Biological evaluations were developed based on the goals, standards, and guidelines contained in the Forest Plan (pages 2-32 to 2-34 and Appendix H, I, J, K, and L).

Monitoring is conducted as recommended in the revised grizzly bear recovery plan. Population data collected includes females with young (2 or 3 year olds) and females with cubs of the year.

FINDINGS

Grizzly Bear Recovery Efforts

Monitoring efforts in accordance with the Grizzly Bear Recovery Plan continue to record sows with young (2 or 3 year olds) and cubs of the year. Results from 1987 to 1994 have demonstrated occupancy by sows with cubs in all six Bear Management Units (BMU) on the Rocky Mountain Front.

In FY 1994, monitoring efforts produced sightings of 5 sows with 6 cubs within four of the six BMUs, and

4 sows with 7 young within three of the six BMUs. For FY 1994 (see Table C-1a) four of six BMUs have been occupied by grizzly bear family units (females with young and females with cubs of the year). All six of the BMUs during the last 3 year period (1992-1994) have had sightings of females with cubs.

The Teton-Sun (TETSU) BMU and the Badger-Two Medicine (BADTW) BMU are the most consistent producers of sows with cub sightings. The Birch-Teton (BIRTE) BMU and the Badger-Two Medicine (BADTW) BMU produces the most cubs. These findings may be a reflection of monitoring intensity, not bear use. The TETSU BMU is approximately 66% private land. MDFWP's problem grizzly bear specialist's work on these lands may account for the high number of sightings within the TETSU BMU. The BMU that produces the least grizzly bear sightings is the Dearborn-Elk Creek (DEAEL). During the Rocky Mountain Front Studies, grizzly bears were most difficult to trap within this BMU. Reasons for these difficulties are unknown. The effects the Canyon Creek fire is having on bear use in this BMU is undetermined. There were three family units (either female with cubs or female with young) seen in the DEAEL BMU in 1993 which is the most for any year since the monitoring began. However, there were no grizzly family units observed in that BMU in 1994.

Table C-1a displays the trend information that has been gathered to date.

Wildlife

Table C-1a TREND MONITORING INFORMATION FOR SOWS WITH CUBS OR YOUNG GRIZZLY BEAR MANAGEMENT UNITS (BMUs)

YEAR	BADTW (11)			BIRTE (15)			TETSU (18)			NORFO (17)			SOUFO (21)			DEAEL (23)		
	Fm	Cb	f/y															
1987	2	3	1/2	3	4	1/4	1	2	0/0	1	1	1/1	0	0	0/0	0	0	0/0
1988	0	0	0/0	3	8	0/0	1	3	1/2	0	0	0/0	1	2	0/0	1	1	0/0
1989	2	3	0/0	1	2	2/5	1	2	0/0	3	3	1/1	0	0	0/0	0	0	0/0
1990	2	3	0/0	0	0	2/4	1	1	1/2	1	2	1/1	1	2	1/2	0	0	0/0
1991	1	2	1/2	0	0	2/4	1	2	0/0	0	0	0/0	1	2	0/0	0	0	1/1
1992	2	4	0/0	1	3	2/4	0	0	2/2	0	0	1/2	0	0	1/2	0	0	0/0
1993	0	0	1/2	0	0	1/3	1	2	1/3	0	0	1/1	2	3	0/0	2	4	1/2
1994	2	3	1/2	0	0	0/0	1	1	2/4	1	1	0/0	1	1	1/1	0	0	0/0

Fm=female grizzly
 Cb=cub grizzly
 f/y=female with young
 BADTW = Badger Two Medicine
 BIRTE = Birch/Teton

TETSU = Teton/Sun
 NORFO = North Fork
 SOUFO = South Fork/Beaver Willow
 DEAEL = Dearborn/Elk Creek

Law enforcement efforts were continued to deter the illegal take of grizzly bears on the Rocky Mountain District and reduce the potential for food-conditioned and habituated bears. The District's Law Enforcement Officer, wilderness and campground guards, and others completed approximately 200 patrol days that included grizzly protection goals as a major focus.

A special order signed by the Lewis and Clark National Forest Supervisor during August of 1992, defined food and garbage handling requirements on the Rocky Mountain District. This order was modified to clarify compliance requirements and improve enforcement during September of 1994. The District staff made a concerted effort to explain effective food and garbage handling methods to the public.

Enforcement of the special order included issuance of 5 violation notices, 17 warning notices and over 100 verbal warnings. Compliance levels increased significantly over 1992 and 1993.

Nuisance Bear Actions - In 1994, there were 5 problem bear incidents handled under the Rocky

Mountain District's "Problem Bear Policy." Two of these incidents involved grizzly bears. Warning signs were posted. There were less nuisance bear incidents in 1993 and 1994 than any year since monitoring began (1988). The reason for the decline is unknown, but enforcement of the special order on food handling, ongoing efforts to inform and educate forest users and a good buffaloberry crop certainly contributed to this outcome.

Grizzly Bear Conservation Efforts

Biological evaluations were completed in response to 3 Forest management activities within grizzly bear habitat (Management Situation 1). The activities were: 1) An interpretive trail oriented toward grizzly bear management; 2) a prescribed fire to enhance winter range in Lime Gulch, and 3) a prescribed fire to improve winter range on McCarty Hill. The biological evaluations for winter range enhancement resulted in a not likely to adversely affect determination for the grizzly bear, and the biological evaluation for the interpretive trail resulted in not effects or the grizzly bear.

Project Monitoring: To evaluate the effectiveness of buffaloberry shrubfield restoration projects a vegetation monitoring strategy has been implemented. Transects are used to measure buffaloberry production and ecodata plots are used to determine changes in vegetation. Whitebark pine plantings are also monitored to determine future production of cones.

The 1990, 1991, 1992 and 1993 shrubfield restoration projects each contain four berry production transects, two transects inside and two outside the treated units. There is also 1 ecodata plot inside each harvest unit making a total of nine plots and a total of seven ecodata plots outside the units. This is a total of 16 ecodata plots to monitor vegetation changes and buffaloberry production over time. Outside the harvest units, buffaloberry production has fluctuated markedly the past 4 years. Both 1990 and 1992 were poor berry production years. In 1991, there was a moderately high berry crop. 1993 and 1994 were excellent berry crop years. There is some buffaloberry shrub resprouting in the 1991 and 1992 harvest units, though berry production has not yet begun.

Whitebark pine seedlings were planted in 1989, 1991, 1992, 1993 and 1994 to produce stands for future production of cones which will provide high energy pine nuts, a preferred grizzly bear food. In 1989 there were 396 seedlings planted and when monitored in 1994 there was 79% survival. In 1991 there were 765 seedlings planted and when monitored in 1994 there was 93% survival. In 1992 there were 400 seedlings planted and when monitored in 1994 there was 89% survival. In 1993 there were 888 seedlings planted and when monitored in 1994 there was 99% survival. In 1994 there were 661 seedlings planted.

RECOMMENDATIONS

Based on the lack of sightings of grizzly bears with cubs in DEAEL and NORFO BMUs, more effort needs to be directed at these BMUs during FY 1995 to document occupancy and/or breeding within these BMUs.

C-2 Gray Wolf, Bald Eagle, Peregrine Falcon Habitat

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Gray Wolf, Bald Eagle, Peregrine habitat capacity	Annually	Deterioration or continuing disturbance on more than 5% of suitable unoccupied habitat

METHODS

Evaluate Forest compliance with the gray wolf recovery plan (USFWS 1987). Monitor suitable bald eagle nesting habitat for re-occupancy according to methods described in Montana Bald Eagle Working Group (1986); monitor the distribution of wintering bald eagles. Survey historic and potential peregrine eyries for occupancy.

WOLF FINDINGS

ROCKY MOUNTAIN DIVISION

In 1989, the Lewis and Clark National Forest began a long-term study of wolf recolonization along the Rocky Mountain Front. The goal of this study is to reduce opportunities for wolf-livestock conflicts by gathering and sharing information on wolf activity. The study's basic premise is that ranchers have a right and a need to know how wolves are using their lands and adjacent federal lands and that the federal government has a responsibility to provide this information. By providing information on wolf movements, private ranchers and National Forest grazing administrators can devise grazing strategies that minimize opportunities for wolf depredations.

Wildlife

The following objectives were developed to achieve the study's goal of reducing opportunities for wolf-livestock conflicts:

- 1) Determine seasonal movement patterns
- 2) Identify den and rendezvous sites
- 3) Describe seasonal diets
- 4) Evaluate interactions with livestock and people
- 5) Maintain strong working relationship with private ranches
- 6) Distribute findings to general public and scientific community

Between 1989 and 1992, the project focused on establishing the level of wolf activity on the Rocky Mountain Front and developing an open and constructive dialogue between ranchers and federal agencies involved with wolf recovery. During this period, the only resident wolves were a lone male and a pack in Dupuyer Creek that disappeared in March 1990. Numerous transient wolves were also confirmed.

In 1993, a breeding pair was discovered using lands between Sun River and Elk Creek, primarily east of the Forest Boundary. The male was radiocollared in February. This pair produced four pups in April; two of these pups were radiocollared in September.

During the spring of 1994, a confirmed depredation on a young calf occurred. This was followed by a probable depredation and 2 calves suffering broken legs due to cattle that were stampeded by the wolves. This prompted the US Fish and Wildlife Service to remove and relocate two yearling wolves that had not been radiocollared. The alpha pair raised a litter of 6 pups during the summer of 1994, bringing the pack size to 10 wolves. The alpha male wolf shed his radiocollar during late June or early July. Attempts to locate 1 of the radiocollared yearlings have been unsuccessful since October of 1994. The wolf may have dispersed from the area or may have a malfunctioning radiocollar.

The Forest Service regularly monitors this pack using radiotelemetry. Local ranchers are routinely posted on the movements and activity of these wolves. A detailed report documenting wolf movements, food habits, and interactions with humans and livestock was published and is available to the public.

A lone male wolf may continue to occupy its established territory in the upper Sun River drainage on National Forest System lands. Intermittent wolf activity was also detected in the Teton and Dupuyer Creek drainages. However, there was no evidence of resident wolves.

Biological evaluations were completed for the gray wolf in conjunction with the same three projects discussed for the grizzly bear. Determinations of "no effect" or "not likely to adversely affect" on the wolf and its habitat were made for all three projects.

JEFFERSON DIVISION

There were no wolf sightings recorded on the Jefferson Division for Fiscal Year 1994.

BALD EAGLE FINDINGS

USFS biologists cooperatively assisted USFWS and MDFWP biologists in completing bald eagle surveys during the month of January 1994. Participating in the **National Bald Eagle Survey**, Forest Service biologists reported a total of 47 eagles observed on January 8, 1993 (Midwinter Bald Eagle Survey):

- 25 Bald Eagle (Adults 18, Immature 7)
- 3 Golden Eagle (Adult 3, Immature 0)
- 3 unknown bald or golden eagles were observed along the Missouri River (National Transect #4).

A large nest on private land within the Missouri River corridor by Stickney Creek was sighted in October of 1992. This nest area was flown several times during the spring-summer season in 1993 by the MDFWP, but they did not find the nest or see any active bald eagles in the area. This nest site was observed three times during the breeding season (April-July) in 1994 from the recreation road with binoculars and spotting scope. There was no activity evident in the vicinity of the nest by eagles, osprey or other raptors during any of these visits.

ROCKY MOUNTAIN DIVISION

MDFWP discovered an active bald eagle territory on private land 6-8 miles east of the Forest boundary on Cuniff Creek in 1993. This is the first nest that has been found near the Lewis and Clark National Forest not associated with the Missouri River corridor. This territory was not monitored in 1994.

There were four observations of bald eagles on the Rocky Mountain District and two observations on nearby private and State lands. On National Forest System lands, observations were in the North Fork Sun River, West Fork Teton River, Smith Creek and Willow Creek drainages. The West Fork Teton observation was in July, suggesting the possibility of a nesting pair. The other three National Forest observations were in March, May and November. East of the Forest boundary, bald eagles were observed in the Smith Creek drainage in January and February. Observations of bald eagles were recorded and added to the Forest data base. Management activities that could potentially affect wintering bald eagles were reviewed in accordance with Forest Plan direction.

JEFFERSON DIVISION

A Forest transect was completed on January 13, 1994 along the Musselshell River and Cottonwood Creek. This transect yielded 23 eagle sightings:

- 6 Bald Eagles (Adults 5, Immature 1)
- 12 Golden Eagles (Adults 11, Immature 1)
- 5 Unknown Eagles

Observations of bald eagles on and near the Forest continue to be entered into the electronic data base.

The only bald eagle sighting on the Jefferson Division of the Forest was near Kings Hill in October 1994. A single adult eagle was feeding on a road-killed deer carcass along with two ravens on the edge of U.S. Highway 89.

PEREGRINE FALCON FINDINGS

There are currently no known active nest sites of peregrine falcons on the Lewis and Clark National Forest. There were no peregrine falcon sightings reported in 1994.

RECOMMENDATIONS

Conduct a survey to determine if Haymaker Narrows (Musselshell District) is being used as a bald eagle winter roost site or nesting area. Survey the North Fork of the Sun River (Rocky Mountain District) to determine if a nesting pair is using the area.

Survey the Smith River for peregrines and potential nest sites.

C-3 Elk Winter Range Capacity

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Elk: winter range capacity (population level), sex and age ratios	Annually	Decrease of 5% or more in winter range capacity as measured by a 3 year running mean of elk population level, sex, and age ratios.
Elk: habitat effectiveness	Annually	Decrease of 10% or more in habitat effectiveness in any timber compartment on the basis of a 100% annual sample. The goal is to complete habitat effectiveness calculations for all compartments prior to the Forest Plan Revision.

METHODS

Information on elk population levels and sex age ratios were obtained from MDFWP progress reports, personal communications with MDFWP biologists, and research reports.

Elk habitat effectiveness ratings were calculated by the percent of the sub-compartment in cover and the road density (miles of open road per square mile).

FINDINGS FOR ELK POPULATION LEVEL

During FY 1992 the Lewis and Clark and MDFWP wildlife biologists developed a procedure to evaluate the effects of timber and road management on elk security areas. The basic format followed the Hillis Paradigm that was developed on the Lolo and Deerlodge National Forests. During FY 1993 and 1994 the procedure to determine security levels for elk was used on two major EISs; Smokey-Corridor and Running Wolf. The Smokey-Corridor Draft EIS was published in August 1993 and the Final EIS in January 1994. The Draft EIS for the Running Wolf Timber Sales was published in August 1994 and the Final will be completed and released in the spring of 1995.

The results of the elk security area analysis for the Smokey-Corridor project area showed that within the 89,000 acre analysis area only 14.6% met the criteria necessary to provide security areas for elk. This figure was for National Forest lands within the project area (77,000 acres) and was used in the Draft EIS. The private land in the analysis area was not included in this analysis in the DEIS because it is largely in a block of agricultural land in the lower portion of Sheep Creek which lacks adequate cover to provide elk security areas. Based on comments received on the DEIS from the MDFWP and others, the elk security area figures documented in the Final EIS were for the entire project area (including private land) and amounted to 12.7% of the acreage. Vehicle closures and travel restrictions on several existing roads were included in the decision on the preferred alternative, and they would increase the elk security areas from 11,270 acres to 12,725 acres or 14.3% of the total analysis area. This is about one-half of the 30% that is recommended as desirable under the analysis process used. The low level of elk security is mainly due to a high road density resulting from timber management activities which have occurred in the project area over the past 40 years.

The evaluation of existing elk security areas for the Running Wolf project area (47,000 acres) documented 11,890 acres or about 25% of the total area meets the criteria as discussed in the Draft EIS. A larger cumulative effects analysis area (85,800 acres) was also evaluated, and it has 26,570 acres of elk security areas or 31% of the total area analyzed. Under the preferred alternative in the DEIS all new roads that improve access to existing elk security areas would be closed yearlong and one existing road would also be gated and closed to public use. This would result in a total of 13,175 acres (27.5%) and 27,655 acres (32%+) of elk security areas in the Running Wolf project area and cumulative effects analysis area respectively.

During 1994, effects analysis for elk and other wildlife species was completed for the Castle Mountains Range EIS. The Castle Mountains area supports 500 to 700 elk on about 218,000 acres of elk habitat (70,000 acres of National Forest lands). Analysis revealed that the health and viability of the area's elk population is virtually unaffected by livestock grazing on National Forest lands in the Castles. In fact, State wildlife officials have initiated big game hunting regulations designed to reduce the antlerless elk population in the Castle Mountains.

FINDINGS FOR ELK HABITAT EFFECTIVENESS

Forest personnel continue to use a model to electronically compute elk effective cover based on data contained in the Timber Stand Management Record System (TSMRS). This model was used in FY 1994 to compute elk effective cover for the Running Wolf project area (47,000 acres) on the Judith District. The results of the model were carried forth into the Draft EIS for Running Wolf. Road densities still continue to be computed within any of the analysis areas that are done. The total road density for the Running Wolf project area was 1.12 miles per square mile and the open road density was 0.82 miles per square mile. Under the preferred alternative in the DEIS, the open road density would be reduced to 0.76 miles per square mile.

RECOMMENDATIONS

Continue coordination with the MDFWP on the development and implementation of the elk vulnerability process that was developed in FY 1992.

Coordinate with the MDFWP to divide the Jefferson Division into Elk Analysis Units. These units will be used to evaluate effects of timber sales on the elk resource. This will also aid in determining if the goals and objectives of the MDFWP's Elk Management Plan are being met.

Continue to coordinate with MDFWP on the Castle Mountains Range EIS, the North Little Belts Range project and other Forest activities requiring coordination in 1995.

C-4 Bighorn Sheep & Mountain Goat

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Bighorn Sheep & Mountain Goat: Winter range capacity (population level), sex and age ratios	Annually	Decrease of 5% or more in winter range capacity as measured by a 3 year running mean of bighorn sheep and mountain goat population level, sex, and age ratios

METHODS

Data was obtained from MDFWP progress reports, research summaries, and contacts with knowledgeable individuals.

FINDINGS

Table C-4a displays the population trends of bighorn sheep on the Rocky Mountain Division for the area south of the Teton River and north of the Teton River. Information was not collected by the MDFWP for the bighorn sheep herds north of the Teton River in 1994. Therefore the table shows "no data" collected.

Table C-4b displays the population trends for the Rocky Mountain goat. Due to lack of funds, MDFWP did not monitor mountain goat populations on the Rocky Mountain Front in FY 1994. This is unfortunate, because of the sharp decline recorded in FY 1992 for Hunting District 414. Without the 1993 and 1994 data it is impossible to determine if the population declined or if there were some animals that were not counted during the 1992 survey. In Hunting District 415, the total population appeared relatively stable in 1992. Without the survey data for 1993 and 1994, no new conclusions can be made on population trends within Hunting District 415.

A box with visitor monitoring cards was installed along the trail to Headquarters Pass and Our Lake to determine recreational use in occupied summer mountain goat habitat. Our Lake has been identified as a mountain goat viewing area in the Montana Wildlife Viewing Guide (Falcon Press) and a Forest

Service brochure. Interpretive signs have been installed 3 miles below the lake. In 1994, 258 parties totaling 874 visitors filled out monitoring cards on the way to Our Lake. The number of parties visiting Our Lake and not filling out cards was not determined. The average party size was 3.4 people. Visitors originated from Great Falls (32%), out-of-state (27%), local Montana communities (12%), distant (> 100 miles) Montana communities (17%), and Choteau (10%). Most (70%) parties stayed for only 1 day. Hiking (76%) was the predominant travel method recorded.

The dominant activities for visitors were hiking, wildlife viewing, and photography. Fishing and mountain climbing were also important. Most people learned of Our Lake from friends or relatives (25%). Publications also attracted visitors such as: Montana Hiking Guide, maps, RMF Wildlife Viewing brochure, Montana Wildlife Viewing Guide, and other miscellaneous publications. The Pine Butte Guest Ranch oriented visitors to Our Lake. Less than a fourth (12%) of parties visiting Our Lake observed mountain goats.

The interpretive signs below Our Lake contained strong recommendations to avoid camping at Our Lake to minimize disturbance to mountain goats and alpine plants. Monitoring cards revealed that visitors disregarded this message and continued to camp at the lake. More than half the parties that camped, stayed at the lake. These findings led the Forest to sign a Special Order that prohibits camping in the Our Lake basin, effective May 1, 1994.

On the Jefferson Division of the Forest, sightings of mountain goats in the Highwood Mountains have become more common the past few years. The goats are apparently moving into the area from the established population on Square Butte which is located about 10 miles east of the Forest boundary in the Highwoods. An engineering crew surveying land lines observed six mountain goats near the Forest boundary in the western portion of the Highwood Mountains in September 1994. Since there were several immature goats in this group, it appears that breeding and reproduction are becoming established in this area.

RECOMMENDATIONS

Continue to document individual sightings of mountain goats in the mountain ranges in the Jefferson Division.

Assess the appropriateness of further introductions of mountain goats or bighorn sheep in the Jefferson Division.

Continue visitor use monitoring at mountain goat viewing site on Rocky Mountain District.

Recommend to MDFWP to reduce number of goat permits from 3 to 0 in Hunting District 414 due to lack of 1993 and 1994 population data and a population decline in 1992.

Table C-4a BIGHORN SHEEP POPULATION - Rocky Mountain Division.

MOUNTAIN RANGE	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Rocky Mtn South of Teton	908	582	1000	800	900	659	No Data	630		
Ewes	392	260		400	350	335	No Data	168		
Lambs	133	134		200	250	176	No Data	91		
Rocky Mtn North of Teton	127	73	79	90	115	104	No Data	No Data		
Ewes	34	25	29	37	60 ¹	45	No Data	No Data		
Lambs	23	5	7	12	29	23	No Data	No Data		
Total Rocky Mtn Division	1035	655	1079	890	1015	763	No Data	630		

¹ - 32 sheep were added to the population north of the Teton River during February of 1991.

Table C-4b MOUNTAIN GOAT POPULATION - Rocky Mountain Division.

MOUNTAIN RANGE / HUNTING DISTRICT	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Rocky Mtn HD 414	33	28	46	43	32	18	No Data	No Data		
Nannies	11	7	17	27	13	5				
Kids	7	2	6	5	3	2				
Rocky Mtn HD 415	56	52	73	58	90	77	No Data	No Data		
Nannies	23	18	31	44	48	34				
Kids	13	19	11	7	17	22				
Total Rocky Mtn Division	89	80 ¹	119	101	122	95	No Data	No Data		

¹ - Incomplete survey resulted from equipment failure. Data incomplete to determine population trend.

C-5 Other Big Game Species

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Other Big Game Species: Mule Deer population trend, sex and age ratios	Annually	Decrease of 10% or more in habitat capacity as measured by a 3 year running mean of mule deer harvest data and hunting success

METHODS

Data were obtained from MDFWP progress reports, research summaries, and contacts with knowledgeable individuals.

The Hunting District 441 restrictions have been successful in gradually reversing the downward trend of mule deer buck numbers. The present buck to doe ratio is 30:100. During the past 3 years, there have been approximately 69 fawns/100 does. In 1994, the winter mule deer count declined from 3,326 in 1993 to 2,217 between the Teton River and Birch Creek. Factors that may have been responsible for this decline were poor winter weather in 1993 and an increasing mountain lion population (Gary Olsen, MDFWP, personal communication).

FINDINGS

During the past six hunting seasons, MDFWP restricted hunting seasons for mule deer in Hunting District 441 (north part of Rocky Mountain Front) to increase the percentage of bucks in this herd. On private and State lands, the first three weeks allow for antlered buck harvest only (no permit required). Permits are issued the last two weeks of hunting season: antlered (75) and antlerless (150). On National Forest lands, five weeks of antlered harvest is permitted.

During FY 1994, no new developments (eg. roads or timber harvest) or habitat improvement projects have been initiated on National Forest lands within Hunting District 441.

C-6 Small Game

This monitoring item was deleted from the Forest Plan by Amendment No. 3, dated 1989.

C-7 Furbearers

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Distribution of lynx and wolverine based on annual sightings	Annually	No sightings reported for three years.

METHODS

Data was obtained from reported sightings of these species by individuals (both private and employees). Sightings are recorded in an electronic data

base and used in analyzing effects of proposed projects on their distribution, concentrations and use.

FINDINGS

Table C-7a ROCKY MOUNTAIN DIVISION SIGHTINGS

Year	Furbearer Data
FY 88	1 wolverine trapped
FY 89	1 wolverine sighted and 1 track observed
FY 90	8 wolverines and 1 lynx were observed
FY 91	9 wolverines were observed (3 animal sightings, 6 track observations). 11 lynx (2 animal sightings, 9 track observations).
FY 92	13 wolverine observations were recorded, (2 animal sightings, 11 track sightings). 11 lynx track observations were recorded, and 1 animal was trapped in Red Poacher Creek in the Badger-Two Medicine area. 5 bobcat track observations were recorded.
FY 93	3 wolverine observations: Live adult in Cave Creek, 2 track observations near Elk Calf Mtn. 11 lynx observations: Live observations of adults in Smith Ck and Ford Creek. Track observations in N. Fork Waldron Creek, Furman Creek, Wrong Creek, Waldron Creek, and South Fork Two Medicine River. 2 bobcat track observations: Jones Creek and Gibson Lake.
FY 94	5 wolverine observations: 1 live observation in the West fork Sun River, 2 track observations in the South Fork Teton River, 1 track observation in the West Fork Sun River and 1 track observation in Olney Creek. 1 live river otter observation in the North Fork Sun River. 4 lynx observations: track observations in the North Fork Waldron Creek, the West Fork Sun River, Blindhorse Creek and Gates Creek. 6 bobcat observations: 1 trapped in the North Fork Teton River, 2 track observations in the North Fork Teton River, 1 track observation in Jones Creek and 2 track observations in Beaver Creek. 1 live mink observation in the South Fork Sun River. 1 pine marten track in the North Fork of the Sun River.

Furbearer observations increased after 1989 due to furbearer surveys and incidental observations during wolf activity surveys. Based on location of obser-

ations, a minimum of 4 lynx and 3 wolverine were detected during survey work for 1994.

Table C-7b JEFFERSON DIVISION SIGHTINGS

Year	Furbearer Data
FY 88	6 wolverine sightings
FY 89	No wolverines sighted
FY 90	November 14, 1989 one wolverine observed crossing road in front of pickup truck near O'Brien Park and July 24, 1990 one wolverine observed running down a rock slide near Lucy Park.
FY 91	2 wolverines detected on the Kings Hill District. Tracks were sighted again in O'Brien Creek and a live animal was sighted in Adams Creek. One set of lynx tracks were seen in the snow on the Jefferson Division in the headwaters of Lion Creek in November 1990.
FY 92	One wolverine sighted between Many Pines CG and Snowmobile Parking Lot on US 89.
FY 93	One set of wolverine tracks was sighted in Tenderfoot drainage. One wolverine was sighted in Belt Park during March 1993. No lynx sightings were recorded for 1993.
FY 94	One set of wolverine tracks was observed on an old logging road between Adams Creek and Jumping Creek on the Kings Hill District during October 1993. Some of these tracks were very clear in frozen slush aiding in a positive identification. No lynx tracks or sightings were recorded for FY 1994.

Wildlife

Wolverines have been detected at one general location on the Jefferson Division and the low number of animals detected appears to indicate a limited distribution of adults despite suitable habitat.

Furbearer surveys will be conducted in the Little Belt Mountains during the winter of 1994-95 as a cooper-

ative effort by the MDFWP and the Forest Service. These surveys will be run on selected routes when snow conditions are suitable to identify furbearer and predator tracks. This should provide better information on the presence and distribution of wolverine, lynx and other furbearer species.

C-8 Old Growth Habitat for Goshawk

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Goshawk active nesting territories	Annually	Decrease of 5% or more in active nest territories as measured by a 100% annual sample of known goshawk nest territories.

METHODS

The goal is to monitor all of the known territories each year to establish occupancy and production; and compare the results of undisturbed territories (no high levels of activity, i.e., logging, or oil and gas development) to territories with disturbance.

A computer program has been developed to track all nest territories as to their occupancy, production, and nest site characteristics.

A computer program has been developed to interact with the Timber Stand Data Base and identify timber stands that correlate to specified aerial photo interpretation types. The timber stands identified electronically and timber stands identified by standard aerial photo reconnaissance are mapped and ground truthed to determine whether they meet the definition of old growth forest, as defined in the Forest Plan (Glossary, page 14). As a result of this process, more acres are examined per project area than are designated for retention as old growth stands.

Old growth stands are selected to provide distribution across different habitat types and to maintain a minimum of 5% within a timber compartment. Using the parameters defined in the draft R-1 Goshawk Habitat Suitability, lower elevation Douglas-fir

stands are prioritized and selected. Higher elevation timber stands are generally dominated by lodgepole pine with mixtures of alpine fir or spruce. These mixed stands are prioritized on the basis of their proximity to meadows, seeps, springs, streams, or other environmental factors which contribute to the diversity of plant and animal life beyond that visible in surrounding stands.

FINDINGS

Old Growth Inventory and Designation

Old growth habitat field validation was completed for the Ettien Ridge project area within the South Fork Judith River drainage. The project area is presently about 23,700 acres. By querying the TSMRS data base, more than 200 forest stands were identified as potential old growth. Over 9,000 forested acres were inventoried in 1993 and 1994 with 4,829 acres meeting Forest old growth criteria.

Preliminary data base queries and field inventories were conducted on old growth forest stands in the Belt Creek drainage in 1994. The area surveyed is a portion of a drainage-wide ecosystem assessment that will be a major project on the Forest in 1995.

Table C-8a is a compilation of all the old growth forest acres that have been allocated since surveys have been completed, and displays the progress the Forest has made in achieving a Forest wide old growth forest inventory.

Table C-8a ACRES DESIGNATED AS OLD GROWTH 1988-1993

District	Project	Acres in Project Area	Acres of Old Growth ¹	Acres Allocated ²
Rocky Mtn	S.Fork-Two-Med		208	
Judith	South Fork Complex	23,300	2,422	1,891
	Running Wolf	45,800	3,580	3,505
	Ettien Ridge	23,700	4,829	
Musselshell	Mill-Lion	6,200	1,027	1,027
	Spring Creek	36,400	4,415	4,415
	Little Snowies	13,000	1,900	1,900
Kings Hill	Small Sales(772-776)	53,200	4,653	4,653
	Moose Creek	20,800	1,697	1,697
	Smokey-Corridor	77,000	6,900	6,256
	TOTAL	299,400	31,631	25,344

¹These are the acres of forest that meet the criteria for old growth.

²Acres of old growth forest allocated for retention to meet Forest Plan Standards via a decision document (ROD, DN).

Goshawk Nest Territories

Two new territories were detected in FY 1993 for a Forest total of 28 known territories; 6 in the Rocky Mountain Division and 22 in the Jefferson Division. The result of the goshawk monitoring completed from FY 1987 through 1994 is summarized in the following tables:

Table C-8b GOSHAWK (Nesting Territories - Rocky Mountain Division)

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Nesting Territories	0	0	0	0	3	4	6	6		
Territories Monitored	0	0	0	0	1	1	0	6		
Territories Active	0	0	0	0	1	1	Unkn	4		
Fledglings Produced	0	0	0	0	Unkn	Unkn	Unkn	1		

Table C-8c GOSHAWK (Nesting Territories - Jefferson Division)

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Nesting Territories	8	9	11	14	17	22	22	22		
Territories Monitored	3	7	7	9	10	16	10	13		
Territories Active		-	4	6	8	3	3			
Fledglings Produced		-	*	*	7	3	4			

* Attempted to monitor, but data inconclusive.

RECOMMENDATIONS

Continue using the Lewis and Clark Old Growth Inventory and Allocation Process to survey old growth habitat on the Forest.

C-9 Special Interest Species

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Special Interest Species: Golden Eagle & Prairie Falcon nesting territories	3 Years	Decrease of 10% or more in active nest territories as measured by a 100% annual sample of selected nest territories.

METHODS

The goal is to inventory and annually monitor a minimum number of nest territories each year so that in a three year period all nests of each species have been monitored. By completing this monitoring the Forest can obtain occupancy and nest production of all known nests.

Biologists recorded and mapped the location and date of sightings of golden eagle and prairie falcon in order to identify activity centers for suspected nest sites. Knowledgeable individuals were contacted for information on known nest sites. Surveys were conducted in suitable nest habitat and around existing nest sites to determine whether new nest sites had been developed. Nest territories were visited during the nesting season to determine the number of active nest sites and nest production.

On the Rocky Mountain Division, 37 golden eagle and 54 prairie falcon territories have been identified. All of these known territories were active at the time they were originally surveyed and recorded. No new nests were recorded during 1994.

On the Jefferson Division, a total of 6 golden eagle and 20 prairie falcon territories have been located in past years. Of this total, all of the known golden eagle territories and 17 of the known prairie falcon territories were located and inventoried prior to the development of the Forest Plan. Three additional prairie falcon territories have been located since 1988 in association with other work. All of these known territories were active at the time they were originally surveyed and recorded. No new nests were recorded during 1994.

FINDINGS

Limited monitoring of territories for golden eagle and prairie falcon took place in FY 1994.

The known nest territories for these two species on the Jefferson Division are located in cliffs, primarily in limestone formations. Foraging occurs on nearby grasslands or other open vegetative types on the National Forest and adjacent private land. Very few of these territories are located in the vicinity of areas where recent timber harvest, road construction or other development activities have taken place or are planned in the near future. As a result, monitoring these territories has received low priority; and few of the territories have been checked during the last five years.

Summary of golden eagle nesting territories is as follows:

Table C-9a GOLDEN EAGLE (Nesting Territories on Rocky Mt. Division)

Description	1989	1991	1992	1993	1994
Nesting Territories ¹	37	37	37	37	37
Territories Monitored	11	0	3	2	2

¹ Includes territories on adjacent State and BLM Lands.

Table C-9b GOLDEN EAGLE (Nesting Territories on Jefferson)

Description	1991	1992	1993	1994	1995
Nesting Territories ¹	6	10	10	10	
Territories Monitored	0	1	0	0	

¹ Data is incomplete prior to 1991

Summary of prairie falcon nesting territories is as follows:

Table C-9c PRAIRIE FALCON (Nesting Territories on Rocky Mt. Division)

Description	1989	1991	1992	1993	1994
Nesting Territories ¹	53	54	54	54	54
Territories Monitored	6	0	0	0	0

¹ Data is incomplete prior to 1989

Table C-9d PRAIRIE FALCON (Nesting Territories on Jefferson)

Description	1991	1992	1993	1994	1995
Nesting Territories ¹	20	20	20	20	
Territories Monitored	3	2	0	2	

¹ - Data is incomplete prior to 1991

C-10 Cavity Nesting Habitat

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Cavity Nesting Habitat for Northern 3-Toed Woodpecker - percent optimum habitat	5 Years	Reduction in snags to below numbers needed to maintain a viable population level of woodpeckers in any timber compartment as measured by a three year running mean compared to the existing percent optimum habitat

METHODS

An annual Forest review of selected timber sales is conducted to determine effectiveness of snag management guidelines and timber sale administrative guidelines. Monitoring efforts focus on stands where snag densities may change due to management activities.

Cavity dependent species habitat was measured by examining the gain, loss, or no change status of National Forest System acres of mature conifer stands.

Snag and nest surveys were conducted using the methods described in Morrison, et al. (1986) as modified to use monumented section corners as permanent reference points. Breeding bird plots were used to determine the presence or absence of avian species.

FINDINGS

Biologists have been recording pileated sightings for the past several years. They were not known to exist on the Forest at the time of Forest Plan preparation. The following are the observations of pileated woodpeckers in FY 1994:

ROCKY MOUNTAIN DIVISION

No observations of pileated woodpeckers were recorded.

JEFFERSON DIVISION

An old pileated woodpecker territory just off of Road No. 487 on the South Fork of the Judith River at the lower edge of Smith Flats was checked on June 29, 1994. The area checked contained the ponderosa pine snag where pileated woodpeckers were observed in the Fall of 1991 and again in the Spring of 1992. No pileated woodpeckers were seen or heard calling in that area on the day that it was checked. All of the bark has slipped from the large ponderosa snag. Northern flickers were quite numerous in the general area.

In May 1994, a pileated woodpecker was heard on the Checkerboard Transect of the Castle Mountains neotropical bird survey. The woodpecker was heard from Road No. 581 in the vicinity of Thorsens Pond. Pileated woodpeckers have been sighted in 1992 and 1993 in the same general area near the West Fork of Flagstaff Creek.

Snag Management

The retention of snags is affected by the firewood cutting policy and the timber harvesting activities on the Forest. Section E-9 of this report displays the annual sale of firewood on the Lewis and Clark National Forest and discusses the general trends in the firewood harvest activities on the Forest.

During FY 1994 the Forest continued issuing the Animal Inn brochure, Be An Innkeeper, in their firewood permit packages. This is an effort being made to educate and inform the public on the value of dead and down materials within the forest.

Snag Management Monitoring

Snags were marked with wildlife tree signs in eight cutting units in the Central Park Timber Sale following clearcut harvest. This completes snag marking scheduled for this sale area on the Kings Hill District. Monitoring is scheduled to check the retention of snags following a period of permitted firewood cutting. Snag marking was completed during sale layout on the Clyde Park Sale, Judith District. Snags were marked (painted) as reserve trees in eight clearcut units and as leave trees in three seed tree harvest units.

Snags were marked in four units following timber harvest on the Tillinghast Creek Sale area. A total of

50 large snags that were in areas accessible to wood cutters were marked with wildlife tree signs and yellow paint. Some of these trees had been painted as reserve trees prior to cutting. Most of the trees marked were lodgepole pine with DBH of 12 inches or greater and several of them had broken, spike or split tops.

Table C-10a displays the information gathered to date for snag monitoring on the Kings Hill District. There was no additional monitoring of the snags that were marked in FY 1992. Therefore, no additional results can be drawn from the monitoring that was completed and reported in the 1992 monitoring report.

Table C-10a MONITORING RESULTS FOR SNAG MANAGEMENT ON KINGS HILL RD

Sale Area	Stand #	Unit Size	# Snag Pre Logging	# Snag Post Logging	# Snag Post Firewd	Meets FP Std ¹	% Use by Wildlife
Last Chance Sale	77306014	25 A		9		N	89%
	77308014	33 A		11		N	45%
Wet Park Post/pole	71105028	13 A		6		N	17%
Quartzite-Moose	71108031	24A		9		N	11%
Central Park	78102045	34 A		47		Y	34%
	78102013	26 A		31		Y	19%
	78102010	32 A		111		Y	31%
Crossroads	77501017 78207069	36 A	196	145		Y/Y	41%

¹ Sale areas are within lodgepole and subalpine fir zones which the Standard requires .7-1.0 snags/acre.

RECOMMENDATIONS

The Kings Hill District needs to follow up snag monitoring on the sales in Table C-10a to measure the effect of firewood gathering in these units.

Emphasize the maintenance of large dbh snags which are likely to stand longer than small diameter snags (Raphael and Morrison 1987). Consider a maximum allowable dbh for cutting standing dead trees for woodcutting in selected areas.

Continue to mark (sign or paint) and inventory the live or dead trees required to meet long term snag management objectives as part of the timber sale layout and specify the protection of snags/trees in the sale contract. Conduct a post-harvest inventory to quantify the proportion of marked trees retained and to monitor future woodcutting activity.

C-11 Aquatic Habitat

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Aquatic Habitat Condition/Quality (Cutthroat Trout, Brook Trout, Rainbow Trout)	3 years	Decrease of 5% or more in fish habitat capability based on predicted or actual changes in water quality or fish habitat parameters in any stream or lake

METHODS

Monitor impacts from management actions that take place on the Forest, such as timber sales, wild-fire, prescribed fire, and grazing.

FINDINGS

ROCKY MOUNTAIN DIVISION

During 1994, 15 streams (26 miles) on the Rocky Mountain District were surveyed for hydrologic and fisheries habitat conditions. Stream components most likely to be affected by managed activities, primarily livestock grazing, were evaluated in the surveys. These include bank vegetation, bank condition, substrate composition, and pool depth.

Bank alteration from grazing in excess of 10% is considered to be a moderate effect; when more than 20% of the bank is disturbed, the effect on fish habitat is considered high. Estimates of bank alteration by grazing were 10% or less for all 15 streams surveyed. Effects on fish habitat from other human-related activities were not observed.

Several actions were taken recently to address negative grazing effects which had been noted in the 1993 Monitoring Report. Riparian exclosure fences were built in two areas of Willow Creek where grazing had been affecting aquatic habitat. In Beaver Creek, fences and a spring-fed water development were reconstructed to improve livestock management. Off-stream watering tanks and additional improvements are being considered for other streams where negative effects from grazing have been identified. Also, the entire Sun Canyon allotment group will be analyzed in an upcoming EIS which will address riparian issues.

Inventory and monitoring of westslope cutthroat trout populations also continued in five streams. Samples of cutthroat trout for genetic testing were collected from four of these streams (see section C-14). There is evidence of continued encroachment of non-native rainbow and brook trout populations into accessible native westslope cutthroat trout habitat.

JEFFERSON DIVISION

Hydrologic and fish habitat conditions were evaluated on 30 streams (90 miles) in the Jefferson Division during 1994. In 22 of these streams, bank alteration by grazing (where the streambank is laid back or collapsed) was estimated at 10% or less, which is considered a minor effect. However, eight of the streams had higher estimates of grazing impacts:

- Whitetail Cr (Musselshell R. basin): 15-35% bank alteration, 75% bank alteration in lower mile (stocking levels recently reduced)
- Spring Cr (Musselshell R. basin): 10-20% bank alteration
- Loco Cr (Musselshell R. basin): 30% bank alteration
- Bluff Mountain Cr (Judith R. basin): 80% bank alteration in one-third mile section.
- Smith Cr (Judith R. basin): 50-90% bank alteration (grazing system recently revised)
- S.Fk. Judith R: 15-25% bank alteration in 4 of 19 miles surveyed (grazing system recently revised)
- Highwood Cr: 40% bank alteration in 1-1/2 mile section
- Little Moose Cr. (Sheep Cr. basin): 20% bank alteration.

These estimates generally reflect long-term effects rather than single year influences. Likewise, recovery of streambanks is a slow process and will require long-term commitments. Efforts to reduce impacts through grazing plan revisions, exclosures, and improved permit administration are ongoing. For example, about one mile of North Fork Highwood Creek was protected with riparian enclosure fencing in 1994. The North Little Belts allotment group is currently being analyzed and revisions to address aquatic habitat needs are expected.

Evidence of riparian tree harvest was observed along less than 5% of the streambanks in all streams except Cabin Creek (tributary to S.Fk. Judith R.) where the estimate was 10%. For most streams, riparian logging was estimated as having occurred along 0-1% of the streambank.

Inventory and monitoring of westslope cutthroat trout populations was expanded in the Jefferson Division in 1994. Eleven streams were sampled and

the cutthroat trout have been submitted for genetic analysis (see section C-14). Non-native rainbow and brook trout populations continue to encroach upon accessible native westslope cutthroat trout habitat on this part of the Forest too.

Fish habitat improvement structures in Cottonwood Creek (Musselshell R.) were evaluated for continued function. The pool and cover structures were subsequently enhanced to increase their effectiveness.

RECOMMENDATIONS

Continue collection of data on the condition of fish habitat, especially within grazing allotments. Improve grazing management on affected fishery streams. Increase quantitative data collection for westslope cutthroat trout streams and investigate opportunities to exclude non-native trout from headwater refuge areas.

C-12 Habitat Improvement Outputs

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
T & E Habitat Improvement Outputs	Annually	Identify a 10% decline in accomplishments in T&E habitat improvement outputs as measured over a 5-year average and compared with the level specified in the Forest Plan (p 5-11)
Wildlife & Fish Habitat Improvement Outputs	Annually	Identify a 20% decline in accomplishments in wildlife & fish habitat improvement outputs as measured over a 5-year average and compared with the level specified in the Forest Plan (p 5-11)

METHODS

Analysis of data provided in the Management Attainment Report (MAR) which included: MAR 37.1, 37.2, 38.1, 38.2, 39.1 and 39.2.

FINDINGS

All targets assigned to the Forest for FY 1994 were not accomplished. The burning acres that were planned were not able to be completed because part of the area did not reach prescription. See Table C-12a for values discussed in the following Management Attainment Report (MAR) items.

37.1 Wildlife Habitat Improvement (Acres): A total of 1185 acres of wildlife habitat improvement was accomplished. Of this total, 430 acres were completed by the Partnership program, and 225 acres were accomplished with KV funds.

37.2 Wildlife Habitat Improvement (Structures): 20 structures were accomplished. Of this total, 8 structures were contributed via the engineering program (gates with timber sales), and 12 structures were accomplished with KV funds.

Wildlife

38.1 Fish Habitat Improvement (Acres): 20 acres were accomplished. All of this was accomplished using regular appropriated funds.

38.2 Fish Habitat Improvement (Structures): 6 structures were accomplished all with appropriated funds.

39.1 Habitat Improvement Threatened & Endangered (Acres): 239 acres were accomplished; 139 acres with appropriated funds, 100 acres by the Partnership program.

39.2 Habitat Improvement Threatened & Endangered (Structures): 5 structures were accomplished with appropriated funds.

Table C-12b displays the accomplishment for wildlife habitat improvement for the past seven years. The past trend is continuing and the Forest has exceeded the Forest Plan level in all MAR items except 37.2 (Structural improvement for wildlife) and 38.2 (Structural improvement for fisheries). A wildlife/fisheries program document has been developed that provides for a more detailed account of the potential for habitat improvement on the Forest. The program document displays that there is an increase in potential habitat improvement targets over the original Forest Plan and with a different mixture of projects. Currently, the program document is what the Forest is working from when assigning targets to individual Districts.

Table C-12a FY 1993 TARGETS & ACCOMPLISHMENTS COMPARED TO FOREST PLAN

MAR Code	Description ¹	Unit of Measure	Forest Plan	1994 Target	Accomplishment
37.1	WLDL HAB. IMPROV APP 01	Acres	600	610	530
37.1	WLDL HAB. IMPROV APP 02	Acres			430
37.1	WLDL HAB. IMPROV APP 03	Acres		391	225
37.1	WLDL HAB. IMPROV APP 04	Acres			
37.1	WLDL HAB. IMPROV APP 00	Acres	600	1001	1185
37.2	WLDL HAB. IMPROV APP 01	Struc	10	8	8
37.2	WLDL HAB. IMPROV APP 02	Struc			
37.2	WLDL HAB. IMPROV APP 03	Struc		13	12
37.2	WLDL HAB. IMPROV APP 04	Struc			
37.2	WLDL HAB. IMPROV APP 00	Struc	10	21	20
38.1	FISH HAB. IMPROV APP 01	Acres	5	60	20
38.1	FISH HAB. IMPROV APP 02	Acres			
38.1	FISH HAB. IMPROV APP 03	Acres			
38.1	FISH HAB. IMPROV APP 04	Acres			
38.1	FISH HAB. IMPROV APP 00	Acres	5	60	20
38.2	FISH HAB. IMPROV APP 01	Struc	25	6	6
38.2	FISH HAB. IMPROV APP 02	Struc			
38.2	FISH HAB. IMPROV APP 03	Struc			
38.2	FISH HAB. IMPROV APP 04	Struc			
38.2	FISH HAB. IMPROV APP 00	Struc	25	6	6
39.1	T&E HAB. IMPROV. APP 01	Acres	100	122	139
39.1	T&E HAB. IMPROV. APP 02	Acres			100
39.1	T&E HAB. IMPROV. APP 03	Acres			
39.1	T&E HAB. IMPROV. APP 04	Acres			
39.1	T&E HAB. IMPROV. APP 00	Acres	100	122	239
39.2	T&E HAB. IMPROV. APP 01	Struc	0	5	5
39.2	T&E HAB. IMPROV. APP 02	Struc			0
39.2	T&E HAB. IMPROV. APP 03	Struc			
39.2	T&E HAB. IMPROV. APP 04	Struc			
39.2	T&E HAB. IMPROV. APP 00	Struc	0	5	5

¹00 = MAR Code total

01 = FS funds (non-Challenge Cost-Share)

02 = Contributed (HRP programs) fund accomplishments for Partnership projects

03 = KV funds

04 = Carryover Dollars

Table C-12b WILDLIFE HABITAT IMPROVEMENT

Description ¹	Forest Plan	1988	1989	1990	1991	1992	1993	1994	7 Year Average
Non-Structural (Wildlife Acres)	600	1400	900	1117	450	555	765	960	878
Non-Structural (Fish Acres)	5	0	10	16	0	40	71	20	22
Non-Structural (T&E Acres)	100	0	0	500	634	620	210	239	315
Wildlife Structures	10	0	3	2	7	8	3	8	4
Fish Structures	25	19	11	19	23	30	18	6	18
T&E Structures	0	0	0	2	0	0	0	5	1

¹ - Figures do not include KV accomplishments

RECOMMENDATIONS

Continue updating the habitat improvement portion of the Wildlife/Fisheries program document so that it will become at least a 10 year habitat improvement program.

C-13 Oil & Gas Activity

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Oil & Gas Activity/Wildlife Monitoring - Rocky Mountain Front	Annually	Display the number of guidelines applied or not applied to projects that were accomplished for the fiscal year. This data can then be used to determine the cause of any decreases in populations that the RMF Guidelines were developed to protect.

METHODS

Examine major permitted activities in relation to the application of the Rocky Mountain Front Guidelines [(BLM, 1987) eg. gas/oil development, timber harvest, seismic operations, new road construction].

FINDINGS

No new oil and gas development projects were approved during the past year on National Forest System lands. Resource projects accomplished during the year were trail reconstruction, and two prescribed burns. Table C-13a summarizes how the Rocky Mountain Front Guidelines have been applied during the past 2 years.

In 1994, strict adherence to the Rocky Mountain Front Guidelines was not warranted for all projects. Coordination with MDFWP led to less stringent timing restrictions for lambing bighorn sheep and nesting raptors during the Gibson Lake Trail Reconstruction project. The revised restrictions enabled lambing bighorn sheep to move before any threats to lamb survival occurred. The reproductive success of nesting raptors was not jeopardized because nests near trail construction activity were not occupied before or after trail construction began. The analysis for this deviation from the Rocky Mountain Front Guidelines was documented in the environmental assessment for the Gibson Lake Trail project.

Rocky Mountain Front activity guidelines for elk, bighorn sheep and raptors were not followed for the McCarty Hill and Lime Gulch burns because the short duration of the disturbance (1 day) precluded any adverse effects. The analysis for this deviation from the Rocky Mountain Front Guidelines was documented in the environmental assessments for the McCarty Hill and Lime Gulch burns.

Table C-13a ROCKY MOUNTAIN FRONT GUIDELINES APPLIED

Year	Project Name	Species Affected	Guidelines Applied	Operation Window
1992	Beartree Timber Harvest	grizzly	All guidelines followed	July 1-Oct 15
1992	Ford Basin Burn	Bighorn/Elk	All guidelines followed except for a 1 day period affecting prairie falcon nesting habitat and elk and bighorn sheep calving/lambing areas.	
1993	Gibson Trail Reconstruction	grizzly, bighorn sheep, elk, raptors	Guidelines followed for grizzly. Not followed for wintering elk. Adjusted for lambing bighorns. Adjusted for nesting raptors.	Timing Window varies by year
1993	Beartree Timber Harvest	grizzly	All guidelines followed	July 1-Oct 15
1993	Sawtooth Ridge Burn	elk, bighorn sheep, raptors	Guidelines not followed for 1 day.	
1993	Little Badger Grazing Allotment	grizzly bear, mountain goat, elk	All guidelines followed except prohibition on sheep grazing in mountain goat habitat.	
1994	Gibson Trail Reconstruction	grizzly, bighorn sheep, elk, raptors	Guidelines followed for grizzly. Not followed for wintering elk. Adjusted for lambing bighorns. Adjusted for nesting raptors.	
1994	McCarty Hill Burn	elk, bighorn sheep	Guidelines not followed for 1 day.	
1994	Lime Gulch burn	elk, bighorn sheep	Guidelines not followed for 1 day.	

C-14 Sensitive Wildlife & Fish

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Determine distribution of sensitive wildlife & fish species on the Forest. Monitor annual trends in wildlife & fish habitat and species populations.	Annually	Failure to record any information within a two year period.

METHODS

This monitoring item, along with C-15, was added to the Forest Plan by Amendment No. 12. Surveys of the habitat are conducted to acquire population data on the species that are on the Lewis and Clark National Forest's sensitive species list.

FINDINGS

ROCKY MOUNTAIN DIVISION

Sensitive Fish

Five streams on the Rocky Mountain Division were inventoried in 1994 to determine the presence of purestrain westslope cutthroat trout. Cutthroat trout were found and collected from 4 of these streams and sent to the University of Montana for genetic analysis. Results have not yet been received. Available electrophoretic testing results, including the latest received in 1994 for the 1993 samples, are displayed in Table C-14b.

Sensitive Animal

Following completion of a 4-year study on harlequin ducks, the Rocky Mountain District initiated an annual monitoring program. All streams with breeding harlequins will be monitored every other year to

determine any changes in population size and annual productivity.

The Rocky Mountain Front population is estimated at 40 breeding pairs, producing 7-18 broods annually. Poor reproduction years (1991) appear to be a product of heavy spring floods. The harlequin duck population on the Rocky Mountain Front is approximately 35% of Montana's total population.

In 1994, streams in the Sun River drainages were systematically monitored. In May, 2 harlequin duck pairs were observed in the South Fork Sun River, 7 pairs were observed in the West Fork Sun River, 2 pairs were observed in Ahorn Creek and 1 pair was observed in the North Fork Sun River. In August, three broods were observed on the South Fork Sun River. No broods were observed on the North Fork Sun River, West Fork Sun River or Straight Creek. A single brood was observed on Straight Creek by a FS trail crew during late June.

Although spring pair counts were high, 1994 was a poor year for harlequin duck productivity. Between 1990 and 1992, there was an average minimum brood count of 6/year (range=4-8) in Sun River Drainages. The 1994 minimum brood count of 3 is below average. Mean brood size was 5 ducklings. This is above the district mean late summer brood size of 3.5 ducklings.

Table C-14a HARLEQUIN DUCK (Minimum Brood numbers on Rocky Mt. Division)

Drainage	1990	1991	1992	1993	1994
Sun River	8	4	5	4*	4
Birch Creek	1	1	1	2	0*
Badger Creek	3	0	6	4	0*
Teton	0	0	1	0*	0*

* Incidental sightings; no systematic monitoring

In 1994, an amphibian and reptile inventory survey was started with the Montana Natural Heritage Program along the Rocky Mountain Front. Twenty sites were surveyed. The species that were identified on the Rocky Mountain Front include: tailed frog, western toad, spotted frog, long-toed salamander, chorus frog, western garter snake and common garter snake. These species will be surveyed and inventoried more closely in the future.

JEFFERSON DIVISION

Sensitive Fish

Cutthroat trout samples were taken from six streams in the Judith River drainage, two streams in the Belt Creek drainage, two streams in the Smith River drainage, and one stream in the Musselshell River drainage. These fish were sent to the University of Montana for genetic analysis. Results will be available in 1995. cursory surveys indicated that several other streams may contain westslope cutthroat trout, and these will be scheduled for sampling in 1995 and 1996.

A current summary of cutthroat trout testing completed on the Forest over the last 10+ years is displayed in Table C-14b; results received in 1994 for the 1993 samples are included.

Table C-14b ELECTROPHORETIC TESTING RESULTS FOR CUTTHROAT TROUT

Drainage	Stream	Year Sampled	Location	Sample Size	Results*
Two Medicine	E.Fk Woods Cr	94	T29N R12W S5	10	pending
	Whiterock Cr	92/94/94	T29N R12W S3/10/16	7/6/4	P/pending/pending
	Lost Shirt Cr	92/93	T29N R12W S7	3/11	P/WsctxRb
	Rowe Cr	93	T30N R13W S1,2	9	WsctxRb
	unnamed creek	93	T30N R13W S2	12	WsctxRb
	Sydney Cr	92/93	T29N R12W S17	7/6	WsctxRb/WsctxRb
	Summit Cr	92	taken by State		WsctxRb
	N.Fk Little Badger Cr	91	T30N R12W S25	17	WsctxYctxRb
	S.Fk Two-Med R	84	T29N R12W S7	15	WsctxRb
Woods Cr	84	T29N R12W S7	10	WsctxRb	
Badger	Badger Cabin Cr	92/93	T29N R12W S23	10/10	P/P
	Badger Cr	91/92	see district file	3	WsctxRb
	Red Poacher Cr	92	T29N R12W S23	10	P
	Limestone Cr	91	T29N R11W S29	4	WsctxYctxRb
	Lonesome Cr	91	T29N R11W S30	3	WsctxRb
	South Badger Cr	90/91	T29N R12W S25	13	P/P
	North Badger Cr	85	T29N R12W S27/34	30	P
Lee Cr	84	T29N R12W S27	15	P	
Birch	Hungry Man Cr	92	T28N R10W S19	10	WsctxRb
Dupuyer	S.Fk Dupuyer Cr	91	T27N R9W S35	14	WsctxYct
	N.Fk Dupuyer Cr	90	T27N R9W S22	14	WsctxRb

Table C-14b ELECTROPHORETIC TESTING RESULTS FOR CUTTHROAT TROUT (continued)

Drainage	Stream	Year Sampled	Location	Sample Size	Results*
Teton	Green Gu (Low)	92/94	T24N R9W S9/9	6/9	WscTxRb/pending
	Green Gu (Up)	93	T24N R9W S15,16	8	P
	Mid. Fk Teton R	92	T25N R9W S26	11	WscTxRb
	Waldron Cr	92	taken by State		P
	S.Fk Waldron Cr	92	taken by State		WscTxRb
	Rierdon Gu	92	T24N R9W S3	15	WscTxRb
	N.Fk Waldron Cr	90	T25N R9W S17	23	P
	N.Fk Willow Cr	90	T24N R8W S9	22	P
	E.Fk Willow Cr	90	taken by State	10	P
	Cow Cr	90	T26N R8W S5	15	P
Sun River	Lime Gu	94	T20N R9W S24	10	pending
	N.Fk Ford Cr	93	T19N R9W S11	10	WscTxRbxYct
	Little Willow Cr	92	taken by State		WscTxYct
Smith	Fourmile Cr	93/94	T9N R8E S21/27	10/12	P/pending
	Daniels Cr	90/94	T12N R7E S11/14	2/8	P/pending
	W.Fk Cottonwood Cr	92	T8N R7E S23	10	P
	Adams Cr	90	T12N R7E S24	10	WscTxRb
	N.Fk Deadman Cr	89	T12N R8E S14	10	P
	Tenderfoot Cr	88	T14N R6E S30	5	WscTxRb
	Balsinger Cr	88	T14N R6E S20	36	WscTxYctxRb
	N.Fk Deep Cr	80/85	T15N R5E S20/19	29/30	P/P
	S.Fk Deep Cr	85	T15N R5E S31	15	WscTxRb
Belt	Upper Belt Cr	94	T13N R8E S22	21	pending
	Upper Belt trib	94	T13N R8E S22	7	pending
	Pilgrim Cr	90	T15N R6E S3	7	WscTxRb
	Jefferson Cr	90	T13N R8E S2	10	P
	Chamberlain Cr	90	T13N R8E S2	10	P
	Logging Cr	89	T15N R5E S26	5	P
	Dry Fk/Oti Cr	89	T15N R9E S29	5	P
	N.Fk Little Belt Cr	80	taken by State	10	P
Judith	Placer Cr	94	T14N R9E S1	6	pending
	Lyon Gu	94	T14N R10E S18	4	pending
	Snow Cr	94	T14N R9E S23	3	pending
	Dry Wolf Cr	90/94	T14N R9E S13/23	4/12	P/pending
	Elk Cr	94	T13N R10E S5	3	pending
	Yogo Cr	88/94	T13N R10E S3/5	5/8	WscTxRb/pending
	S.Fk Judith R	84	T11N R10E S9	30	WscTxYctxRb
Musselshell	Half Moon Cr	94	taken by State	25	pending
	E.Fk Haymaker Cr	94	T11N R12E S35	15	pending
	Forest Lake	83	T6N R10E S26	26	WscTxYctxRb

* P = pure, sample contained no genetic material from rainbow or Yellowstone cutthroat trout; WscTxRb = rainbow trout hybridism; WscTxYct = Yellowstone cutthroat trout hybridism; WscTxYctxRb = rainbow and Yellowstone cutthroat trout hybridism.

Sensitive Animal

In FY 1993 a partnership was entered with the Montana Heritage Program to determine the species and type of use that Lick Creek Cave was receiving from bats. A spring survey was completed and a late fall survey was completed. The Forest did not receive the report from the Heritage Program in 1994 documenting the results of these surveys.

The amphibian and reptile inventory survey which was discussed under the section for the Rocky Mountain Division was also conducted on portions of the Jefferson Division of the Forest in 1994. Results of these surveys have not yet been completed by the Heritage Program.

Preliminary field inventories of suitable habitat for boreal owl, lynx and wolverine were done in portions of the Belt Creek drainage east of U.S. Highway 89 in the Little Belt Mountains in 1994. The entire Belt Creek drainage will be evaluated in an ecosystem assessment which will be started in 1995.

RECOMMENDATIONS

Continue testing cutthroat trout for genetic purity in streams throughout the Forest. Continue with cursory initial sampling to define distribution of cutthroat trout throughout the Forest.

Continue survey work for all of the sensitive animal species for which little information exists.

C-15 Sensitive Plant Program

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Determine distribution of sensitive plants on the Forest. Conduct demographic monitoring & taxonomic studies to assess population viability.	Annually	Failure to record any information in a two year period.

METHODS

Conduct surveys of the habitat to acquire population data on the species that are on the Lewis and Clark National Forest's sensitive species list.

FINDINGS

Sensitive plants are those species for which population viability is a concern, as evidenced by a significant current or predicted downward trend in population or habitat capability. In 1988 the Regional Forester approved the Region's first sensitive plant list, which was updated in 1991 and 1994. The Regional Forester's 1994 sensitive plant list includes seventeen sensitive plant species known to occur on the Lewis and Clark National Forest and eleven additional sensitive species that botanists suspect may occur on the Forest.

Peculiar moonwort is the highest priority sensitive plant species on the Forest, based on the ranking system of the Montana Natural Heritage Program. Peculiar moonwort is ranked G1 S1, critically imperiled both globally and statewide, and is being considered by the U.S. Fish and Wildlife Service for listing under the Endangered Species Act. Also of special importance are the sensitive plants known in Montana exclusively, or largely, from the Lewis and Clark National Forest. The Forest has all of the known occurrences in Montana of ascending moonwort, leadville milkvetch, short-styled columbine, and dwarf saw-wort. Most of the Montana occurrences of the following species are also from the Lewis and Clark National Forest: fuzzyspike wildrye, stalked-pod crazyweed, and northern rattlesnake-plantain. A complete list of the sensitive plants known to occur on the Forest are listed in Table C-15a.

Sensitive plant species are known to occur in four of the seven mountain ranges on the Forest. Thirteen sensitive plant species are known from the Rockies, six from the Little Belt Mountains, and one each from the Big Snowy Mountains and Castle Mountains. There are no sensitive plant species known from the Crazy Mountains, Highwood Mountains or Little Snowy Mountains.

The information on sensitive plants is based on field inventories conducted under contract with the Montana Natural Heritage Program, and by Forest Service employees and volunteers. National Forest sensitive plant survey data is stored in National Forest files and summarized in a Forest Service survey database. Information on the occurrence of sensitive plant species has been acquired both from field surveys and from the database maintained by the Montana Natural Heritage Program. This occurrence database is accessible to the Forest Service through its computer system and/or through contact with the Botanist or Database Manager of the Montana Natural Heritage Program.

National Forest sensitive plant inventories on the Forest began in 1988 when the Regional Forester approved the first sensitive plant list. The first surveys focused on relocating reported occurrences of

sensitive species and searches of suitable habitat in the vicinity of known occurrences. Later, the focus of surveys shifted to suitable habitat in areas where planned activities could potentially disturb sensitive plants. The majority of sensitive plant surveys have been conducted in the Rocky Mountain Division and the Little Belt Mountains of the Jefferson Division. A few sensitive plant surveys have been conducted in the Castle Mountains, the Big Snowy Mountains, and the Little Snowy Mountains, but little botanical investigation has occurred in the Crazy Mountains or Highwood Mountains.

Sensitive plants generally have very specific habitat requirements, having rather narrow ecological amplitudes. Habitats supporting the sensitive plant species, known or suspected to occur on the Forest, have been classified into four broad categories: alpine, meadow, moist forest, and riparian. Sensitive plant species often occur within a narrow geographic range and/or special micro-habitats within these broad habitat categories. The 28 species of sensitive plants known or suspected on the Forest occur primarily in the habitats as follows: riparian (18), alpine (10), meadow (7), and moist forest (2). (Note: numbers exceed 28 because some species occur in more than one habitat).

Table C-15a SENSITIVE PLANTS KNOWN TO OCCUR ON THE LEWIS AND CLARK NF

Species Name	Population Status	Monitoring Studies	Reports Prepared
ROCKY MOUNTAIN DIVISION			
Ascending moonwort	1 occurrence on L&C and MT.	none	none
Austin's knotweed	2 occurrences on L&C, 10 in MT.	none	none
Dwarf saw-wort	8 occurrences on L&C, 8 in MT, pops are small.	none	none
Fuzzyspike wildrye	2 occurrences on L&C (1 on D-1), 3 in MT, small populations.	none	none
Giant helleborine	1 occurrence on L&C, 18 in MT, pop. appears stable	none	none
Green-keeled cottonsedge	3 occurrences on L&C (very small), 30 in MT.	none	none
Leadville milkvetch	8 occurrences on L&C, 8 in MT, sparse distribution, pops appear stable	none	Status Review 1990
Mingan Island moonwort	2 occurrences on L&C, 1 on RMD, 12 in MT.	none	none
Peculiar moonwort	1 occurrence on L&C (very small), 2nd pop possibly extirpated, 7 in MT.	1 study, tracked since 1989	none
Round-leaved orchis	13 occurrences on L&C, 25 in MT.	1 study initiated 1989	Status Review 1988
Small yellow lady's slipper	6 occurrences on L&C (1 partly vandalized), 43 in MT.	none	none
Sparrow's egg lady's slipper	7 occurrences on L&C (all small), 23 in MT.	1 study 1988, fenced 1989	none
Stalked-pod crazyweed	4 occurrences on L&C, 5 in MT.	none	none
JEFFERSON DIVISION			
Fuzzyspike wild rye	2 occurrences on L&C (1 on Jefferson), 3 in MT, small pops.	none	none
Mingan Island moonwort	2 occurrences on L&C, 1 on Jeff., 12 in MT.	none	none
Missoula phlox	5 occurrences on L&C, 13 in MT, pops appear stable, taxonomic questions	none	Status Review 1991
Northern rattlesnake-plantain	34 occurrences on L&C, 35 in MT, may have been reduced by past logging & wildfire.	1 permanent plot tracked 1988-89. Studies initiated: 1991-2, 1992-2, 1993-2.	Status Review 1991, demographic monitoring in progress
Pink agoseris	26 occurrences on L&C, 62 in MT.	none	Status Review 1991
Short-styled columbine	11 occurrences on L&C, 11 in MT, narrow distribution.	1 demographic and 1 genetic study	none

Projects on the Forest that involve ground disturbance are evaluated for potential effects on sensitive plants. Projects which occur in areas that have a low probability of sensitive plant occurrence, as determined by pre-field habitat assessments, may not receive field surveys. Field survey accomplishments on the Forest are reported in Table C-15b.

Table C-15b SENSITIVE PLANT FIELD SURVEY ACCOMPLISHMENTS

Year	Project Areas Surveyed	Acreage Surveyed	New Populations Located
1991	Timber projects	1842	20
	Range projects	5	2
	Sensitive plant projects	1288	14
	Miscellaneous	185	4
	TOTAL	3320	40
1992	Timber projects	1120	6
	Range Projects	590	1
	Sensitive plant	783	7
	Research Natural Area	3161	0
	Recreation	103	0
	Land exchange	300	0
	Miscellaneous	21	0
		TOTAL	6078
1993	Timber projects	2664	11 revised, 9 new
	Range projects	285	8 revised, 6 new
	Sensitive plant proj	49	0 revised, 1 new
	Research Natural Area	270	2 revised, 0 new
	Wildlife	2	1 revised, 1 new
	Special Uses	5	0
	Minerals	2	0
		TOTAL	3277
1994	Timber projects	1591	17 revised
	Range projects	560	2 revised
	Sensitive plant proj	185	2 revised, 2 new
	Wildlife	25	0
	Special Uses	43	0
	Minerals, oil & gas	100	0
	Recreation, Fire	128	0
	TOTAL	2632	21 revised, 2 new

RANGE

D-1 Range Outputs

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Range Outputs	Annually	+/- 10% of target

FINDINGS

Summary of Forest Plan 10-year average Range Management targets and actual accomplishment for FY 1987 through FY 1994 is as follows:

Table D-1a RANGE ACCOMPLISHMENTS

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Permitted Grazing Use (M AUM)	71.1	70.5	72.3	72.4	71.9	71.2	70.3	69.5	72.7		
Improvement Nonstructural (Acres)	1329	1999	2433	1607	562	402	550	110	453		
Improvement Structural (Structures ¹)	40	30	18	26	35	28	37	31	32		
Range Plans (Plans)	10	5	4	4	0	2	1	1	0		
Noxious Weed Chemical/Manual (Acres)	600	772	616	636	472	1062	1108	1067	1305		
Noxious Weed Biological (Acres)		370	150	222	40	146	153	198	210		

¹Unit is "Structures". Fence and water system miles are doubled (1/2 mi.=1 structure).

M AUM = Thousand Animal Unit Month.

Permitted grazing use, Thousand Animal Unit Month (M AUM), in FY 1994 is within 1% of the Forest Plan projection and therefore requires no further evaluation. Permitted use is based on the grazing permits issued and estimates of recreation pack stock use before the grazing season begins. At the end of the grazing season the actual grazing use is gathered and reported. Actual grazing use in FY 1994 was 62.2 M AUM. The eight-year average actual use (1987 through 1994) is 61.5 M AUM.

Nonstructural Range Improvements in FY 1994 are 34% of the Forest Plan projected output of 1329 acres per year for the first decade. There has been a decline in non-structural improvement on the For-

est since 1989. The five year average accomplishment in non-structural range improvement (1990-1994) is 415 acres per year, which is only 31% of the projected Forest Plan output in the first decade. Most non-structural improvement is prescribed burning to control trees and sagebrush that are invading or increasing on traditional grazing lands, thus reducing forage production for livestock. Under the present trend in under accomplishment of this activity, the Forest is rapidly falling behind and can expect declining forage production. Problems with overstocked range, as the forage base for permitted livestock declines, will inevitably result.

Structural Range Improvements in FY 1994 (32) is 80% of the Forest Plan projection and is below the 10% variability that would require further evaluation. The eight year average (30 structures) is 75% of the projected Forest Plan output. The eight year average for funding (\$45.8 M) has been 70% of the projected Forest Plan budget at the fully funded level. Continued funding at this level will result in under accomplishment in structural range improvement during the first decade of Forest Plan implementation. Future permitted grazing use at current, increased, and/or sustainable levels with other resource uses in the second decade of the Forest Plan, will not be possible.

No new allotment management plans (AMP) were completed in FY 1994. In FY 1994, the Forest has again under accomplished its projected goal. How-

ever, the Forest made significant progress toward correcting the problem with the initiation of the North Little Belts EIS process and the ongoing work with the Castle Mountains EIS. See monitoring item D-4 for further evaluation and discussion of the new Forest schedule for range allotment planning.

Noxious weed control by chemical and manual methods in FY 1994 is 1305 acres, or 217% of the Forest Plan projection of 600 acres per year. The eight year average (880 acres) is 147% of the Forest Plan projection. This over achievement represents a higher commitment to noxious weed control resulting from the noxious weed analysis after the Forest Plan was approved, and subsequent Noxious Weed Control Final EIS of 1987 and Supplemental EIS of May 1994.

D-2 Range Condition & Trend

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Range Condition	Annually	Acres of range in fair or less condition that have not shown any improvement in condition score during the monitoring interval (10 years).
Range Trend	Annually	Any acres in downward trend which were previously (at the last reading) stable or in an upward trend. Any acres in downward trend which still show a downward trend after another monitoring interval (10 years).

FINDINGS

There are 277 condition and trend studies on 239 range allotments on the Forest. Summary of FY 1987 through FY 1994 range condition and trend studies are as follows:

Range

Table D-2a RANGE CONDITION AND TREND (Each)

Description	Existing	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Condition/Trend Studies	277	0	28	8	4	0	0	2	0		
Allotments Monitored	239	0	12	4	2	0	0	1	0		

There are 37 permanent vegetation trend studies on 25 allotments, established in FY 1991, to monitor results of noxious weed treatment. Two of these studies, density transects, were monitored in FY 1994.

RECOMMENDATIONS

The level of range condition and trend monitoring in FY 1994 is not adequate to evaluate current condition and trend. These studies are site-specific and are only indicators of what condition and trend may be over a broader area. To determine acres that are in condition or trend classes, an inventory of all suitable acres is required. Inventories are conducted during the allotment management planning pro-

cess. Current conditions cannot be adequately evaluated until the allotment planning process is completed on schedule (refer to D-4). The Forest is converting to an ecosystem analysis methodology for inventory and monitoring, based upon similarity to the potential natural community. This conversion will be done over a period of years as new allotment management plans are completed. As new and revised plans are completed, monitoring locations and methods will be re-evaluated in order to provide the most effective monitoring. A method of comparing the new ecosystem methodology to the former condition and trend methodology should be developed. The change in inventory and monitoring methodology should be addressed in the 10-year revision of the Forest Plan.

D-3 Supply

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Supply	Annually	More than 1% reduction in suitable range acres from previous year. Cumulatively, any reduction of 3% or more in suitable range acres over a 5-year period.

FINDINGS

Suitable range on National Forest land within allotments in FY 1994 is 210,800 acres. Reductions in reported suitable range since FY 1987 has been a result of more precise range analysis and natural

succession from forage producing plant communities to tree dominated plant communities.

Summary of FY 1987 through FY 1994 suitable range acres reported is as follows:

Table D-3a SUITABLE RANGE (Thousand Acres)

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Suitable Range	249.2	249.2	249.3	242.2	220.9	220.9	210.8	210.8		

D-4 Allotment Management Plan Status

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Allotment Management Plan Status	5-years	More than 10% of the allotment plans are outdated. On the average, plans approved more than 15 years ago (before 1980) are considered to be outdated.

FINDINGS

All 239 range allotments were considered in the FY 1994 report, including cattle, sheep, and horse allotments, administrative pastures, special use pas-

tures, and commercial packer grazing areas. A summary of the number of allotments and allotment management plans follows (end of fiscal year):

Table D-4a STATUS OF ALLOTMENT MANAGEMENT PLANS

Category	Number of Allotments	Percent of Allotments
Total allotments	239	100
Total allotment management plans	158	66
Allotments without plans	81	34
Outdated plans (approved before 1980)	87	36
Plans that will become outdated during this decade (approved 1980-81)	26	11
Plans scheduled to be completed during this decade (1995-96)	(49)	(20)
Total allotments outdated by the end of the decade (1996)	145	61

Although 19 new or revised AMPs were scheduled for completion, no AMPs were completed in FY 1994. The Environmental Impact Statement process is several months behind schedule. In addition, the permittees requested a review of the technical information, pursuant to Section 8 of the Public Rangelands Improvement Act, which will delay the Final Environmental Impact Statement until the end of FY 1995 or beyond.

The data in the summary table shows a major departure from the Forest Plan standard of "less than 10 percent of AMPs outdated." To resolve this problem in future decades, and bring grazing management and planning into compliance with the Forest Plan, a new allotment management planning process and organization was implemented in FY 1991 (revised October 1993). The revised schedule provides for completion of revised or new AMPs for all 239 allotments over a 12-year period (by 2005). Processes need to become more efficient and effective in order to complete the AMPs on schedule.

Range

Summary of FY 1987 through FY 1994 range allotment management plan accomplishment and AMPs scheduled for completion (*) are as follows:

Table D-4b ALLOTMENT MANAGEMENT PLANS (Each)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
New Plans	10 ¹	2	0	0	0	0	0	0	0	4*	8*
Revision of Existing Plans		3	4	4	0	2	1	1	0	15*	21*

¹ - Includes both new and revision of existing Allotment Management Plans.

RECOMMENDATIONS

Develop a schedule for integrated landscape assessments which would provide for accomplishing inventories for all resources on the same landscape area in the same year. The range analysis and planning schedule would then be coordinated with the broader assessments. This would increase the efficiency and effectiveness by resource specialists and accelerate the range analysis and planning process.

TIMBER

E-1 Silvicultural Prescriptions Meet MA Goals

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure silvicultural management prescriptions are best suited to management area goals with all resources considered	Annually	A departure from management prescription

METHODS

One timber sale is reviewed on-the-ground annually by an interdisciplinary team.

FINDINGS

An interdisciplinary sale review was conducted on portions of the Smokey B and Corridor Timber Sales on the Kings Hill District as part of the Regional Office sale preparation review. The Environmental Impact Statement for the sales was completed in January 1994. The Forest Supervisor's decision was appealed but sustained by the Regional Forester. In July 1994, a lawsuit was filed against the Forest Service in regard to the decision. Three of the sales have been prepared, but no contracts have been awarded.

Units of the five timber sales proposed within the project area are located in Management Areas A (1119 acres), B (1777 acres) and C (103 acres). The proposal involves 718 acres of clearcutting, 502 acres of seed tree cuts, 209 acres of shelterwood seed cuts, 592 acres of removal cuts from regener-

ated seed tree or shelterwood units, 549 acres of selection cutting, 80 acres of salvage, 201 acres of commercial thinning, and 148 acres of post and pole harvest. The proposed road system involves 2.2 miles of construction and 18.6 miles of reconstruction. Prescribed fire and mechanical treatments will also be used to rejuvenate aspen and grasslands.

The review group felt that the prescriptions meet and usually exceed short term management area goals. Units have been located to minimize fragmentation and disturbance to elk security areas. Prescriptions have been chosen to be consistent with visual management objectives. Best management practices are being used for activities done in conjunction with the timber sale. However, in some cases, the proposed treatments are not adequately considering the biology of tree species, physical factors and damaging agents. This will affect our ability to meet long term desired conditions for those stands.

E-2 Prescription Selections

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure prescription not primarily chosen on basis of greatest dollar return or greatest timber output	5-years	Test management area outputs against those predicted

Timber

METHODS

Review of a large timber sale sold during the fiscal year.

FINDINGS

As stated above, the silvicultural prescriptions for these sales calls for selection, overstory removal, seedtree, salvage, and clearcutting. Trees will be retained in all units to meet diversity, aesthetic and wildlife objectives. Most of the units will be tractor logged, although cable logging will occur on steeper slopes and in areas of sensitive soils. Most slash reduction and site preparation for natural regeneration will be accomplished by mechanical treatments. The prescription chosen for each stand was based on the type and condition of the timber stands and the objectives for the management area. Economics and volume realized were not the principle reasons for selecting the silvicultural method.

The seed tree and shelterwood methods were chosen to provide benefits to the wildlife and visual resources as well as providing additional assurance of reforestation success. Marking of leave trees resulted in a direct cost to the government and reduction in immediate volume obtained from the stands. Some of the residual trees will be left on site indefinitely which will result in a loss of existing and future volume. The removal of the remaining trees will result in the costs of preparing and administering another sale.

One major sale was actual sold in FY 1994. The predicted high bids for the Polecat Timber Sales was \$184.79 MBF. The advertised rates was \$149.57 MBF and the actual bid was \$170.00 MBF. The predicted acres and volume for the Polecat timber sales were 353 acres/1.6 MMBF. The actual acres and volume sold were 340 acres/1.6 MMBF.

E-3 Timber Openings

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure openings comply with size limits and are periodically evaluated for appropriateness	Annually	Unacceptable results of an ID Team Review

METHODS

One timber sale is reviewed on-the-ground annually by an interdisciplinary team.

FINDINGS

The 112 units in the selected alternative varied in size from 4 to 123 acres. None of the even-aged treatment units are larger than 40 acres. Ten units involving selection cuts, commercial thinnings and

final removal of overstory from regenerated units are larger than 40 acres. The small units are responsive to visual and wildlife values and fit the ground. From a landscape standpoint, they are much smaller than the patches that were created by historic processes.

A review of Forest Supervisor authority timber sales sold during FY 1994 shows that no cutting units exceeded the 40 acre limitation.

E-4 Timber Offered/ASQ for Decade

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure timber offered does not differ from allowable sale quantity (ASQ) for 10-year period	Annually	+/- 20% annually or +/- 10% over a five year period

The ASQ is compiled in an annual Regional Report. The volume figures are obtained from the Timber Cut and Sold Reports.

FINDINGS

The allowable sale quantity (ASQ) is the amount of timber that may be sold from suitable forest lands

during a ten-year period. It is usually expressed on an average annual basis. The ASQ can not be exceeded on a decade basis. It should be noted that the Clyde Park Timber Sale was included in FY 1993 volumes and is not in this figure for FY 1994.

A summary of the ASQ sold for FYs 1987-FY 1994 is as follows:

Table E-4a ASQ (Million Board Feet)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Allowable Sale Quantity (ASQ)	12.1	7.2	9.1	6.3	8.3	15.7	22.9	7.3	1.7		

During the first eight years of the Forest Plan, the Forest has sold about 81% of the average annual ASQ. Although annual variation has been greater than 20%, we are within the five year variability of 10% for the last 5 years.

In addition to the ASQ, the Forest monitors its yearly timber program. The yearly timber program is an agreement between the Forest Supervisor and the Regional Forester based on yearly Congressional targets and appropriations. The total timber program for the Forest includes all timber products such as sawlogs, poles, posts, houselogs, and firewood.

Credit for meeting the yearly timber program includes the volume sold, volume offered for sale, and

volume delayed because of appeals. During FY 1994, the Forest sold or offered for sale 14.7 million board feet (MMBF). Of this amount, 4.9 MMBF was current year sell, and 3.0 MMBF was offered in FY 1993 but actually sold in FY 1994, 6.6 MMBF was offered but had no bids and was held up by lawsuit and .2 MMBF was offered but not sold. The 6.6 MMBF not offered due to lawsuit is the same 6.0 MMBF that was appealed in FY 1993 and the Forest Supervisor's decision was sustained by the Regional Forester. The bid was opened on September 29, 1994 for Polecat (1.6 MMBF) and it was not awarded until October. Therefore, it is not included in volume sold figures. It is shown in volume offered but not sold.

Timber

A summary of FYs 1987-1994 timber program is as follows:

Table E-4b TIMBER PROGRAM (Million Board Feet)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Annual Forest Sell Program (Target)1/	14.0	11.6	14.8	15.1	14.2	28.0	25.5	13.0	19.0		
Volume Sold		7.9	8.8	4.5	5.0	15.9	25.0	9.5	3.3		
Volume Offered but not sold		1.3*	-	0.1	0.6	2.6	1.2	0.1	0.2		
Volume Appealed		2.5	7.2	5.1	0.0	9.5	0.0	6.0	6.6		
Volume Sold From Previous FYs			(1.9)	(2.4)	(5.5)	(2.0)	(0.6)	(3.1)	(3.0)		

1/ FY92 target includes planned carry-over volume of 10.5 MMBF.

1/ FY94 target includes carry-over volume of 6.0 MMBF for Smokey B.

Differences in total volume figures are due to rounding.

E-5 Restocking

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure restocking is in progress within 5 years	Annually	Unacceptable results of an ID Team Review

METHODS

Stocking surveys are conducted on each District.

FINDINGS

Stands receiving a final harvest cut from 1976 through 1989 (those stands harvested five or more years ago and since the adoption of the National Forest Management Act) have 92% of the acres satisfactorily stocked within five years. When only the stands from 1980 to 1989 are considered, the success rate is 97%. Downfall in the earlier years is primarily due to waiting for seedlings to reach a minimum height standard. Currently, 98% of all stands with final harvest from 1976 through 1989 are satisfactorily stocked. The remaining

stands were either planted last fall or are scheduled for planting in FY 1995.

The survey results indicate that a few of the stands planned for natural regeneration are not on trajectory. In most cases this is because first year exams sometimes don't have inadequate number of seedlings or the site condition is questionable for plantation success. Those stands will be reevaluated at the time of the third year exam and a decision made then on whether or not additional treatment is needed.

In general, reforestation success on harvested lands on the Lewis and Clark National Forest has a high ratio of successful seedling establishment.

E-6 Acres Harvested

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure timber acres harvested are as projected	5 years	+/- 10% deviation over a five year period

METHODS

Data on acres harvested are excerpted from the Timber Stand Management Record System and from the Timber Cut and Sold Reports.

FINDINGS

Harvested acres in 1994 is 1538 acres and the harvested volume is 14.5 MMBF.

The Forest Plan projected that annual harvest would average about 1,800 acres of regeneration harvest and 210 acres of intermediate harvest. So far, average

area treated is 1187 acres annually. Silvicultural methods are 53% clearcut, 28% shelterwood, 2% selection and 17% intermediate. Volumes per acre realized are 10.9 MBF/Acre vs 7.0 MBF/Acre that was expected in the Forest Plan. Even with the emphasis on using methods other than clearcutting, it is expected that the acreage harvested will be less than predicted in the Forest Plan.

Summary of FY 1987 through FY 1994 timber volume under contract, acres, and volume harvested is as follows:

Table E-6a TIMBER UNDER CONTRACT AND VOLUME & ACRES HARVESTED

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Volume Under Contract (MMBF) (1)	-	29.1	26.4	21.9	22.7	26.8	30.1	27.4	17.5		
Acres Harvested	1,800	1,144	775	786	1051	914	2890	401	1538		
Volume Harvested (MMBF) (2)	-	16.8	11.1	11.7	10.5	10.3	23.3	5.6	14.5		

(1) Data for Volume Under Contract for 1987 through 1990 has been adjusted to include estimates for per acre material (PAM).

(2) Does not include personal firewood volume.

E-7 Thinning & Silvicultural Accomplishments

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure accomplishment of thinning and other silvicultural treatments as projected in plan	5 years	+/- 10% deviation over a five year period

Timber

METHODS

Data for this monitoring item is obtained from the Regional Report from the Timber Stand Management Record System.

FINDINGS

The following table indicates accomplishment of timber stand improvement (TSI) and other silvicultural treatments:

Table E-7aTIMBER STAND IMPROVEMENT

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Silvicultural Exams (Thousand Acres)	15.5	45.3	34.0	*	*	*	*	*	*	*	*
Silvicultural Exams (Thousand Acres)	28.0	*	*	28.2	37.3	35.4	14.6	9.4	9.3		
Reforestation (Appropriation \$) Acres	54	0	195	67	25	28	245	151	253		
Reforestation (K-V) Acres	270	0	0	0	0	0	50	24	48		
Site Prep. Natural (App. \$) Acres	-	217	30	25	92	10	0	0	0		
Site Prep. Natural (K-V) Acres	-	1064	490	590	190	284	0	0	9		
Site Prep. (Purchaser)	-	0	300	253	269	203	321	422	857		
Thinning (TSI) (Appropriation \$) Acres	200	443	441	307	268	329	186	216	178		
Thinning (TSI) (K-V) Acres	0	40	0	0	0	0	24	111	140		
Release Acres (Appropriation)	-	120	127	195	72	5	0	0	0		
Release Acres (KV)	-	85	12	0	0	0	0	0	0		

*The Forest in FY 1988, in conjunction with Regional Objectives and Forest Plan Amendment Number 3, accelerated the stand examination program from 15.5 thousand acres to 28.0 thousand acres in order to complete the timber data base for use in Forest planning.

Most reforestation on the Forest is accomplished by natural regeneration. Assumptions in the Forest Plan were that about 1420 acres would be regenerated naturally and 324 acres annually would be planted. The experienced average for the past eight years has been 849 acres of natural and 136 acres of planting. The percentage reduction of natural regeneration acres is about in proportion to the reduction in expected harvest levels. The reduction in

planted acres is greater than the harvest reduction and is a reflection of the high natural regeneration success rates usually encountered on the Forest.

Total reforested acres should match the predicted acres as the backlog of sales is offered and harvested. Planted acreage will probably increase slightly above the recently experienced levels due to regeneration problems where only young ponderosa pine

were left and to areas of Douglas-fir where western spruce budworm is likely to impact seed production.

Thinning accomplishment has substantially exceeded Forest Plan outputs. The Cross Creek burn (1970) and many of the young stands created by harvest in the late 1960s and early 1970s are showing evidence of reduced growth and thus are being thinned. Evidence from unthinned fire originated stands indicates that they do become suppressed and will require an extended period of time to produce merchantable products. It is anticipated that

some harvest initiated stands will also become suppressed. Thinning of these stands will incur additional expense (proportional to the acreage previously planned), but will produce merchantable products and stand conditions that better meet other resource objectives in a shorter period of time.

Fuel treatments with brush disposal funds are tied closely to the acreage harvested in the past two years. Although there will be large fluctuations in individual years, average acreages should be achieved over the five year period (Refer to P-5 Fuel Treatment Outputs).

E-8 Even-Age Harvest

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Ensure harvest by even-age management is compatible with resource values	Annually	Unacceptable results of an ID Team review

METHODS

One timber sale is reviewed each year by an interdisciplinary team.

FINDINGS

About 48% of the proposed acres will be new even-aged regeneration treatments. In all stands, reserve trees will be retained. About 18% of the proposed acres to be treated will be by uneven-aged management. This is significantly above the level projected in the Forest Plan.

The Interdisciplinary Review Team on the sale preparation review agrees that even-aged silvicultural systems are appropriate to meet Forest Plan Management Area objectives and the needs of these particular sites.

Even-aged silvicultural systems will provide greater forage production than uneven-aged systems and will provide more volume per acre and at less cost. The standards for visual management, wildlife cover and water quality are still being met or exceeded in the area.

E-9 Firewood Removal

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Firewood Removal	Annually	Use increase exceeds 10% per year

Timber

METHODS

Data is compiled annually from the Timber Sale Cut and Sold Reports.

FINDINGS

In FY 1994, 1.5 million board feet of personal use firewood was removed from the Forest.

Summary of FY 1987 through FY 1994 personal use firewood removal is as follows:

Table E-9A COMMERCIAL AND PERSONAL USE FIREWOOD REMOVAL

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Personal Use Firewood Permits Sold	1487	1023	1401	1205	1193	1127	1210	1050		
Personal Use Firewood Sold (MMBF)	3.5	2.3	3.2	2.2	1.8	1.6	1.7	1.5		

Since FY 1991 there has been a leveling-off in the demand for firewood from the Forest. It is expected

that the use will probably continue at or near the current amount.

E-10 Suitable/Nonsuitable Lands

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Evaluate availability of lands classified as suitable/unsuitable	5 years	+/- 5% change in acreage

METHODS

The evaluation of land suitability for tentatively suitable lands and the further division of these lands into suitable forest land available for timber harvest is ongoing through project analysis and timber stand examinations.

The timber stand examination process on suitable forest land provides an updating process for timber inventory as more and more timber stands are examined we are better able to evaluate the status of the tentatively suitable lands. During the last six years 1989-1994 134,035 acres of stand exam have been completed averaging 22,339 acres per year.

FINDINGS

Project analysis has resulted in the reduction of in the suitable timber lands by 9,874 acres. This is about a 3% reduction in the total suitable forest land identified in the Forest Plan (282,307 acres).

This data is entered into the Timber Stand Management Record System (TSMRS) to provide information for forest analysis.

E-11 Projected Yields

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Projected yields	Annually	Standard error of 10% at 1 standard deviation

METHODS

The Forest remeasured three existing plots during FY 1994.

The Forest established no new permanent growth plots but remeasured three existing plots during FY 1994.

FINDINGS

Efforts during the planning period (10-15 years) will be to continue the installation and remeasurement of permanent growth plots. Each growth plot is to be remeasured on a 5-year interval to monitor growth and yield for treatments and/or conditions that exist on the forest.

Summary of growth plot establishment and remeasurement is as follows:

Table E-11a GROWTH PLOTS (Numbers)

Description	1979 1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Growth Plots Established	27	2	0	1	2	2	2	1	1	0		
Growth Plots Remeasured	7	2	2	0	4	6	3	7	4	3		

When these growth plots were established, they were to be installed in stands that were scheduled for a timber activity within the next five years. Therefore, growth plots that have had their planned timber activity accomplished and remeasurement completed have data only from one remeasurement.

Evaluation was done in FY 1994.

F-1 Adequacy & Cumulative Effects of BMPs

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Adequacy and Cumulative Effects of Project BMPs	Annually - 100% Sample	Projected deterioration of soil productivity or water useability

METHODS

All proposed projects which have potential for impact on soil or water quality are monitored through review of the project environmental documentation. This review ensures that adequate BMPs have been prescribed to maintain and protect existing soil productivity and water quality conditions. In the case of significant vegetation removal, a cumulative effects analysis is also evaluated to predict increases in water and sediment yield as a result of the project.

FINDINGS

The Running Wolf Timber Sale was the only project in which a cumulative effects analysis was completed during FY 1994. This analysis indicated that reasonable soil and water conservation practices, as required by the State, would prevent deterioration of these resources. This project is currently in the Draft EIS stage.

F-2 Revegetation

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Revegetation of temporarily disturbed areas & roads within five years	Annually - 75% sample 2 years after termination	Unacceptable results of an ID Team Review

METHODS

Revegetation efforts on temporarily disturbed areas and roads are monitored through Interdisciplinary Team reviews. These reviews are to be carried out on 75% of the revegetation projects for the purpose of evaluating revegetation success and the need for additional revegetation efforts. The reviews occur within two years after project termination.

FINDINGS

Table F-2a delineates the projects on each district which were reviewed during FY 1994 or require a future review for revegetation efforts. A majority of these reviews were made by individuals from the Interdisciplinary Team who conducted the NEPA analysis for the project, or by the Timber Sale Administrator responsible for implementation of the project. Of the projects reviewed, revegetation efforts were for the most part successful and complete.

Table F-2a FY 1994 PROJECT LIST FOR REVEGETATION

Project Title	Scheduled Date of completion	Review Completed	Comments
Rocky Mtn District			
4. Beartree 93	1993	NO	Review in 1995.
Judith District			
1. Turkey Salvage T.S.	Seeded '91&92'	YES	Some seeding still needs review.
2. Mixes Baldy T.S.	Seeded '92'	NO	Needs final review in 1995
3. Bear Park T.S.	1995	NO	Logging completed. Minor contract work to be finished by 7/30/95.
4. Smith Flat T.S.	Seeded '92'	YES	Vegetation well established,Closed.
5. South Fork T.S.	Seeded '92'	YES	Vegetation well established,Closed.
6. South Burley T.S.	1995	NO	45% complete.
7. Clyde Park T.S.	1995	NO	Road work complete, To be logged in 95
8. Deadhorse-Bluff T.S.	1995	NO	90% complete.
9. Plantation T.S.	1995	YES	Sale closed, To be piled and burned in '95'. Temp. Rd. to be closed by Dist.
Musselshell District			
1. Loco Creek T.S.	1994	YES	Logged and closed in '94'
2. Whitetail Salvage T.S.	1994	NO	Closed in 1994, Burning complete.
3. Whitetail OSR T.S.	1994	NO	Closed in 1994, Burning in 1995.
4. West Hopley T.S.	1995	NO	Sold in 1994, Will begin harvest in 1995.
5. Bear Springs T.S.	1994	NO	Closed in 1994, Slash burning and road closure in 1995.
6. Eagle Cr P & P	1995	NO	25% cut and removed.
7. Upper Whitetail T.S.	1996	NO	Roads completed, no logging to date.
8. Polecat T.S.	1997	NO	Roads to be build in 95, no activity to date.
9. Mill-Lion T.S.	1995	NO	95% Complete.
10. Johnson Park P&P	1994	YES	Completed and closed.
11. Near Cross II P&P	1994	YES	Completed and closed.
Kings Hill District			
1. Adams Cr. Drilling	Seeded '92'	YES	Completed and Closed.

Table F-2a FY 1994 PROJECT LIST FOR REVEGETATION (continued)

Project Title	Scheduled Date of completion	Review Completed	Comments
2. Black Butte Drilling	Seeded '92'	YES	Completed and Closed.
3. Moose Ck. Rd. Oblit.	Seeded '92'	YES	Completed and Closed.
4. Allen Park P&P Sale	Seeded '92'	YES	Closed 1993.
5. Piegan P&P Sale	Seeded '92'	YES	Closed 1993.
6. Picket T.S.	1995	NO	Logging complete, Rd mtnc, slashing, and seeding to be done in 1995.
7. Lonesome Cr, T.S.	1995	NO	See #6.
8. Graveyard Cr. T.S.	1995	NO	See #6.
9. Quartzite Ridge T.S.	1995	NO	See #6.
10. Slide Rock T.S.	1995	NO	See #6.
11. Wolverine Firewood.	1995	No	75% Complete.
12. Johnston Cr. T.S.	1995	NO	Logging complete, Some rehab work to be completed in 1995.
13. Shorty Cr. T.S.	1995	NO	Completed, Closed 1/95.
14. Lynx Roundwood Resale	1995	NO	25% Complete.
15. Cabin Cr. Resale	1995	NO	66% Complete.
16. Tillinghast T.S.	1995	NO	Logging complete, Sale Closed. Slash disposal and rd closure after firewood removal.
17. Coyote Cr. T.S.	1997	NO	60% Complete.
18. Moose Park T.S.	1996	NO	50% Complete.
19. Little Moose T.S.	1996	NO	60% Complete.
23. DAV S.U. Waterline	9/92	NO	At this time it is not known if any of the rehab requirements were accomplished.

F-3 Water Quality in Municipal Watersheds

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Water quality effects of activities in municipal watersheds	Annually - all projects	Adverse water quality affects or violates water quality standards

METHODS

Activities which take place in municipal watersheds are monitored through water quality predictions, administrative reviews, and water quality sampling. The purpose of these monitoring efforts is to assure that reasonable land, soil, and water conservation practices were prescribed, the Best Management Practices (BMPs) were implemented and effective, and that no water quality impacts were incurred as a result of these activities.

FINDINGS

O'Brien Creek and Willow Creek are the two municipal drainages within the Forest. O'Brien Creek supplies drinking water to the town of Neihart. Portions

of several small timber sales were sold within the boundaries of the O'Brien Creek watershed in 1992. These sales included Shorty Creek, Pickett, Lonesome, Graveyard, and Wolverine Firewood Sale. These are located high on the slopes and are not anticipated to have detrimental impacts to municipal water resources. Please refer to Table F-2a for more information on the monitoring reviews.

Because of concern over impacts from timber harvest activities within the O'Brien Creek Watershed, a water quality monitoring station was established in O'Brien Creek above the municipal water reservoir in the spring of 1992. Analysis of the data collected from this station is currently in the preliminary stages.

F-4 Riparian Areas, Flood Plains, and Wetlands

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Activities in riparian areas, flood plains, and wetlands	Annually - 50% of all projects	Unacceptable results of an ID Team review

METHODS

Activities in riparian areas, flood plains, and wetlands are monitored through administrative reviews. The purpose of these reviews is to verify that the contract and Best Management Practices are implemented as prescribed, and that BMPs are effective.

FINDING

Please refer to Monitoring Item F-2, Revegetation, for further information on projects that have the potential to impact riparian areas, floodplains or wetlands.

F-5 Other Effects

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effects of other activities on watershed conditions	Annually - 20% of all projects	Unacceptable management practices or land productivity

METHODS

Projects which are not located in a riparian zone or municipal watershed, or do not require revegetation, but still have potential to impact soil and water

resources, are monitored through administrative reviews. The purpose of these reviews is to verify that the contract and BMPs are being implemented as specified, and that BMPs are effective.

FINDINGS

No projects were identified under this monitoring item for FY 1994.

F-6 Water & Soil Backlog

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Elimination of soil and water restoration backlog	Five Years	Less than 50% by 1990; less than 100% by 1995

METHODS

Progress in reducing the soil and water restoration backlog is monitored by tracking the number of acres restored by each District at the end of each fiscal year.

FINDINGS

Table F-6a delineates the restoration projects that were accomplished on each District during FY 1994.

Total acreage restored totals 129 acres for FY 1994 and 536 acres over the past 9 years. This accomplishment represents over 100% of the total 373 acres requiring restoration identified in the Forest Plan. This level of accomplishment indicates that the Forest Plan goal of 100% accomplishment by 1995 has been met.

Table F-6a RESTORATION PROJECTS ACCOMPLISHED IN FY94

Project Title	# of Acres	Comments
Rocky Mtn District		
Mt. Baldy Rehab.	14 Acres	Drainage dips installed; road and well site contoured, seeded, and fertilized. Recontoured drillpad and planted shrubs on site.
N Fk Teton Rd Rehab	6 Acres	Drainage dips installed; road surface seeded and fertilized; physical barrier installed.
Judith District		
N Fk Highwood Ck.	36 Acres	Fenced Riparian Area.
S Fk Ltl Belt Ck	2 Acres	Fenced Riparian Area.
Shonkin Cr. Jeep Trail.	2 Acres	Closed jeep trail.
Suicide Flats Jeep trail.	3 Acres	Closed old jeep trails, seeded.
Circle Park Jeep Trail	2 Acres	Installed Waterbars, Reseeded.

Project Title	# of Acres	Comments
Big Hill Jeep Trail	2 Acres	Installed Waterbars, reseeded.
Yogo Creek Ford	2 Acres	Closed old jeep trail.
Thain Cr. Jeep Trail.	2 Acres	Closed old jeep trail.
S Fk Judith Jeep Trail.	2 Acres	Closed old jeep trail, installed waterbars,
Musselshell District		seeded.
Crazy Mtn. Rehab.	25 Acres	Water barring, Road closures, Ripping & seeding and stream bank stabilization of logging roads acquired thru Galt Land Purchase. Ecosystem Restoration NFSI funding. Contract awarded late FY94 and work held over to FY95 to accomplish.
S Little Belts Rehab	6 Acres	Rehab & closure of trespass ATV and 4X4 routes thru water barring, brushing in, closure, grass seeding & drainage restoration. Ecosystem Restoration NFSI funding; accomplished FY94.
Basin Cr. Rehab	7 Acres	7 acres actual accomplishment (3 acre extra). Contract awarded & completed FY94 mechanical water bar rehab & drainage restoration of unmaintained logging roads and 2-tracks. Roads included Lucky Boy rds/Pasture Gulch. Funding combination regular program NFSI and Ecosystem Management Fisheries.
Kings Hill District		
Onion Park Road Rehab.	8 Acres	Reconstruct existing road crossing Onion Park providing better road drainage & stabilization.
Deadman Rehab.	10 Acres	Remove washed out and existing culverts, contour drainage banks and seed, permanently close road.

Table F-6b SOIL & WATER RESTORATION ACCOMPLISHMENTS (acres)

Description	Pre 1987	1987	1988	1989	1990	1991	1992	1993	1994	Total		
Soil/Water Restoration	21	26	10	109	57	50	94	50	129	536		

F-7 Water & Stream Quality

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Water and stream quality as affecting fish habitat and other uses; validation of estimations of sediment	Annually	Not meeting State or Federal water quality standards or significant (90% confidence) deterioration, by best available indexes

METHODS

Water quality as affecting fish habitat and other uses is to be monitored through water quality sampling of representative streams and intra-gravel sediment. This monitoring allows identification of deterioration in water quality, assurance of effectiveness of BMPs, as well as validation of estimates on sediment and water yield.

FINDINGS

Water Quality Sampling

Table F-7a lists the stations that were monitored during FY 1994, the period of record, and the variables sampled.

The upper and lower monitoring stations on the South Fork of the Two Medicine River and Hall Creek were not operated this field season for a variety of reasons, including litigation and higher priorities on other areas of the Forest. These stations were established to acquire pre-project data in an-

icipation of Fina/Chevron Oil Exploration activities. These activities have been suspended by the Secretary of the Interior. Until such time as suspension has been lifted these stations will remain inactive.

An automatic sediment sampler and recorder were established in the spring of 1992 in the O'Brien Creek drainage above the municipal water reservoir in order to assess impacts from harvest activities watershed. No harvest activity took place in 1992, providing an opportunity for collecting initial baseline data. Harvest activity did begin during the 1993 field season and is ongoing. Water quality data was collected during the runoff season of 1994, but due to equipment malfunction, data sample collection was not continuous. We are currently in the preliminary stages of data analysis.

The Whitetail Creek and South Fork Judith River Stations were both established in 1992 in conjunction with timber activities. The activities and data collection is ongoing. The data will be analyzed in the future as more data is collected.

Table F-7a WATER QUALITY MONITORING FY 1994

Station	Date Initiated	Yrs of Record	Variables Sampled	Comments
South Fork Judith River	1992	3	Sediment and Discharge.	Station active, data needs analysis.
O'Brien Creek	1992	3	Sediment and Discharge.	Station active, data needs analysis.
Whitetail Creek	1992	3	Sediment and Discharge.	Station active, data needs analysis.

F-8 Stream Cover & Pools

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Riparian areas and streams: stream cover and pools	Annually	Significant (90% confidence) decline in condition

METHODS/FINDINGS/RECOMMENDATIONS

Relevant monitoring activities for this item are included in the discussions of fish habitat in section C-11 Aquatic Habitat.

F-9 Public Health

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Public Health - Water Systems	Annually - Monthly when in use	Violating State or Federal drinking water standards

METHODS

During FY 1994, 38 Forest systems and 7 Special Use systems were opened for use. All of the Forest Service systems and 2 of the special use systems were tested and operated in accordance with State and Federal Safe Drinking Water Acts. For the remaining systems, required bacteriological tests were occasionally not accomplished.

FINDINGS

Analysis indicated that most of the Special Use sites failed to meet the established testing requirements. The matter will be discussed with Forest managers and Special Use permittees in an effort to redeem this management and public safety responsibility.

Failure to conduct the testing as prescribed by Federal and State regulations could result in serious illnesses and/or closure of the systems.

MINERALS

The FY 1994 target for minerals management was 31 cases. A total of 38 cases were accomplished. Cases include Notices of Intent and Plans of Operations processed for hard-rock mineral activity and administration of those Notices and Plans; sales of mineral materials; geophysical prospecting permits processed and administered; inventory, evaluation and reporting on geologic or mineral resources for program planning, land withdrawals, exchanges, and acquisitions; as well as technical evaluations and on-the-ground administration of mineral material (i.e. sand and gravel or stone) permits and plans.

The Forest Plan outlines monitoring requirements for minerals management. It addresses minerals related items to be monitored, the frequency at which such monitoring should occur, and the type of variance which would initiate further evaluation. Deviations from Forest Plan goals and standards may result in either referring problems to the appropriate line officer for improvement of management practice application; modifying a management practice as an amendment to the Plan; revising the schedule of outputs, or the cost/unit of outputs; or initiating revision of the Plan.

For Minerals, five items have been identified for monitoring. These and the results of monitoring for FY 1994 (October 1, 1993 - September 30, 1994) are provided below:

G-1 Effect of Mining Activities

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effect of Mining Activity	Annually - 100% of active operations on a monthly basis	Adverse effect of Forest Service project on mineral activities or revision or departure from approved operating plan

METHODS

This item includes monitoring effects of minerals activities resulting from the approval of Notices of Intent or Operating Plans for mineral activities that were conducted during FY 1994. It also includes monitoring the effects other Forest Service-approved projects may have on mineral operations. According to the Forest plan monitoring requirements, 100% of all active operations are to be monitored on a monthly basis for either adverse effects of Forest Service projects on mineral activities or revisions or departures from an approved operating plan.

FINDINGS

No Forest Service projects were determined to have an adverse effect on mineral operations. Mineral reports were completed in FY 1994 for three pro-

posed Research Natural Areas; O'Brien Creek and Onion Park on the Kings Hill District, and Bartleson Peak on the Musselshell District. The Lewis and Clark Forest Plan requires that areas considered for Research Natural Areas (RNA) should not contain known valuable mineral deposits. A mineral investigation is conducted to determine whether establishing a RNA would conflict with mineral resources and if withdrawal of the area from entry under the mining laws is appropriate.

Investigation conducted for the proposed RNAs revealed a low potential for locatable mineral values and that there were no mining claims nor historic mineral interest in the candidate areas. Recommendations were made for withdrawal of those areas from mineral entry should the candidate areas be approved for establishment as RNAs.

Prior to initiating ground disturbing activities, a mining proponent is required to submit a Notice of Intent, or in some cases, a Plan of Operation (POO). These instruments specify the nature of the proposed activities, the location and timing of any surface disturbing activities, and any necessary reclamation measures. During FY 1994, three new Plans of Operation were reviewed for mineral activities. Environmental analyses were conducted for each proposal. All proposals were analyzed for compliance and consistency with Forest Plan goals, objectives, and management standards. Modifications or additions were made, if necessary, to ensure compliance with Forest Plan standards and to mitigate issues and concerns. In addition, some activities took place under Plans of Operation that were approved in a previous year during which the proposal was not completed.

A Plan of Operations was submitted for 6 exploratory drillholes in the Hensley Creek area in the Castle

Mountains, Musselshell District. This was a slight revision and continuation of drilling operations approved in 1993, not all of which were completed at that time. All drillsites are located adjacent to existing roads. Two sites were drilled in 1994, prior to being shut down by mid-October snowstorms.

A Plan of Operations was submitted for mineral exploration, including the construction of 5 trenches in a one-acre area in the Yogo Creek area on the Judith District. The trenching was conducted and completed in October. No new road construction was required.

A Plan of Operations was submitted for small-scale placer exploration in the Meadow Creek area of the Kings Hill District. Operations included hand-digging and the use of washing with a sluice box and rocker. No new road construction was proposed.

Table G-1a - FY94 Project List for Mining Activities

Project Title	Status	Comments
Rocky Mtn District D-1 No Mining Activities		
Judith District D-4 1. Vortex Mining-Yogo Cr. 2. Gamble claims-Placer Creek 3. Bliss claims-Snow Cr. 4. Davis claims-Yogo Cr. 5. Vortex Mining-Ogg Placer 6. Woodward claims 7. Canoy claims 8. Whitaker claims 9. Kunisaki Mine	Active under approved POO§ Approved POO Approved POO Active under approved POO Approved POO in FY94 Approved POO Approved POO Mining on patented lands; operator refuses to submit NOI or POO on Federal lands road use permit for use of Forest Service development road	Underground operations reviewed monthly during summer operations. Development work in compliance with POO. Visited once-minimal activity in FY 94 Visited once-minimal activity in FY 94 Used front end loader to move ore; in compliance with POO. Reviewed monthly during summer operations. Surface trenching conducted in October 1994; operations were reviewed once and determined in compliance with approved POO. Hand pick & shovel work Hand pick & shovel work Hand pick & shovel work on unpatented claims No use of road in FY94

Table G-1a - FY94 Project List for Mining Activities (continued)

Project Title	Status	Comments
Musselshell District D-6 1. D&B claim 2. Carl Berg 3. Frank Frankovich	No request submitted in 1994 POO approved in 1993 Approved POO	Approval given to re-open existing caved adit; no actual work occurred in 1993/94. 1994 request to drill 6 exploratory drillholes previously approved in 1993. Two sites actually drilled; inspection determined drilling in compliance with POO.
Kings Hill District D-7 1. Cominco drilling 2. Kennecott drilling 3. Konesky § POO = Plan of Operation	POO approved in 1992 POO approved in 1993 Approved POO	Not all drilling approved in 1992 was conducted. No activity took place in 1993 or 1994. No activity in 1994. Small-scale hand placer operations. No inspections made.

Inspections were made on 6 of 10 active mineral operations. All of these were found to be in compliance with approved plans of operations or notices of intent. The other four active operations have usually entailed minimal hand-work and have not al-

ways been active year-to-year. Inspections should be made of these operations to ensure that operations are in compliance with approved plans of operations.

G-2 Geophysical Prospecting

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effect of Prospecting	Annually - 100 % of active operations on a biweekly basis	Adverse effect upon surface resources or departure from conditions of the approved permit -

This monitoring item includes effects from the issuance of prospecting permits (geophysical exploration). There were no geophysical prospecting per-

mits requested or issued for oil and gas exploration during FY 1994.

G-3 Drilling Effects

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effect of Drilling	Annually - 100% of active operations on a weekly basis	Adverse effect upon surface resources or departure from conditions of the approved permit

FINDINGS

This monitoring item focuses primarily on oil and gas drilling proposals.

The Final EIS on two exploratory drilling proposals (by Chevron USA and Fina Oil and Chemical Company) on the Rocky Mountain District was completed in December, 1990. Following a public review period, a Record of Decision was jointly signed by the Lewis and Clark Forest Supervisor and the Bureau of Land Management, Great Falls Resource Area Manager approving, with conditions, Fina's Application for Permit to Drill (APD).

Fifty-three appeals were received on the decision to approve Fina's APD. The Regional Forester upheld the decision to allow drilling on Fina's lease. Appeals filed with the Bureau of Land Management (BLM) prompted them to vacate their decision to allow the drilling until a review of effects of drilling was conducted. This review was completed and a Record of Decision (ROD) approving the APD was issued January 14, 1993 by the BLM. The ROD received concurrence by the Assistant Secretary of Interior.

A complaint was filed in U.S. District Court - Great Falls Division by a coalition of interest groups; in

addition, the Secretary of Interior issued a one-year stay on all developmental activities, effective July 1, 1993. This stay has been extended until July 1, 1995. The Forest Service requested that the lawsuit be vacated as a result of the Secretary's decision. The District Court Judge denied the motion to dismiss but stayed proceedings on the case until May 1, 1994. This stay has also been extended until May 1, 1995.

A separate decision on Chevron's application will not be issued until evaluations and consultations necessary to fulfill our responsibilities under the American Indian Religious Freedom Act and Section 106 of the National Historic Preservation Act have been completed. An ethnographic study has been completed which evaluated traditional cultural uses of the Badger-Two Medicine area by Native Americans. As a result of that study, the Forest is evaluating the boundaries of a possible traditional cultural district in the Badger-Two Medicine. The next step in completing the Section 106 process will be to determine possible effects of the drilling proposal on the district.

No other drilling proposals were received by the Forest in 1994.

G-4 Rehabilitation

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Rehabilitation of Disturbed Areas	Annually - 100% of activity on a weekly basis during rehabilitation. A final inspections will be made within 5 years after rehabilitation has been completed	Rehabilitation less than 90% of disturbed areas

Requirements for reclamation were established for each mining proposal and made part of the approved operating plan. Reclamation bonds were established for proposal, based on the costs which would be incurred to rehabilitate the area of pro-

posed activity. These bond amounts were collected prior to allowing any activity to take place, and retained until final reclamation standards are met.

Mineral operations inspected for rehabilitation are listed in the table below.

Table G-4a- FY94 Project List for Rehabilitation of Disturbed Areas

Project Title	Year Completed	Dates Reviewed	Comments
Rocky Mtn District D-1 1. Kiyo drillpads	In progress	Sept, 1994	Removal of debris, recontour, seeding and shrub planting at old drillpad locations in fall of 1994. Additional seeding and rehab work to take place in FY95, with inspection to monitor progress.
Judith District D-4 1. Vortex Mine	10/94	10/94	Initial replacement of topsoil was completed following trenching. Seeding was not yet in place. Review in 1995 required.
Musselshell District D-6 1. Frank Frankovich	1993	6/94	Four drillsites from 1993 operations determined to be restored and holes sealed according to plan, including follow-up requirements on mud pit at Site 3. Case closed.
2. Frankovich 1994 Hensley project	1994	10/94	Site 5 & 9 drilled in 1994. Inspection determined site 9 rehab complete; site 5 rehab to be completed in 1995.
3. Rio Algom	1993	8/94	Inspection determined all rehab very successful; project closed out and entire bond released back to operator.
Kings Hill District D-7 1. Kennecott Core Drilling	1993	6/94	Road constructed for prior year's operations required inspection. Inspection in 1994 showed road was reclaimed according to approved plan. Follow-up inspection to be done in 1995.
2. Konesky placer operations	1994		Reclamation specified in POO includes hand-backfilling of small test pits. Site not inspected in 1994.

Final reclamation inspections and close-outs were completed on three of the seven projects requiring reclamation. On those projects, rehabilitation of at least 90% of the disturbed area was accomplished. Other small-scale active operations listed in Table G-1 are on-going; reclamation may not yet have been completed. Rehabilitation performed for other operations conducted this year was determined to be in compliance with approved operating plans; a determination of reclamation success will need to be evaluated in following years.

G-5 Mineral Availability

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Mineral Availability	Annually - 100% sample	Denial of more than 10% of proposed projects

METHODS

This item addresses the effect of renewable resource prescriptions and management direction on mineral resources and activities, including exploration and development. Denials of more than 10% of proposed mineral activities are to be reported.

FINDINGS

Statutory rights conferred with the General Mining Laws provide for access to mining claims for exploration and development. In some cases, proposals were modified to provide for better protection of Forest surface resources. All mineral proposals (some with operator-approved modifications) complied with established Forest Plan standards and guidelines; therefore, none were denied.

During FY 1994, work continued on a Forest-wide oil and gas leasing analysis which will evaluate the impacts of leasing and post-leasing activities. Deci-

sions to be made following the analysis include determining those lands available for oil and gas leasing, and of those available lands, which specific lands should be offered for lease (by the Bureau of Land Management) and under what conditions (in the form of stipulations to be put on a particular lease). In FY 1994, public scoping and public open houses were conducted to solicit input to the proposal and identify issues to be addressed in the analysis. Draft alternatives were developed and were being reviewed. A draft Environmental Impact Statement is anticipated to be released in the spring of 1995. No new leases will be issued until completion of this analysis, anticipated in early 1996.

A Free-Use Mineral Material request was received and processed on the Musselshell District for 100 yards of shale material, for use in road surfacing on private in-holding and on access road to authorized summer home special-use permit site.

LANDS

J-1 Compliance With Use Permits

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Compliance with use permits	Annually	Unacceptable results or deviation from permits

METHODS

The computerized Forest Land Use Report (FLUR) is used to prepare billings and gather information about the Forest's special use permits. Inspections of the recreation residences, ski areas, outfitter camps, special events, and resorts are conducted to ensure compliance.

FINDINGS

The Forest Supervisor has delegated authority for issuance and administration of special use permits to the District Rangers to the extent allowed in the Forest Service Manual.

The condition of facilities authorized through special use permits is generally satisfactory. Annually, the Rocky Mountain District inspects 25% of its rec-

reation residences. Ski area permits are regularly inspected before and during the ski season. For other special use permits, on-the-ground inspections are done primarily for health and safety issues and whenever specific problems arise.

Special use permits are generally current and in conformance with federal policy. The automated Forest Land Use Report (FLUR) program is maintained and updated by the districts with instruction and assistance from the Resource Section. Most of the bills are prepared in the Supervisor's Office using the FLUR program, then electronically mailed to the districts for review and issuance.

The Lewis and Clark National Forest administers the following special use permits:

Table J-1a SPECIAL USE PERMITS

#	Type of Permit
1	Organization Camp
1	Isolated cabin
168	Recreation Residences
5	Resorts
1	Target Range
54	Outfitter Guides
2	Ski Areas
1	Ski Activity
3	Cultivation
30	Livestock Area (Pastures)
11	Corrals
1	Sign
1	Solid Waste Disposal Site
1	Research Study
1	Weather Stations
1	Military Training Areas

Table J-1a SPECIAL USE PERMITS (continued)

#	Type of Permit
5	Cultural Resources
1	Construction Camp/Residence
1	Mineral Material Sales
1	Oil and Gas Pipeline
3	REA Powerlines
3	Powerlines
1	Railroad Right-of-Way
4	Department of Transportation Highway Easements
2	Road Easement
16	Road Permits
3	Amateur Radio
1	Common Carrier Microwave Relay
2	Industrial Microwave
17	Mobile Radio
1	Broadcast Translator
1	Resource Monitoring Site
4	Commercial Communications
2	Telephone Lines
14	Irrigation Ditches
16	Water Transmission Lines

The Forest administers five Master Permits (one permit issued to one holder authorizing similar uses forest-wide) for telephone and powerlines. Permit holders are Fergus Electric, Sun River Electric, US West, 3-Rivers Telephone and Montana Power Company. The Forest also has a master permit to the Soil Conservation Service for their 29 snow survey sites Forest-wide.

During this fiscal year the following new permits were issued (or reissued):

- 27 outfitter guide permits of which:
 - 16 for hunting/fishing
 - 9 for river rafting
 - 2 for hiking/camping on Forest land
- 14 recreation residences
- 1 livestock use area
- 1 ski activity
- 3 cultural resource
- 2 REA powerlines
- 1 FLPMA easement
- 3 FLPMA permits
- 7 mobile radio - internal communications
- 2 telephone lines
- 4 irrigation ditch
- 2 water pipelines

The Forest has prepared a 2-year permit for Rocky Mountain Hi ski area to allow time for preparation of a Master Plan and review of the Plan before considering a longer term permit. The permit is currently being reviewed by the Regional Office.

The Musselshell District has prepared an agricultural easement pursuant to the Act of October 27, 1986, which amended FLPMA to allow free permanent easements for some water conveyance systems used for irrigation or livestock watering. This permit is also being reviewed by the Regional Office.

This year the final decision concerning appeals of recreation residence policy was implemented. Three permits in Arsenic Creek of the Rocky Mountain District earlier were scheduled for removal; however, these permits were extended until the final decision was reached. The permits are now terminating and improvements will be removed after cultural resource concerns are addressed.

Lands

Regional Office auditors reviewed outfitter/guide permits on the Forest and have concerns about issuance and administration of the permits. This region-wide concern is being addressed. A regional task force has drafted a permit for use in Region One, and plans are to have training sessions on the Forests when the new permit is completed. Interforest permits in the Bob Marshall Wilderness-Complex are terminating and will be extended until spring of 1996. At that time new permits will be issued using the new Region One permit.

US West sold most of their telephone lines on the Forest this year. Permits have been prepared for

Triangle Telephone Co-op, Inc. and 3 Rivers Telephone Co-op, Inc. (purchasers of these lines) and for the remaining US West telephone line.

AT&T was granted a permit across four forests for a fiber-optic line from Thompson Falls, Montana to Cardston, Alberta. On the Lewis and Clark the line is along U.S. Highway 2 on the Rocky Mountain District. Installation is almost complete, and the permit was amended to allow AT&T until June 30, 1995, to complete construction and all cleanup along the line.

J-2 Right-of-Way Easements

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Right-of-Way Easements Accomplishment	Annually - 100% Sample	Less than 75% accomplishment of 5-Year Program

FINDINGS

The Forest Plan does not specify a level of accomplishment for the acquisition of rights-of-way easements. However, the Monitoring Section does refer to the Forest's 5-year program. The program for FY 1994 contained four road easements and two trail easements. Two of the road easements were to "perfect" title of existing easements. Neither of these were acquired. However, three road ROW's were acquired.

The three road ROW's were acquired in Highwood Baldy area of the Highwood Mountains.

A trail ROW acquisition was planned for the North Fork of Birch Creek near Swift Reservoir on the Rocky Mountain Front. Although negotiations were initiated with the Blackfoot Tribe, a busy fire season interrupted the process in FY 1994. We will resume this effort this year.

Table J-2a EASEMENT ACQUISITIONS

	1987	88	89	90	91	92	93	94	95	
Conservation Easement						1				
Road R-O-W Program	4	7	4	4	4 4			4		
Road R-O-W Acquisition n.	3	1	2	2	1 0		9	3		
Trail R-O-W Program	1	1	0	0	1 2		3	2		
Trail R-O-W Acquisition	1	0	1	0	0 0		11	0		

J-3 Land Ownership Adjustment

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Land Ownership Adjustment Accomplishment	Annually - 100% Sample	Less than 75% accomplishment of 5-Year Program

FINDINGS

The Forest Plan does not specify a rate of accomplishment for this item except in the Monitoring Section where a reference is made to the Forest's 5-year Program. However, the Forest does not have an established Land Exchange Program but rather relies on opportunities that are forwarded by proponents. Other opportunities to acquire tracts which are desirable for National Forest System ownership are pursued as they develop.

The Forest Plan specifically states that "----it is not the intent of the Forest Service to pursue this direction (land exchange) except on a willing grantor basis." For this reason, it would be very difficult to "lock-in" on targets for accomplishments. The Forest had no annual target with the Region in FY 1994. No exchange was attempted or accomplished in FY 1994. However, the Forest did complete a Small Tracts case in the town of Neiheart disposing of 0.2 acres of a mineral remnant.

Table J-3a LAND EXCHANGE (Acres)

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Federal Lands Disposed	0	492.5 ¹	0	0	313.	391	0	0.2		
Federal Lands Acquired	0	399 ¹	0	0	158	373	0	0		

¹ - Corrects an omission in previous Monitoring and Evaluation Reports - Cady Land Exchange in the Little Belt Mountains

J-4 Landline Location

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Landline Location Accomplishment	Annually - 100% Sample	Less than 75% of the Forest Plan Target

FINDINGS

The Forest Plan target for landline location is 26 miles/year. In FY 1994 the Forest was funded for 21 miles and accomplished 21 miles, about 81% of the Forest Plan target. For the first seven years of the Forest Plan's first decade, the Forest accomplished an average of 79% of its annual target.

The Forest has a total of 1636 miles of property boundary. Of this, 326 miles have been posted to standard leaving 1310 miles not posted. If 26 miles per year were to be achieved until the entire boundary was posted, it would take 50 years to complete the job. In the interim many miles would need maintenance.

The Forest and Rangeland Renewable Resource Planning Act of 1974 (RPA) set the year 2010 as a goal for completing the posting of all National Forest boundaries. For this to be achieved on the Lewis and Clark National Forest an annual average of about 70 miles of accomplishment would be needed in the period 1995 - 2010.

Consequences of failing to achieve Property Boundary targets create trespass problems for the recreating public and the abutting landowners. In addition, management decisions may at times be compromised for lack of a posted National Forest boundary. Also, by deferring the property boundary job, valuable physical evidence attesting to the original corner location is being obliterated or lost to the forces of man and nature.

Table J-4a LANDLINE LOCATION ACCOMPLISHMENT (miles)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Landline Location	26	14	18*	25	21	23	24	17	21		

* - Corrections made to data reported in previous Annual M&E Reports

FACILITIES

L-1 Road & Trail Construction/Reconstruction

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Road and Trail Construction; local roads; trails; arterial/collector roads	Annually - 100% Sample	+/- 20% of programmed construction/reconstruction accomplished

FINDINGS - Roads

The Forest Plan (Table 2.1) indicates that the Forest would accomplish 3.6 miles of arterial road and 13.0 miles of local road in the first decade. This was a typographical error. These figures were intended to be annual, rather than decade accomplishment. An additional error was also introduced in that the programmed miles were only those miles in support of the Timber Management Program.

The Forest Plan budget and projected targets were amended in November, 1987, to include all miles, both construction and reconstruction in support of all resources. The amended numbers are 20.0 miles for Capital Investment Program and 13 miles for the Timber Management Program.

In FY 1994 the Forest constructed 0.5 miles and reconstructed 7.5 miles for a total of 8.0 miles under the Capital Investment Program. Under the Purchaser Credit Program 1.0 miles were constructed and 6.6 miles were reconstructed for a total of 15.6 miles of construction and reconstruction under all programs.

When considering the total miles constructed and reconstructed in both programs during FY 1994, the

output was 47% of that projected by the updated Plan. This is outside of the variability tolerance.

When considering the average accomplishment for the eight year period (87 - 94) the Forest accomplishment in the Capital Investment Program is 57.7%; the accomplishment for the Purchaser Credit Program is 90% and the combined programs accomplishment is 70%. The reason for the under accomplishment in the Timber Purchaser Program is essentially tied to sales that fell behind schedule due to litigation. These sales will be backlogged into the FY 1995 program.

Shortfalls in the Capital Investment Program are the result of Regional prioritization and reduced road construction budgets at the National level. Consequences of not meeting Forest Plan targets in this program primarily result in our inability to improve inadequate roads through relocation or reconstruction. Inadequacies include segments of roads that are difficult to maintain, road segments that contribute to water quality problems, and roads that provide a service level inconsistent with planned or existing use.

Table L-1a MILES OF ROAD CONSTRUCTED/RECONSTRUCTED

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Capital Investment Construction	5.0	3.7	0.6	0	0	0	0.4	0.1	0.5		

Facilities

Table L-1a MILES OF ROAD CONSTRUCTED/RECONSTRUCTED (continued)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Capital Investment Re-construction	15.0	29.7	16.1	13.6	9.8	5.1	0.0	0.0	7.5		
Timber Purchaser Con-struction	4.0	0	2.3	0	3.1	17.4	19.8	3.1	1.0		
Timber Purchaser Re-construction	9.0	0	4.2	4.3	0	8.3	22.6	1.3	6.6		

FINDINGS - Trails

The Forest Plan, as amended, projects an average of 14.0 miles of trail construction and reconstruction annually. In FY 1995, 13.1 miles of reconstruction

work occurred using appropriated funds. Mileages by district, and projects accomplished, are:

Table L-1b TRAIL ACCOMPLISHMENTS FOR FY 1994

Description	Miles
Rocky Mountain District	
S.Fk.Sun	2.5 miles
Bear Creek	2.0 miles
N.Fk.Birch	0.3 miles
Windfall Cr.	1.5 miles
S.Fk.Trail Turnpike	0.4 miles
Judith District	
Morris Creek	2.0 miles
Center Ridge/Hidden	2.4 miles
Highwood Interp.	1.6 miles
Other	0.4 miles

Table L-1c TOTAL TRAIL RECONSTRUCTION/CONSTRUCTION (miles)

Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
14.0	8.5	13.3	12.8	14.1	12.0	19.5	9.5	13.1		

L-2 Miles of Open Roads

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Miles of Roads Open to Public Use	Annually - 100% Sample	+/- 20% of target miles to be open to public

FINDINGS

The Forest has 1753 miles of system road. The total mileage has been declining as a result of road obliterations and a continuing review of the road inventory. The Forest Travel Plan resulted in the following summation of road restrictions and closures:

1. Total miles of roads open, with no closures or restrictions. **1305**
2. Total miles of roads under a current travel plan order. **447**
 - a. Miles of road with some motorized use restrictions (i.e., closed to motorized use, administrative use only, etc.)
 1. Yearlong **129**
 2. Seasonal **59**
 - b. Miles of road with all motorized use restricted (including administrative use).
 1. Yearlong **25**
 2. Seasonal **210**
 - c. Miles of road closed to all traffic, including foot traffic.
 1. Yearlong **3**
 2. Seasonal **21.0**

PROTECTION

P-1 High Risk Stands

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure harvest emphasizes the removal of high risk stands for mountain pine beetle attack and that timber sales are located to break-up continuous natural fuel accumulations	5 Years	Unacceptable results of an ID Team review, or if less than 70% of timber volume is programmed from high risk mountain pine beetle stands

FINDINGS

In FY 1994, 84% of the sawtimber sold on the Lewis and Clark National Forest was lodgepole pine. Reviews of timber sale locations showed the Forest is continuing to break up large concentrations of natural fuels. Future planning is also emphasizing removal of lodgepole pine.

Summary of FY 1987 through FY 1994 removal of lodgepole pine stands is as follows:

Table P-1a REMOVAL OF HIGH RISK LODGEPOLE PINE (percent)

Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
70	90+	80	90	67	64	89	70	84		

Over the first eight years of the Forest Plan, lodgepole pine has made up 78% of the sawlog volume sold on the Forest. This is above the 70% level envisioned in the Forest Plan. While the conversion of high risk lodgepole pine stands to seedlings on

suitable forest land is at a pace set by the Forest Plan, there remains a high need to convert the very old, decadent lodgepole stands to younger, more productive stands.

P-2 Acres/Volume of Insect & Disease

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Acres and volume of insect and disease infestations	5 Years	Introduction of new insect or disease or spread of an existing insect or disease

FINDINGS

Insect and disease surveys conducted during the summer of 1994 showed that: 1) Douglas-fir beetle, spruce beetle, Western balsam bark beetle, and pine engraver beetle declined, and 2) pine engraver beetle and mountain pine beetle increased. These insects are at endemic levels. Western spruce budworm continued to build on the Forest, but they had not reached their pre-1989 levels. About 99,000

acres of visible Western spruce budworm defoliation was reported on Forest lands (Montana Forest Pest Condition and Program Highlights, Report 93-2). Other losses includes over 3,500 acres of winter damage and 2,500 acres of root rot. The planned yearly surveys are adequate to monitor insect and disease conditions on the Forest.

P-3 Management Practices

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Management practices to ensure activities do not promote an increase in insect or disease organisms	Annually	Significant increase in insect and disease

FINDINGS

No significant increase in insect and disease organisms has been observed. Post timber sale reviews showed that the Forest is meeting regional stand-

ards for slash disposal and that trees damaged or blown down by wind are being removed in a timely fashion.

P-4 Prescribed Fire & Air Quality

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure prescribed fire meets air quality standards	Annually	+/- 10% beyond standard guidelines

FINDINGS

In FY 1994, the Forest burned 1,450 acres for slash disposal, natural fuel treatment, wildlife habitat improvement, and rangeland improvement. In order to meet prescribed fire parameters, some of the slash disposal was done in the winter outside of the fall burning season. There were no known complaints about any prescribed burning project affecting air quality. However, several complaints were received

during the summer from residents along the east slopes of the Rocky Mountains. The main source of this smoke were **wildfires** that burned on the Flathead National Forest, in the Bob Marshall Wilderness. Burning conditions and coordination, under a State of Montana permit, play a major role in meeting air quality standards.

Protection

P-5 Fuel Treatment Outputs

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Fuel Treatment Outputs	Annually - 100% sample	+/- 25% of programmed targets

FINDINGS

In FY 1994, the Forest treated 385 acres of activity fuels (slash from timber harvest and road building) and 1,215 acres of natural fuels. The Forest Plan shows a target of 1,470 acres of activity fuels and

700 acres of natural fuels per year. Summary of FY 1987 through FY 1994 activity and natural fuels reduction is as follows:

Table P-5a ACTIVITY & NATURAL FUEL ACCOMPLISHMENT (acres)

Description	Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Activity Fuels	1,470	1,713	1,201	1,053	737	533	328	833	385		
Natural Fuels	700	665	863	1,025	675	860	1,108	972	1,215		

During the first eight years of the Forest Plan, about 6,800 acres of activity fuels were treated. This is about 620 acres less per year than projected by the Plan. The under accomplishment in treating activity fuels is related to the timber harvest schedule, and the lag between selling a sale and harvesting it (see item E-6). One of the most important factors in managing activity fuels is that treatment be timely (allowing in most cases 1-2 years for firewood removal). If harvested areas are treated in a timely fashion, there is less risk of a catastrophic wildfire. In this regard, the Forest is treating activity fuels on a time-

ly basis. Because of the high harvest level on the Forest, it is anticipated that during the next two years, the acres of activity fuels treated will be near the Forest Plan level.

During this time, the Forest treated about 7,400 acres of natural fuels. This is about 230 acres above the 700 acre yearly level envisioned in the Forest Plan. With the change to ecosystem management and the need to reintroduce fire into the ecosystem, we see the program expanding to 1,500-2,000 acres yearly.

P-6 Wildfire

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Wildfire Acres Burned	100% Sample Annually	+/- 25% above projected average annual wildfire burned acres

FINDINGS

After nearly record precip in 1993, 1994 started off with near normal snowpack. However, spring rains never developed and by July there was a significant shortfall in precipitation which continued into late

October. The Forest spent nearly two months under some level of fire restrictions. This resulted in one of the busiest fire seasons on record.

Protection

In 1994, the Forest had 23 fires which burned 14 acres. While the Forest was able to hold all of its fires with aggressive initial attack and some help from Mother Nature (there was no significant wind on days we got new fires), our neighbors were not so fortunate. Both the BLM, which protects the Snowy Mountains, and the Gallatin, which borders the Lewis and Clark in the Crazy Mountains, had major fires which burned Lewis and Clark National Forest lands. The Windy Point Fire in the Big Snowy Mountains burned 4,217 acres (3,184 acres on the Lewis and Clark), and the Smith Creek Fire in the Crazy Mountains burned 1,440 acres (720 acres on the Lewis and Clark). The 10-year average for the Forest is 35 fires and 497 acres. Five of the fires were person caused and the others were caused by lightning.

The Forest dispatched 243 line crews, 39 camp crews, 150 overhead, and 40 engines, throughout the west. Our two contract helicopters flew over 300 hours on fires. There were many times when there were no resources to dispatch. This was an all time high for crew dispatches. Included in this record were 101 line crews from the Blackfoot Reservation.

Summary of 1987 through 1993 total wildfire acres burned is as follows:

Table P-6a WILDFIRE AREA BURNED (acres)

10-year average	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
497	37	174,162	13	32,013	795	25	1	3,918		

P-7 Suppression & Protection Costs

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Cost of Suppression and Protection Organization	5 Years	+/- 5% increase in real costs

FINDINGS

The total cost of fire suppression and protection in 1994 was \$773,000. This is above the 10-year average of \$590,000. The reasons for this increase are the very dry year which dictates added protection and the cost for the Smith Creek project fire.

Summary of 1987 through 1994 suppression and protection costs is as follows:

Table P-7a SUPPRESSION & PROTECTION COSTS (Thousand Dollars)

10-year average	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
\$590	\$379	\$6,361	\$273	\$1,684	\$2,648	\$484	\$520	\$773		

During the first eight years of the Forest Plan, acreage lost to wildfires, and fire suppression and protection costs were substantially above those projected by the Forest Plan. This situation resulted from very dry weather conditions in 1988, 1990, 1991, 1992 and 1994 and changing fuel conditions.

About 90% of the acres burned and 75% of the costs come from fires which escaped initial attack and required the commitment of project resources.

WILD & SCENIC RIVERS

W-1 Effects on Eligible Rivers

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Project-level effects on eligible rivers qualifications (free-flowing and "outstandingly remarkable" resource values) and assigned potential classification (wild, scenic, recreational)	100% Sample Annually	Any action that would adversely impact or degrade an eligible river's qualification and/or potential classification

FINDINGS

No project-level activities occurred along any of the nine eligible rivers or river segments which adversely impacted or degraded a river's qualifications and/or potential classification. This determination was made by comparing activities that were implemented in or along eligible rivers with Forest Plan goal #11 and Forest Plan Management Standards W-1 (wild potential classification), W-2 (scenic potential classification), and W-3 (recreational classification). The rivers monitored for project-level activities were: Smith River, North Badger Creek, North and South Forks Sun River, Dearborn River, North Fork Birch Creek, Green Fork of Straight Creek, Tenderfoot Creek, and Middle Fork Judith River.

New information gathered since 1991 affects some of the nine eligible rivers and could result in the addition of other Forest rivers meeting the eligibility requirements under the Wild and Scenic Rivers Act. One activity involved a field inventory of harlequin ducks on the Rocky Mountain District (see C-14). Existing eligible rivers which may be determined to contain an "outstandingly remarkable" wildlife value include the North Fork Sun River, North Badger Creek, North Fork Birch Creek, and South Fork Sun River. Adding this resource value to existing eligible rivers would not change their potential classification but recognize another value of the river emphasized under the Wild and Scenic Rivers Act. Other rivers which contain harlequin ducks and need to be analyzed under the Wild and Scenic River's Act eligibility requirements are: South Fork Two Medicine River, Badger Creek, South Badger Creek, West Fork Sun River, Middle Fork Birch Creek, and South Fork Birch Creek.

Additional fisheries surveys and genetic analyses in 1994 expanded our knowledge of the fisheries values of Forest streams, another important criteria for determining eligibility for Wild and Scenic River status. Cutthroat trout were collected from fourteen sites across the Forest (see C-14) but the results of genetic analysis are not yet available for these samples. However, results from fish samples taken in 1993 became available in 1994, and the number of streams supporting known populations of genetically pure westslope cutthroat trout has grown to 22; additional streams have been found to contain slightly hybridized but "genetically recoverable" populations of westslope cutthroat trout (see Table C-14b). Most of the newly-documented cutthroat streams are small headwater tributaries. Based on current data, the streams with the most substantial values for native westslope cutthroat trout fisheries appear to be the upper South Fork Two Medicine River drainage, North and South Badger creeks, South Fork Birch Creek, South Fork Dupuyer Creek, North Fork Deep Creek, and upper Judith River drainage.

Sampling and genetic testing for the presence of shorthead sculpins has been discontinued until basic taxonomic questions about the status of this species are resolved. The most recent genetic analysis suggested that fish from the Lewis and Clark National Forest streams may be part of the mottled sculpin complex, which has a wide but non-uniform distribution in the Intermountain West.

The Forest's Wild and Scenic Rivers Interdisciplinary team has reconvened to analyze the above resource data in relationship to the eligibility requirements specified under the Wild and Scenic Rivers Act. The analysis necessary was not conducted during FY 1994 and most likely will not be performed in FY 1995 either. The analysis, when completed, may result in a decision that adds additional "outstandingly remarkable" resource values to existing eligible rivers and/or identifies new eligible rivers and their assigned potential classification.

GENERAL

I-1 Costs & Values

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Validation of costs and values used in Forest Plan	5 Years - 100% Annual Sample	In general, +/- 25%; however, very large cost items such as stump-truck costs would have a smaller degree of acceptable variability.

FINDINGS

As part of the Five-Year Review Process, the timber values and costs were reviewed. This review was in response to Forest Plan appeals submitted by the Montana Wilderness Association and National Wildlife Federation.

Timber values - The results of the review reveal that the average actual stumpage price earned on the Forest over the last six years (\$104/MBF) was less than half that used in the forest planning process (\$233/MBF). In 1992, the average stumpage prices for sawtimber on the Lewis and Clark rose dramatically--\$175/MBF. In 1993, it dropped slightly--\$141/MBF. In 1994 it climbed to \$267/MBF. During the next two years (1995-1996) of the Forest

Plan, with the declining availability of sawlogs and the increasing demand in central Montana, we see a continuation of escalating sawlog prices.

Timber costs are very close to those used in forest planning and therefore no further analysis or adjustments need to be made.

RECOMMENDATIONS

The Forest recommends deleting this monitoring item, since the only available tracking system for validating costs/values is designed solely for the timber resource.

I-2 Emerging Issues

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Effects of emerging issues or changing social values	Continuously	If issues cannot be dealt with under the Forest Communications Plan

FINDINGS

Public interest in the management of the Lewis and Clark National Forest continues to play a major role in the implementation of the Forest Plan. In addition to new projects and issues, several ongoing projects carried into FY 1994. While each District was involved with several smaller scale projects requiring public involvement, the key projects necessitating more extensive efforts because of the sensitivity of the issues involved were: Forest-wide Analysis for Oil and Gas Releasing, Chevron/Fina

Environmental Impact Statement (EIS) on Exploratory Oil and Gas Wells, Forest-wide Range Inventory and Analysis and as always, the Timber Sale Program.

Chevron/Fina EIS: See item G-3.

Lewis and Clark National Forest Oil and Gas Releasing EIS: See item G-5

Forest-wide Range Inventory and Analysis:

In January, 1991, the concept of "block" or "ecosystem" range inventory and analysis for updating or revising Allotment Management Plans was approved by the Lewis and Clark Forest leadership team. Allotments were combined into study areas and prioritized for action.

A team of range conservationists began the analysis process in the Castle Mountains during the '91 field season. They completed field studies in the north Little Belt Mountains in 1992 and then moved to the Sun Canyon area in 1993.

After data compilation on the Castle Mountains, a scoping letter and news releases describing preliminary issues went to the public with a comment period closing September 8, 1993. Open houses were held in Harlowton and White Sulphur Springs on August 25 & 26, 1993. Throughout the early phases of this study, members of the local grazing association attended ID team meetings and participated in the alternative development. In October, a field trip was held for Congressional staffers, permittees and other special interest groups.

Some members of the Castle Mountains Livestock Association instituted a Section 8 process under the Public Range Improvement Act, which has a target group of specialists representing the University of Montana, the State of Montana, and Montana Heritage Association reviewing Forest Service information on the proposed action and associated issues.

The Draft EIS is scheduled to be released this spring.

Timber Sale Program:

Little Snowies Vegetative Management & Public Access - Environmental Impact Statement - A Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register on proposals to implement fire and timber management practices in the Little Snowy Mountains on the Musselshell District, and the public was asked to comment on the proposals. This study was expanded to include public ac-

cess issues. Nineteen comments were received during the comment period.

The Little Snowies Vegetative Management and Public Access Draft Environmental Impact Statement (Draft EIS) was released in January, 1993. The public comment period was advertised and lasted until March 19. Public meetings were held in Harlowton, Billings, Roundup and Lewistown. Sixty-five individual letters and two petitions were received by the close of the comment period. Public comment and additional research resulted in the discovery of a county road on the north side of the Little Snowies that can be used for public access.

The Final EIS was released to the public September 10, 1993. One appeal was filed on the project. The decision was upheld by the Regional Forester. Projects identified in the EIS are being implemented.

Smoky-Corridor Timber Sales - Environmental Impact Statement - A Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register on a proposal for four larger timber sales and several smaller sales in the area known as Smoky-Corridor on the Kings Hill District. The public was asked to comment on the project proposals by March 20, 1992. Eight comments were received by the closing date of the comment period.

The Draft Environmental Impact Statement for the Smoky-Corridor Timber Sales was available for public review and comment in July, 1993. Public meetings were held in White Sulphur Springs and Great Falls in mid-August with the public comment period closing September 15. Seventy-seven comments were received and analyzed.

The Final EIS was released in January, 1994. Twenty appeals were received on the final decision, of which, two were dismissed. The Appeals Deciding Officer, reviewed the appeal record and affirmed the Forest Supervisor's decision.

On May 12, 1994, the Forest Service received a Notice of Intent to sue from several of the appellants. The complaint was filed July 18, 1994. A hearing is scheduled for January 12, 1995.

General

Running Wolf Timber Sales - Draft Environmental Impact Statement - A Notice of Intent to prepare an Environmental Impact Statement for the Running Wolf Timber Sales on the Judith District, Judith Basin County, was published in the Federal Register May 5, 1992. The public was asked to comment on the project proposals by June 4, 1992. Twelve comments were received by the closing date of the comment period.

The Draft Environmental Impact Statement for the Running Wolf Timber Sales was available for public review and comment in September, 1994. The DEIS described five alternatives for management of the project area in the north central Little Belt Mountains. In a departure from traditional public meetings, a field trip was held for the public on October 1, 1994. Approximately 25 individuals attended the tour. The public comment period closed November 15. The Final EIS is scheduled to be released this spring.

Lewis and Clark National Historic Trail Interpretive Center:

The Lewis and Clark National Historic Trail Interpretive Center was established by Public Law 100-552 on October 28, 1988. Congress specifically determined that the "historic significance of the travels of Lewis and Clark on the high plains and their portage around the Great Falls of the Missouri requires....recognition and interpretation."

All environmental analyses were completed and decisions were signed by the Regional Director of Montana Department of Fish, Wildlife and Parks and the Forest Supervisor in December, 1990.

The Conceptual Design was presented for congressional review in February, 1991. Congress did not fund the project for Fiscal Years 1991-93; but \$300,000 in planning funding was passed by Congress in the FY94 Budget Bill. Along with this funding, an additional \$2.7 million was authorized if local matching funds can be obtained.

The community of Great Falls has established a nonprofit organization to raise local funding for the Interpretive Center. With former Governors Ted Schwinden and Tim Babcock as honorary co-chairmen of the fund raising effort, the Lewis and Clark Interpretive Fund, Inc., has organized

into a three-prong approach (grants, corporate support and special projects) to collect funds. Over \$1.9 million of matching funds have been raised.

Other Issues:

A. The Forest is in the center of a regional (eastern Montana) issue which revolves around increased public awareness and demand for access to public lands. In 1987, a Goal Statement was developed by the staff of the Lewis and Clark National Forest to promote public access to public lands. "It is the goal of the Lewis and Clark National Forest to provide equal access opportunities to all National Forest System lands except where the impact of public access to the unique resources of the area would be unacceptable. Where the cost of providing public access is greater than the anticipated public benefit, the lands will be scheduled for disposal by exchange or other land ownership adjustment process. The number and location of access points and type of access facility will be determined through analysis of the expressed public demand, environmental impacts, and cost of access for each individual situation."

Public meetings were held in Lewistown and Billings to discuss the appropriate level of public access to and within the Big Snowy Mountains. A total of 85 people attended the two meetings.

B. As a result of the November 23-24, 1990, Turkey Fire where private property was destroyed, the Lewis and Clark National Forest was involved in litigation. An investigation into the cause and origin of the Turkey Fire was conducted by fire investigators of the Forest Service, California Department of Forestry and Montana State Fire Marshal Bureau. All investigators concurred that the fire originated from slash piles which appeared purposely set, by person or persons unknown.

In a bifurcated trial on liability and damages, the Forest Service received an adverse ruling concerning liability. Forest personnel spent much of the summer preparing for the damage assessment phase of the trial which began October 5, 1993. As a result of the trial, the bulk of the damage claims have been settled, with a few remaining claims in appeal. No settlements have been made for personal injury claims.

I-3 Land Allocations

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Evaluate lands identified as not meeting physical or biological characteristics used in initial allocations	Continuous	All changes will be evaluated annually

FINDINGS

Ground truthing and site-specific analyses conducted during implementation of the Forest Plan examines the findings of consistency for timber management and other decisions made in the Plan. This analysis has resulted in management area adjustments totalling 70,032 acres. In FY 1994, five new Research Natural Areas were approved on the Forest (Forest Plan Amendment 17) totaling 4,490

acres. These figures represents a 4% change in land allocations and are considered a minor modification.

The following table shows the management area changes made as a result of project implementation analysis.

Table I-3a ALLOCATIONS OF MANAGEMENT AREAS AND ACRES

(Forest Plan, page 3-2) Management Area	1987 Acres	Change	1994 Acres
Management Area A	16,261	+13,582	29,843
Management Area B	330,838	-25,966	304,872
Management Area C	111,664	-24,554	87,110
Management Area D	24,456	No change	24,456
Management Area E	116,519	+8,051	124,570
Management Area F	352,746	+2,591	355,337
Management Area G	247,644	+11,534	259,178
Management Area H	31,778	-2,053	29,146
Management Area I	37,867	-89	37,788
Management Area J	11,100	-715	10,385
Management Area K	9,125	-1,209	7,916
Management Area n	16,112	No change	16,112
Management Area M	3,281	+3,394	7,225
Management Area N	41,838	-580	41,258
Management Area O	22,702	No change	22,702
Management Area P	384,407	No change	384,407
Management Area Q	51,834	No change	51,834
Management Area R	33,225	+96	33,321
Management Area S	0	+2,600	2,600
Management Area T	0	+12,980	12,980
Total Acres Modified		74,522	
Total Forest Acres	1,843,397		1,843,040

General

The changes in management areas have reduced the suitable forest acres (those acres managed for scheduled timber harvest) by 13,574 (from 282,307 to 268,733). This is about a 5% reduction. This small change has not affected the annual allowable sale quantity (12.1 MMBF), nor has it had much effect on the long-term sustained yield of the Forest (23.8 MMBF).

I-4 Employment/Income Projections

OUTPUT, MANAGEMENT PRESCRIPTION, EFFECTS TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Validation of employment and income projections	5 Years	+/- 20% of predicted changes

FINDINGS

Currently, the Forest only has the ability to validate employment and income projections for the timber resource. The following table shows the employ-

ment and income projections used in the Forest Plan and the actual jobs and income from the timber program (Table 3, TSPIRS).

Table I-4a EMPLOYMENT & INCOME COMPARISONS

Forest Plan	1987	1988	1989	1990	1991	1992	1993	1994	8-Year Average
JOBS - 192	367	150	200	110	170	580	310	650	317
INCOME * - 7,060	15,305	6,691	7,316	4,101	6,165	19,486	10,330	9,913	26,130 14,177

* - Income in thousands and in FY 1993 dollars

The 8-year average job (317) and income (\$26,130,000) projections are above the variability predicted in the Forest Plan. The 8-year averages are somewhat skewed due to the higher volume of timber harvested on the Forest (22.0 MMBF) in FY 1992 (22.0 MMBF) and in 1994 (15.9 MMBF). It is anticipated that the harvest level during the next two years will be above what was projected in the Forest Plan (14.0 MMBF/year) because of the large volume under contract and the high demand for sawlogs. Therefore, the income and jobs from timber harvest will continue to be above what was projected in the Forest Plan.

NOTE: For 1992 and earlier, the IMPLAN model used 1985 county level data, with employment measured in terms of full-time equivalents. The IMPLAN model was updated with the more current mill survey information in 1992. At the same time, the model was also made more comprehensive in terms of the definition of the timber industry, with the inclusion of woods workers that were not identified in the earlier model, and the inclusion of county roads and schools that receive funds from the 25% Fund payments to counties. These adjustments increased the employment and income figures per million board feet of timber harvest when compared to the information reported in TSPIRS in years prior to 1992.

Comparison of Outputs, Activities, and Budgets

IV. COMPARISON OF OUTPUTS, ACTIVITIES, AND BUDGETS

The following two tables compare the outputs, activities, and budgets with those projected in the Forest Plan.

Table I - COMPARISON OF PROJECTED OUTPUTS/ACTIVITIES BY TIME PERIOD

Output or Activity	Unit of Measure	FP 1st Decade	1987	1988	1989	1990	1991	1992	1993	1994
Developed Use	M RVD	169	145	179	205	241	271	296	266	301
Dispersed Use	M RVD	86	54	42	60	64	63	59	58	64
Wilderness	M RVD	614	581	384	450	416	535	568	497	584
Non-wilderness	M RVD									
Wildlife Habitat Imp	Acres	600	300	1400	1392 ¹	1262 ¹	450	1221 ¹	779	1035
Fish Habitat Imp	Acres	5	2	0	10	16	0	40	71	20
T&E Habitat Imp	Acres	100	0	0	0	500	634	630 ¹	210	120
Wildlife Structures	Structures	10	0	0	6 ¹	4 ¹	7	8	9	20
Fish Structures	Structures	25	16	19	11	34 ¹	33 ¹	30	20	6
Permit Grazing Use	M AUM	71.1	70.5	72.3	72.4	71.9	71.2	70.3	69.5	72.7
Range Improvement	M AUM									
Nonstructural	Acres	1329	1999	2433	1607	562	402	550	110	453
Structural	Structures	40	30	18	26	35	28	37	31	32
AMPs	Plans	10	5	4	4	0	2	1	1	0
Nox. Weed Control	Acres	600	772	616	636	472	1062	1261	1265	1515
Total Vol. Sold	MMBF	14	7.9	10.7	6.9	10.5	17.9	25.6	12.1	6.3
Silvicultural Exams	M Acres	28.0	45.3	33.9	28.2	37.3	35.4	14.6	9.4	9.3
Reforest-Approp ²	Acres	54	217	225	92	117	38	245	151	253
Reforest-Other ³	Acres	270	1108	829	927	603	487	371	612	914
TSI-Appropriated ⁴	Acres	200	563	568	502	340	334	186	216	178
TSI-KV ⁵	Acres	0	125	12	0	0	0	24	111	140
Soil Inventory	Acres	2000	0	0	0	0	25000	46000	49000	30000
Soil & Water Imprv.	Acres	45	29	10	109	71	50	94	79	78
Minerals Mgmt	Cases	160	154	134	250	108	94	38	37	38
Land Exchange	Acres	60	399	0	153	0	150	373	0	0.2
Landline Location	Miles	26	14	18	25	21	23	24	17	21
Road Construction	Miles	9.0	3.7	2.9	0	3.1	17.4	20.2	3.2	1.5
Road Reconstruction	Miles	24.0	29.7	20.3	17.9	9.8	13.4	22.6	1.3	14.1
Total Road	Miles	33.0	33.4	23.2	17.9	12.9	30.8	42.8	4.5	15.6
Trail Construction/ Reconstruction	Miles	14.0	8.5	13.3	12.8	14.1	12.0	19.5	9.5	20.6
Fuels Mgmt-BD	Acres	1470	1713	1201	1053	737	533	328	833	384
Fuels Mgmt-FFP	Acres	700	665	863	1025	675	860	1108	972	1215

¹Numbers differ from Table C-12b because KV accomplishments included in this table's total

²Total of Reforestation and Site Prep. Natural Appropriated, see Table E-7a

³Reforest-Other is the sum of Reforestation and Site Prep. from KV, Trust Funds, and Purchaser Work, see Table E-7a

⁴Total of Release Acres and Thinning TSI Appropriated, see Table E-7a

⁵Total of Release Acres and Thinning TSI KV, see Table E-7a

Comparison of Outputs, Activities, and Budgets

Table II - COMPARISON OF FY 1994 EXPENDITURES/ACCOMPLISHMENTS vs FOREST PLAN PROJECTIONS vs REQUESTED OUTYEAR BUDGET

Activity	Unit of Measure	¹ Budget in Forest Plan	² Outyear Request FP Level	³ Outyear Request Constrained	⁴ Actual Allocation
General Administration	\$\$\$	1327	1460	1410	1230
Fire and Fuels	\$\$\$	454	481	481	534
Fuels Mgt-FFP	Acres	700	700	700	1300
Timber	\$\$\$	805	1069	855	631
Tot Vol Offered	MMBF	14	21	14	13
Silv Exams	M Acres	28	18.4	12.6	7
Range	\$\$\$	554	710	570	526
Permitted Graz Use	M AUM	71.1	71	71	71.1
Range Imp Non-Struc	Acres	1329	300	200	375
Range Imp Structure	Structures	40	0	0	40
Range Res Plans	Plans	10	15	15	19
Noxious Weed Control	Acres	600	585	510	600
Minerals	\$\$\$	609	300	2257	375
Minerals Mgt	Cases	160	24	24	31
Recreation	\$\$\$	715	582	525	571
Rec Developed Use	M RVD	169	N/A*	N/A*	N/A*
Rec Disp Use Wilderness	M RVD	86	N/A*	N/A*	N/A*
Rec Disp Use Non-Wild	M RVD	614	N/A*	N/A*	N/A*
Wildlife and Fish	\$\$\$	645	600	575	446
Wildlife Hab Imp	Acres	600	450	300	650
Fish Hab Imp	Acres	5	10	10	20
T&E Hab Imp	Acres	100	500	400	165
Wildlife Hab Struc	Structures	10	3	1	7
Fish Hab Struc	Structures	25	25	25	16
T&E Hab Struc	Structures		4	4	5
Soil, Air, Water	\$\$\$	219	285	265	295
Soil Inventory	Acres	2000	35000	30000	30000
Soils Improvement	Acres	45	45	45	30
Facility Maintenance	\$\$\$	154	800	72	52
Lands/Land Management	\$\$\$	150	95	75	37
Land Exchange	Acres	60	0	0	0
Land Status/Acq Admin	\$\$\$	213	30	20	15
Landline Location	\$\$\$	124	130	100	110
Landline Location	Miles	26	30	19	21
Road Maintenance	\$\$\$	526	380	340	300
Trail Maintenance	\$\$\$	389	288	260	265
Co-op Law Enforcement	\$\$\$	56	45	40	22
Reforestation-Approp	\$\$\$	78	46	32	110
Reforest-Approp	Acres	54	82	57	290
TSI-Appropriated	\$\$\$	40	15	10	50
Tbr Std Imp-Approp	Acres	200	230	180	191
Tree Improvement	\$\$\$	10	10	10	18
KV (Trust Fund)	\$\$\$	138	88	88	131
Reforest-KV	Acres	270	55	55	142
Tbr Std Imp-KV	Acres	0	24	24	140
CWFS-Other (Trust Fund)	\$\$\$	32	24	24	100
Timber Salv.Sale (Perm)	\$\$\$	44	128	109	343
Brush Disposal (Perm)	\$\$\$	32	53	53	20
Fuels Mgt-BD	Acres	1470	1100	1100	600

Comparison of Outputs, Activities, and Budgets

Table II - COMPARISON OF FY 1994 EXPENDITURES/ACCOMPLISHMENTS vs FOREST PLAN PROJECTIONS vs REQUESTED OUTYEAR BUDGET (continued)

Activity	Unit of Measure	¹ Budget in Forest Plan	² Outyear Request FP Level	³ Outyear Request Constrained	⁴ Actual Allocation
Range Improvement	\$\$\$	67	42	42	13
Recreation Construction	\$\$\$	63	N/A ¹	N/A ¹	329
Facility Construction	\$\$\$	0	N/A ¹	N/A ¹	0
Engineering Const Support	\$\$\$	620	480	450	377
Const-Capital Inv Roads	\$\$\$	713	N/A ¹	N/A ¹	772
Road Const/Reconst	Miles	33.0	33.0	20.0	0
Trail Const/Reconst	\$\$\$	181	N/A ¹	N/A ¹	65
Trail Const/Reconst	Miles	14.0	N/A ¹	N/A ¹	16.0
Total Budget	\$\$\$	8958			7737

All dollar figures are expressed in 1994 dollars (thousands).

¹Outyear targets for Recreation are requested using a different unit of measure (MPAOTs).

¹Requests for these items are not made in the Outyear Program.

The budget in the Lewis and Clark National Forest Plan¹ (June, 1986) was an estimate of the funds needed to implement the activities proposed in the Plan. Since that time many of the costs used in the Plan have changed. New activities and/or emphasis items, although authorized by the Plan, have changed or expanded. Since the development of the Forest Plan we have additional and more accurate information on the real costs of resource support to timber, for example.

Each fall the Forest submits two outyear program requests (dollars and outputs) for the fiscal year two years in advance. One program outlines our budget needs to implement the Forest Plan², and the other requests a program for the forest within an assigned budget constraint³. The constraint is assigned by a higher organizational level and forces the Forest to prioritize work within a limited budget. These program requests are combined with other forests in

the country and are eventually submitted to Congress as part of the President's Budget.

When Congress passes the Appropriation Bill, the dollars and targets are disaggregated to the forest level and the forest is left with a budget allocation⁴ and targets to execute. In all cases this "Actual" allocation may or may not resemble our outyear request. There are several reasons why the budget allocation we receive differs from the program we requested in the outyear process. The main reason for the difference is that Congress' decision on budgets and targets is influenced by more than just the President's budget submission. The following are examples of influences on Congress; committee members' interests, successful lobbying efforts, the overall size of the budget (and deficit), and the popularity or unpopularity of certain items in the budget. When this budget comes to us in the form of an Appropriation Act (a law) we are required to execute it as Congress has specified.

List of Preparers/Approval

V. LIST OF PREPARERS

The following individuals contributed to the development of the Monitoring and Evaluation Report for the Lewis and Clark National Forest for Fiscal Year 1994.

FY 1994 Monitoring & Evaluation Team

NAME	FUNCTIONAL RESOURCE AREA
Bonner Armstrong	Zone Timber (Contract Officer)
Bonnie Dearing	Public Information Officer
William Duryee	Staff Officer - Engineering/Lands
Mike Enk	Fisheries Biologist
Sam Gilbert	Zone Timber (Silviculturist)
Donald Godtel	Wildlife Biologist
Alyss Hagen	Resource Specialist
Ron Meyers	Civil Engineer (Roads & Facilities)
Richard Newton	Archaeologist
Mark Nienow	Hydrologist
Wayne Phillips	Ecologist
Eldon Rash	Range Conservationist
Dick Smith	Staff Officer - Land Management Planning/Fire
Robin Strathy	Geologist
Ronald Yates	Landscape Architect/Recreation

In addition, the report was reviewed by the following individuals:

NAME	TITLE
John Greer	Forest Supervisor
Jerry Dombrowske	District Ranger, Rocky Mountain District
Larry Timchak	District Ranger, Judith District
Bill Fortune	District Ranger, Musselshell District
Terry Knupp	District Ranger, Kings Hill District

VI. APPROVAL

I have reviewed the annual Forest Plan Monitoring and Evaluation Report for Fiscal Year 1994 for the Lewis and Clark National Forest that was prepared by the Forest Interdisciplinary Team. I am satisfied that the Monitoring and Evaluation effort meets the intent of the Forest Plan (Chapter V), Forest Service Handbook 1909.12, and 36 CFR 219.

This report is approved:


JOHN G. GREER
Forest Supervisor

3-13-95
DATE

List of Preparers/Approval

APPENDIX A

ANNUAL WILDERNESS REPORT TO CONGRESS
BOB MARSHALL WILDERNESS COMPLEX
Year 1994

Name of Wilderness Unit/Complex: **BOB MARSHALL WILDERNESS RMRD**

I. *Conditions and Trends*

A. Current Condition and Trend of the Wilderness Resources

1. List the three most prominent threats to preservation of the Wilderness resource.
 - * **Overuse of Nationally known areas (Chinese Wall)**
 - * **Campsite degradation along popular routes to scenic attractions.**
 - * **Lack of funding for adequate LAC monitoring.**
2. Acreage adjustment (if any) due to boundary changes, or reassessment of the actual acreage total.

Acreage change (+ or -) **NONE**

3. Management Issues (Describe)
 - Resource - **Overuse of popular areas.**
 - Social - **Campsite degradation. Exceeding LAC guidelines trail encounters, campsite densities.**
 - Other - **Lack of funding for LAC monitoring. Aftermath and damage to trails, 1988 fires. Educational/institutional outfitting.**
4. Social Trends (Describe)
 - Users - **Gradual increase in livestock use. Hiker use remained the same.**
 - Type - **Hikers and recreation livestock.**
 - Other - **Resolve use allocation.**

II. *Organization and Training*

A. Personnel

1. Number of Employees (Wilderness Management Positions)

	PFT	WAE	Seasonal
Previous year	1.5	1	3
Current year	1.5	0	3

2. Number of Person Years (Include All Resources)

Previous Year	4.5
Current Year	4.0

B. Budget - Actual dollars that reached the National Forest (\$M Dollars)

	<i>Total (include all resources)</i>	<i>NFWM</i>
1. Previous Fiscal Year	\$41.8M	\$12.2M
2. Current Fiscal Year	\$81.0M	\$44.0M

C. Management Method

1. Single Unit	No
2. Multi-Unit	Yes
3. Other (Describe)	COORDINATED MANAGEMENT WITH FORMAL CHARTER

D. Training - What Training Has Been Provided (Describe)

Seasonal ranger orientation.
One ranger attended the Rendezvous.

III. Management

A. Plans - Status

1. Approved Fire Management Plan	Yes
2. Allotment Management	
Total Number of Allotments within Boundaries	6
Total Number of Approved and Current AMPs	0
3. Forest Plan Direction. Adequate?	Yes
4. Wilderness Implementation Schedule. Complete?	Yes

B. Air Quality and Monitoring

1. Air Quality Monitoring Plan in effect	No
2. Identified Problems with Air Quality (Describe)	None

C. Fire

1. Acres Burned	
Natural Ignition	1.5
Planned Ignition	0
Wildfire	0
2. Trends	
Number of Natural Ignitions	5
Number of Fires Suppressed	2

D. Mining

1. Active Mining Operating Plans	0
2. Number of Patented Mining Operations	0

E. Grazing

1. Livestock Grazing Use in Wilderness (AUM's)	
Cattle/Sheep	50
Recreational Stock - Commercial	438
Recreational Stock - Private	4800

2. Acres Grazed in Wilderness	18118
3. Condition of Range Resource (P/F/G/E)	G
4. Trend of Resource(Up/Static/Down)	UP
F. Wildlife	
1. Identified Vertebrate T&E Species Present (List)	
Wolf pack (10) established in BMWC. Using both Bob Marshall and Scapegoat.	
2. Identified Vertebrate Sensitive Species Present (List)	
1994 Harlequin duck broods recorded.	
3. Identified Plant T&E Species Present (List)	
None identified in the Wilderness	
4. Identified Sensitive Plant Species Present (List)	
No new species found.	
G. Visitor Use	
1. Wilderness Recreational Use Statistics	
RVD's	49.1M
Visits	53.6M
H. Outfitter/Guide	
1. Number of Special Use Permits	10
2. Type of Service Provided (List By Type)	
Day Use - Pack trips, Fishing/hunting, backpacking, drop camps,	
3. Percent of Total Use Served By Permitted Outfitters	20%
I. Use of Motorized/Mechanical Equipment	
1. Administrative Use	
Type of Equipment (Describe)	None
Number of Approvals	None
2. Other Approved Use	
Type of Equipment (Describe)	
Search and Rescue Helicopter 1 individual flown out for serious illness.	
Number of Approvals	1
J. Violation Notices	
1. Most Common Type including warning notices)	None
2. Number Written	0
K. Visitor Education (Describe)	
1. Amount	3 Wilderness Guards, 1 REO enrollee, 1 Volunteer 1 Wilderness Information Specialist

2. Type **South Fork Trailhead Wilderness Information Specialist, Traveling in Bear Country Demo Camp (Look at accomplishment report).**

3. Successes and Limitations
Limited budget
Large number of people contacted at Fair 30th. Anniversary Display.

L. Administrative Site Structures (Guard Stations, Lookouts, Other, Etc)

1. Total Number of Structures **15**
2. Needs Evaluation (Number Completed to Date) **None**

M. Inholdings

1. Number of Inholdings **0**
2. Total Acres of Inholdings **0**
3. Key Issues (Describe) **None**

IV. *Research*

A. Current Research

1. Current Projects and Monitoring Efforts (Describe)
Visitor choices in the Gates Park fire area in the Bob Marshall.

2. Completed Projects (Describe)
Fish shocking survey
Harlequin duck survey

B. Future Research Needs (Describe)
Visitor use study to follow up prior 1972 and 1983 studies

V. *Other*

A. Issues (Describe)

1. Other Issues Needing National Attention
Noxious weeds.

B. Accomplishments (Describe)

1. Of Interest Nationally
Reconstructed 5 miles of trail within Wilderness, 2 miles wilderness access trail
Challenge cost share project 3/4 mi. trail turnpike, Wilderness access trail.

SCAPEGOAT WILDERNESS
Year 1994

Name of Wilderness Unit/Complex: *Scapegoat Wilderness RMRD*

I. Conditions and Trends

A. Current Condition and Trend of the Wilderness Resources

1. List the three most prominent threats to preservation of the Wilderness resource.

- * **Lack of funding for adequate LAC monitoring & inventory**
- * **Lack of funding in aftermath of 1988 fires**
- * **Illegal outfitting**

2. Acreage adjustment (if any) due to boundary changes, or reassessment of the actual acreage total.

Acreage change (+ or -) **None**

3. Management Issues (Describe)

- Resource - **Trail & site repair of damage by 1988 fire.**
- Social - **Campsite density in popular areas**
- Other - **Lack of funding prevented regular patrol of area**

4. Social Trends (Describe)

- Users - **Increase in recreation livestock use**
- Type - **Hikers along CDNST & livestock use in alpine camps**
- Other - **Lack of funding for seasonal rangers**

II. Organization and Training

A. Personnel

1. Number of Employees (Wilderness Management Positions)

	PFT	WAE	Seasonal
Previous year	0.5	0	1
Current year	0.5	0	0

2. Number of Person Years (Include All Resources)

Previous Year	2.3
Current Year	.2

B. Budget - Actual dollars that reached the National Forest (\$M Dollars)

	Total (include all resources)	NFWM
1. Previous Fiscal Year	\$9.2M	\$2.7M
2. Current Fiscal Year	\$18.0M	\$11.0M

C. Management Method

1. Single Unit	No
2. Multi-Unit	Yes
3. Other (Describe)	None

D. Training - What Training Has Been Provided (Describe)

III. Management

A. Plans - Status

- | | |
|--|-----|
| 1. Approved Fire Management Plan | Yes |
| 2. Allotment Management | |
| Total Number of Allotments Within Boundaries | 3 |
| Total Number of Approved and Current AMP's | 0 |
| 3. Forest Plan Direction. Adequate? | Yes |
| 4. Wilderness Implementation Schedule. Complete? | No |

B. Air Quality and Monitoring

- | | |
|--|------|
| 1. Air Quality Monitoring Plan in effect? | No |
| 2. Identified Problems with Air Quality (Describe) | None |

C. Fire

- | | |
|-----------------------------|----|
| 1. Acres Burned | |
| Natural Ignition | .1 |
| Planned Ignition | 0 |
| Wildfire | 0 |
| 2. Trends | |
| Number of Natural Ignitions | 1 |
| Number of Fires Suppressed | 0 |

D. Mining

- | | |
|---|---|
| 1. Active Mining Operating Plans | 0 |
| 2. Number of Patented Mining Operations | 0 |

E. Grazing

- | | |
|--|------|
| 1. Livestock Grazing Use in Wilderness (AUM's) | |
| Cattle/Sheep | 0 |
| Recreational Stock - Commercial | 95 |
| Recreational Stock - Private | 1200 |
| 2. Acres Grazed in Wilderness | 9342 |
| 3. Condition of Range Resource (P/F/G/E) | G |
| 4. Trend of Resource(Up/Static/Down) | UP |

F. Wildlife

- | | |
|---|--|
| 1. Identified Vertebrate T&E Species Present (List) | |
| <i>Wolf pack (10) established in BMWC. Using both Bob Marshall and Scapegoat lands.</i> | |
| 2. Identified Vertebrate Sensitive Species Present (List) 1994 | |
| <i>Harlequin duck and grizzly bear increased populations.</i> | |

3. Identified Plant T&E Species Present (List)		
	None identified in the Wilderness	
4. Identified Sensitive Plant Species Present (List)		
	No new species found	
G. Visitor Use		
1. Wilderness Recreational Use Statistics		
RVD's		15.1M
Visits		17.8M
H. Outfitter/Guide		
1. Number of Special Use Permits		3
2. Type of Service Provided (List By Type)		
	Day Use/Horse Rental Fishing/hunting, photography, pack trips	
3. Percent of Total Use Served By Permitted Outfitters		20%
I. Use of Motorized/Mechanical Equipment		
1. Administrative Use		
Type of Equipment (Describe)		none
Number of Approvals		none
2. Other Approved Use		
Type of Equipment (Describe)		none
Number of Approvals		0
J. Violation Notices		
1. Most Common Type		None
2. Number Written		0
K. Visitor Education (Describe)		
1. Amount-(See Education Report)		
2. Type		
3. Successes and Limitations		
L. Administrative Site Structures (Guard Stations, Lookouts, Other, Etc)		
1. Total Number of Structures		5
2. Needs Evaluation (Number Completed to Date)		None
M. Inholdings		
1. Number of Inholdings		0
2. Total Acres of Inholdings		0
3. Key Issues (Describe)		None

