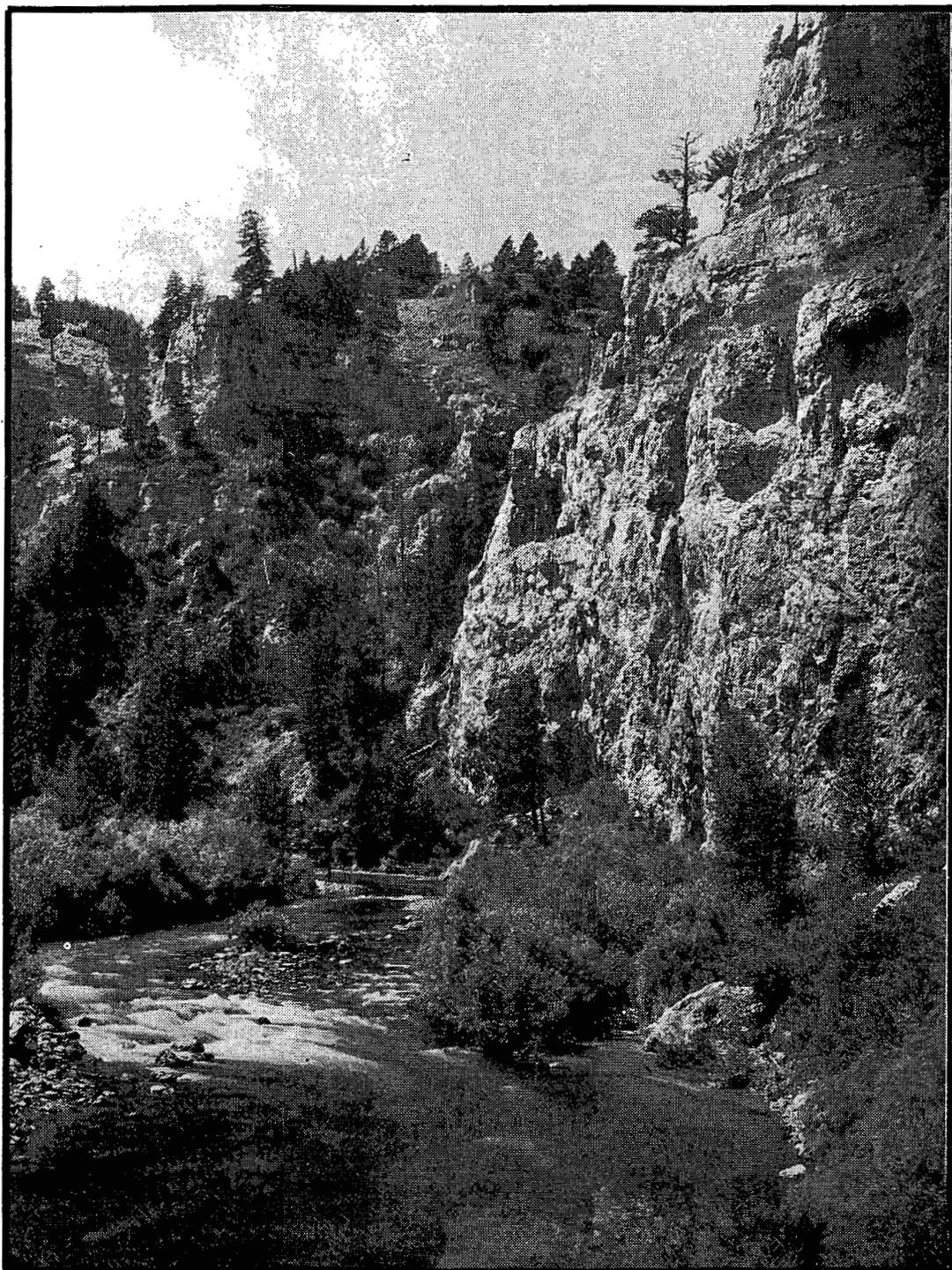




Lewis and Clark
National Forest
P.O. Box 871
Great Falls, MT. 59403

LEWIS AND CLARK NATIONAL FOREST PLAN

Monitoring and Evaluation Report



Belt Creek Canyon below Monarch in the Little Belt Mountains.

REPLY TO: 1950

Date: March 21, 1988

SUBJECT: FY-1987 Monitoring and Evaluation Report

TO: Forest Plan Participant

Enclosed for your review and use is the first "Monitoring and Evaluation Report" for the Lewis and Clark National Forest Plan.

The Forest Plan describes a new phase of integrated resource management. Integrated management of resources as defined by the Northern Region is, "where all resources are considered together for the same area of land. Planned activities are designed to work toward a desired further condition of the land to achieve a common good."

Overall, I believe the transition from several resource management plans into one integrated Forest-wide Plan has been a smooth one. As shown by the report, output and activity levels for the Forest have generally met or exceeded those in the Forest Plan. When there is a significant difference, the report explains why.

Although the overall budget to implement the Forest Plan has been lower than envisioned, some funding elements, such as land line location, tree improvement and trail maintenance, have been fully met. Through the outyear programming process the actual Forest budget is being moved towards those elements that are emphasized in the Forest Plan.

As we have gone through the first year of monitoring the Forest Plan we have found that most monitoring items have worked like we had envisioned. However, in some cases the Interdisciplinary Team has recommended a change to strengthen or improve the understanding of the monitoring requirements. In some cases there is a need for the Forest to improve its recordkeeping so that the necessary monitoring items can be tracked at the end of the year. These cases are discussed in the report and will be accomplished by amending the Forest Plan.

Evaluation of the monitoring results showed that while the goals, objectives, standards and management practices are generally being implemented as detailed in the Forest Plan, there is a need to strengthen our management in some specific areas. For example, we must increase our emphasis on range allotment management planning and wildlife habitat improvement. Our first year of monitoring showed that there was also need to strengthen our reporting procedures in some areas.

Resolving the 13 Forest Plan appeals is still a major concern. One appeal has been withdrawn and one appeal has been dismissed. The other 11 appeal records have been closed and we are awaiting a decision by the Chief of the Forest Service who is reviewing the appeals.

STATUS OF THE LEWIS AND CLARK NATIONAL FOREST APPEALS

American Rivers Conservation Council - Withdrawn
Daniel J. Funsch - Record Closed
Glacier-Two Medicine Alliance - Record Closed
Glacier-Two Medicine Alliance-Badger Chapter - Record Closed
Intermountain Forest Industry Association - Record Closed
Montana Wilderness Association, et al. - Record Closed
Montana Wildland Coalition - Record Closed
Dexter M. Roberts - Record Closed
Bill Stewart - Record Closed
John R. Swanson - Dismissed
Town of Judith Gap - Record Closed
Western Environmental Trade Association - Record Closed
Robert J. Yetter, et al. - Record Closed

Again, I want to thank you for your interest in the Lewis and Clark National Forest. Please contact us if you have any questions on the Forest Plan or the Monitoring and Evaluation Report.



JOHN D. GORMAN
Forest Supervisor

FOREST PLAN MONITORING AND EVALUATION REPORT

FISCAL YEAR 1987

LEWIS AND CLARK NATIONAL FOREST

TABLE OF CONTENTS

- I. INTRODUCTION
- II. GOALS
- III. FOREST PLAN MONITORING AND EVALUATION

Elements:

- Recreation (A)
- Wilderness (B)
- Wildlife and Fish (C)
- Range (D)
- Timber (E)
- Water and Soil (F)
- Minerals (G)
- Lands (J)
- Facilities (L)
- Protection (P)
- All (I)

Comparison of Outputs and Activities with those Projected in the Forest Plan

Comparison of the Actual Budget Received in FY 1987 with the Forest Plan Projected Annual Budget

- IV. PLANNED ACTIONS
- V. RESEARCH NEEDS
- VI. AMENDMENTS
- VII. APPENDICES
- VIII. LIST OF PREPARERS
- IX. APPROVAL

FOREST PLAN MONITORING AND EVALUATION REPORT

LEWIS AND CLARK NATIONAL FOREST

FISCAL YEAR 1987

I. INTRODUCTION

The Land and Resource Management Plan (Forest Plan) for the Lewis and Clark National Forest was approved by the Regional Forester on June 4, 1986. Part of the process was a commitment to monitor and evaluate how well the Forest Plan was being implemented. A commitment was also made to consider modifications in the Forest Plan based on the monitoring and evaluation efforts.

This report summarizes results of Forest Plan monitoring and evaluation conducted during Fiscal Year 1987 (October 1, 1986 through September 30, 1987), the first year of implementing the Forest Plan for the Lewis and Clark National Forest.

The significance of the results of the Fiscal Year (FY) 1987 monitoring and evaluation program have been analyzed by the Forest Interdisciplinary (ID) Team and have been reviewed for action by the Forest Management Team.

This report summarizes the results of the Forest's monitoring effort and provides the rationale for the modifications, if necessary, that will be made in the Forest Plan in the form of amendments. Any changes in the Forest Plan will follow the process outlined in Chapter V and will include appropriate public notification and completion of National Environmental Policy Act (NEPA) procedures. This report also provides a communication link with the public and other levels of Federal, State, private industry, and other interest groups to document the status on implementing the Forest Plan.

The regulations in 36 CFR 219 describe the purpose for evaluation of the Forest Plan. These regulations are summarized below:

- To determine if conditions or demands in the area covered by the Forest Plan have changed significantly enough to require any revision to the Forest Plan (36 CFR 219.10(g));
- To determine if budgets have significantly changed the long-term relationship between levels of multiple-use goods and services enough to create a "significant amendment" (36 CFR 219.10(e));
- To determine how well the stated objectives of the Forest Plan are being met (36 CFR 219.12(k));
- To determine how closely Forest-Wide Management Standards in Chapter II of the Forest Plan have been followed (36 CFR 219.12(k)); and
- To determine how the Forest is satisfying the requirements for Monitoring and Evaluation (36 CFR 219.12(k)).

II. GOALS

The goals for monitoring and evaluating the Forest Plan are to determine:

- How well the Forest is meeting its planned goals and objectives;
- If existing and emerging public issues and management concerns are being adequately addressed;
- How closely the Forest Plan's management standards are being followed;
- If outputs and services are being provided as projected;
- If the effects of implementing the Forest Plan are occurring as predicted, including significant changes in the productivity of the land;
- If the costs of implementing the Forest Plan are as predicted;
- If implementing the Forest Plan is affecting the land, resources, and communities adjacent to or near the Forest;
- If activities on nearby lands managed by other Federal or other governmental agencies, or under the jurisdiction of local governments, is affecting management of the Forest;
- If research is needed to support the management of the Forest, beyond that identified in Chapter II of the Forest Plan; and
- If there is a need to amend or revise the Forest Plan.

III. FOREST PLAN MONITORING AND EVALUATION

Forest Plan management activities were monitored and evaluated as outlined in Table 5.1 Forest Plan Monitoring Requirements, to determine how well objectives were met and how closely management standards were applied. The document resulting from the use of the Decision Flow Diagram constitutes the evaluation report. As applicable, the following will be included in the evaluation report:

- A quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan;
- Documentation of measured effects, including any change in productivity of the land;
- Unit costs associated with carrying out the planned activities as compared with unit costs estimated during Forest Plan development;

- Recommendations for changes;
- A list of needs for continuing evaluation of management systems and for alternative methods of management;
- A list of additional research needed to support the management of the Forest; and
- Identification of additional monitoring needs to facilitate achievement of the monitoring goals.

The results of the evaluation report have been summarized and are discussed on the following pages. Each monitoring item lists: (1) what is being measured; (2) frequency of measurement; (3) reporting period; (4) variable which would initiate further evaluation; and (5) the results of the monitoring. They are grouped by resource area and follow the monitoring requirements in the Lewis and Clark Forest Plan (Table 5.1).

RECREATION

A-1 Recreation Opportunity Spectrum setting being implemented.

Frequency of Measurement: 100%/10 years.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 10\%$ of projected Recreation Opportunity Spectrum (ROS) setting.

The Forest Plan provides for management of 436,000 acres in a primitive setting as Wilderness. Currently the Forest has 384,000 acres in Wilderness and the Forest Plan proposes an additional 52,000 acres. The final decision is dependent on Congressional action. Current Wilderness bills which have been introduced provide for considerably more Wilderness than recommended in the Forest Plan. However, no change actually occurred in FY 1987.

The Forest Plan also provides for 933,000 acres to be managed in a semi-primitive condition and 457,000 acres to be managed in a roaded natural setting during the first decade. No significant change occurred in these settings during FY 1987. The only activities conducted which would affect these settings were timber sales sold, totalling 3,500 acres. These sales were all located in presently roaded areas where the recreation setting is roaded, natural. Therefore, the recreation setting is consistent with Forest Plan direction.

The monitoring plan suggests measuring this item only at ten-year intervals and requires no additional evaluation unless the setting deviates plus or minus 10% from the planned recreation settings. Therefore, no additional evaluation is required.

A-2 Direction meets expectation of visitor.

Frequency of Measurement: 10% sample annually

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Adverse comments or correspondence.

This particular item is difficult to measure in an objective way. At almost any point in time, some people's expectations would be met and the expectations of others would not be met. The measurement is through visit or contacts, inspections, and plans. In this report the assumption is made that the Forest Plan direction is satisfactory unless strong public complaints have been received and/or major issues have developed which indicate that the direction is not correct.

One measure of the effectiveness of recreation direction was the recreation program review conducted in FY 1987 by the recreation staff group from the Regional Office. Issues which surfaced in that review have been addressed with an action plan in FY 1988 and accomplishment will be reported in the FY 1988 monitoring and evaluation report. The major findings of this review as they relate to visitor expectations are as follows:

A. The Forest Plan budget as proposed is inadequate to meet all of the recreation goals. This finding is based on a Regional analysis of Forest Plan budgets and related workloads. The Forest Plan budget needs to be corrected.

B. The coordination between timber management activities and snowmobile/cross country ski activities in the Kings Hill area needs to be strengthened.

C. Several issues about signing were surfaced during the recreation program review and are as follows:

--Signing is not adequate on the Forest to direct recreationists to the opportunities which exist;

--In some cases signing is negative and focuses on regulations without providing useful visitor information;

--In many cases it is difficult to identify access routes to the Forest;

--Signing on some of the winter sports trails also needs to be improved; and

--The new Travel Plan will need to be signed on the ground to be effectively implemented.

These issues led to a Forest objective in FY 1988 to correct these signing problems.

D. A major issue highlighted in the review is the need to obtain reasonable public access to the National Forest. The Forest Plan identifies most of the rights-of-way needed to provide this access. However, progress on obtaining these access points has been slow and protracted

negotiations with landowners has been the rule. A need exists to more efficiently acquire the identified rights-of-way. The action proposed to meet this need is to focus efforts in a given mountain range or area until the job is complete. This approach is being initiated in the Highwood Mountains in FY 1988. Access needs in the Highwoods were given high priority because of their proximity to recreation users in Great Falls. Coordination with other public agencies, particularly the counties, is also being strengthened.

E. Another issue identified in the review is the need to improve planning for recreational opportunities on an "area" basis and to use this planning to identify appropriate recreation facilities. This planning must be based on the recreation setting in the Forest Plan and be coordinated with recreation users.

F. Another issue is to develop a policy towards providing outfitter services on the Forest. An interim policy was developed in FY 1987 and is currently being followed. However, a more definitive policy will be developed and implemented in FY 1988. The Forest Plan currently has little direction in this area, except in the Bob Marshall Wilderness Complex.

In addition to issues identified in the recreation program review, other issues were generated by the public. Several issues were generated and resolved through the Travel Planning process, particularly issues related to motorized versus non-motorized forms of travel on the Forest. For example, several complaints were received about off trail travel by All Terrain Vehicles (ATVs) during the 1987 hunting season. Use by this class of vehicles was minimal when the Forest Plan was developed. However, the new Travel Plan specifically recognizes ATVs as a separate class of vehicle and establishes rules for their use. The direction in the new Travel Plan appears to provide an appropriate mix of recreation opportunities and has refined the direction in the Forest Plan to meet present user demands and issues.

A strong internal and public issue is the ability of the Forest to provide adequate law enforcement to implement the new Travel Plan. This issue is being addressed in an updated Workforce Management Plan for the Forest which will be completed in FY 1988. Public acceptance and support for the recreation direction in the Travel Plan will depend on adequate enforcement.

The only other issue appears to be the question of Wilderness classification. The Forest Plan provides specific direction in this regard. However, Wilderness bills have been introduced in Congress which would change this direction. This, of course, is a question for the Congress. In the interim people on both sides of the issue are expressing differing opinions about the current recreation management direction in areas being considered for Wilderness. No change will occur in the Forest Plan direction until (and unless) Congress completes action on Wilderness legislation.

A-3 Actual use of developed and dispersed recreation as compared with projected use levels.

Frequency of Measurement: Annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 25\%$ variance yearly or $\pm 10\%$ over a 5-year period.

The Forest Plan projects that total recreation use will average 869,000 visitor days in the first decade. This is broken down as follows: (1) Developed recreation - 169,000 visitor days; (2) non-wilderness dispersed recreation - 614,000 visitor days; and (3) wilderness use - 86,000 visitor days.

The use reported in FY 1987 was as follows: (1) Developed recreation - 145,000 visitor days (86% of the Forest Plan level); (2) non-wilderness dispersed recreation - 581,000 visitor days (95% of the Forest Plan level); and (3) wilderness use - 54,000 visitor days (63% of the Forest Plan level).

Fee receipts indicate that developed site use declined slightly from FY 1986 to FY 1987. Use figures indicate that dispersed recreation outside Wilderness increased somewhat over FY 1986, but that Wilderness use declined considerably. The level of use in developed sites and dispersed areas outside Wilderness also is below the projected Forest Plan level, but by less significant margins. However, the trend will need to be monitored for validity because Forest Plan projections show a steady rate of increase through the planning period.

A-4 Condition of developed sites.

Frequency of Measurement: Annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Less than acceptable standards, public safety hazards not corrected by 1990, poor conditions not corrected by 2005.

The condition of developed sites generally improved in FY 1987. Most Ranger Districts were able to focus at least some attention on replacing worn-out or damaged improvement; such as, tables, fire rings, and so forth in FY 1987. This was particularly true on the Rocky Mountain Ranger District.

The Forest has identified recreation rehabilitation projects by priority through the year 2000 based on Forest Plan budget level. All developed site water and sanitation systems have been brought up to proper standard in the past few years (the last ones were completed in FY 1987). Public health and safety hazards are corrected at all sites. Poor site conditions will be corrected by 2005 as projected in the Forest Plan, provided that recreation funds are received as programmed.

A-5 Recreation Opportunity.

Frequency of Measurement: Annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Failure to complete by 1986.

This standard is measured by the status of Recreation Opportunity Guides (ROG) on each Ranger District. Further evaluation is triggered by a failure to complete these guides on all Ranger Districts by FY 1986. Currently the guides have been completed on the Rocky Mountain Division, but are

not complete for the Jefferson Division of the Forest. This has resulted in a Forest objective in FY 1988 to complete key ROG for specific areas in the Jefferson Division. The total ROG for the Jefferson Division will not be complete in FY 1988, but completion will continue to be a priority over the next 2-3 years.

A-6 Off-road vehicle damage and Travel Plan effectiveness.

Frequency of Measurement: Annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation:

Off-road vehicle damage - Conflicts with Forest Management Area goals.

Travel Plan effectiveness - Increase of 20 or more citations or variances yearly.

This standard is monitored by two items. The first item is the status of the Forest Travel Plan as it relates to Forest Plan goals. As stated earlier, the Travel Plan was revised in FY 1987 specifically to bring it into compliance with Forest Plan standards and to implement the recreation settings in the Forest Plan. The new Travel Plan also addressed several issues; such as, All Terrain Vehicles which have surfaced since 1984.

The second monitoring item is the number of travel plan citations issued and the number of travel plan variances granted. These are summarized below along with a short narrative response concerning problems experienced by the Ranger Districts.

Rocky Mountain Ranger District

A total of 28 complaints were received from the public and employees. Of this total of 28 investigations, 3 violation notices were issued and 2 verbal warnings were given by Forest Service employees. An issue expressed by Ranger District personnel is that they are informed of less than 50 % of total violations for travel plan infractions, even though patrol effort was increased.

Judith Ranger District

A total of 25 Travel Plan variances were documented in the patrol efforts by Ranger District personnel. Of this total, a total of 4 violation notices and 1 warning notice were issued.

Enforcement of the Travel Plan was difficult because of a lack of uniform, easy-to-read signs. This problem was also identified during the Recreation Activity Review and is being corrected as part of the signing initiative. Signing is particularly critical inside area closures, so that designated open routes are clearly identified, while non-designated "wheel tracks" are clearly closed.

Musselshell Ranger District

A total of 20 Travel Plan variances were investigated by Ranger District personnel. Of this total, 1 violation notice was issued. Most variances were not found until after the offense had occurred and little information was available upon which to build a successful law enforcement case. A particular problem on the Musselshell Ranger District is illegally cleared "bypass" routes which allow motorized use behind road restriction gates and barriers.

Kings Hill Ranger District

A total of 4 Travel Plan variances were investigated by Ranger District personnel. No violation notices or warning notices were issued. Problems identified by the Ranger District personnel was the need to get better law enforcement coverage on the ground.

Forest-Wide Summary

Overall, Ranger District personnel felt that Travel Plan law enforcement was inadequate at the current level. The biggest problems occurred during hunting season and special effort was focused during this period on all Ranger Districts. However, a higher level of enforcement effort appears necessary. The enforcement job will become significantly larger when the new Travel Plan is implemented in FY 1988, as more area, road, and trail restrictions will be in effect. This job can be facilitated by improved signs.

Even though more effort appears to be needed, the number of variances investigated was significantly higher than in FY 1986 (exceeds the variability allowed without further evaluation). This indicates that the level of enforcement was higher or the number of violations was higher, or both. Indications are that an increased level of enforcement was primarily responsible for the increased number of investigations. While this exceeds the variability established in the Forest Plan, it appears to be a positive trend in Forest Plan implementation. If appropriate attention is given to Travel Plan law enforcement in the future, it is likely that initially the number of investigations and violation notices will be significantly higher.

A-7 Condition of visual resource meets objectives in plan.

Frequency of Measurement: 25% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Deviation from approved Visual Quality Objectives determined by Interdisciplinary Team review.

This item is measured by taking a 25% sample of environmental assessments completed in FY 1987. The Visual Quality Objective was met in all of the project environmental assessments sampled. Therefore, there was no deviation from approved Visual Quality Objectives established in the Forest Plan.

It is recommended that the Data Source column of Table 5.1 of the Forest Plan be changed from "Forest Plan data base VQO Inventory" to "EA's reviews by ID teams."

A-8 Cultural Resource Protection.

Frequency of Measurement: Selected sites - Once/5 years.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Less than 10% accomplishment/year.

Sixty-six projects were field inventoried in FY 1987. This resulted in cultural inventory of over 5,700 acres. Almost half of the projects inventoried had cultural sites located within their boundaries. A total of 40 cultural sites were identified, of which 30 sites were newly recorded in FY 1987. Most of these inventoried sites were archaeologically tested and Determinations of Eligibility (DOE) were made.

An eligibility determination is a helpful management tool, as it resolves the status of site, so that a "reassessment" is not needed in the future. If no eligibility determination is made, then project activities must avoid sites, regardless of their significance. Also, attention is diverted from sites which are truly significant.

About two-thirds of the tested sites were determined by the State Historic Preservation Officer to be ineligible for the National Register of Historic Places. The eligibility of eight sites was left unresolved due to lack of funds and time for testing.

A few sites inventoried in FY 1987 appear to be quite significant, including the Roosevelt Memorial (Rocky Mountain Ranger District), North Fork Dupuyer tipi rings (Rocky Mountain Ranger District), Hoover Springs lithic site (Judith Ranger District), and the large lithic scatter on Sage Creek (Judith Ranger District).

Significant progress has also been made in developing a procedure with the Blackfeet Tribe to recognize and protect Blackfeet religious practices on the Forest. This has helped to meet Forest Service responsibilities under the American Indian Religious Freedom Act of 1978 and to meet the standards in the Forest Plan which relate to Blackfeet traditional use. A procedure has been agreed with the Tribe to provide appropriate consultation regarding traditional practices. In addition, several meetings have been held with traditional leaders to exchange information and share concerns.

There is a need to develop a monitoring schedule for sites that are listed in the National Register of Historic Places.

WILDERNESS

B-1 Maintenance of existing quality of ecosystem.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Degradation of environment.

The monitoring for the Bob Marshall Wilderness Complex is outlined in detail in the Forest Plan amendment approved in 1987. The amendment provided recreation management direction and a monitoring plan based on the concept of Limits of Acceptable Change. The four Forests involved in management of the Bob Marshall Wilderness Complex all adopted an identical Forest Plan amendment and monitoring plan. The monitoring which was completed on the Lewis and Clark National Forest is detailed in Appendix A. The number of people encounters on trails and at campsites were within the identified standards, except for the trails leading into the Sun River drainage from Benchmark Trailhead (South Fork Sun River Trail #202 and West Fork Sun River Trail #203), the Headquarters Pass Trail #165 and the North Fork Sun River Trail #201. Encounters were exceeded during the summer on the first two trails and during the hunting season on trail #201. The most serious concern was the South Fork Sun River Trail leading from Benchmark Trailhead. This is a very popular entrance to the Bob Marshall Wilderness because of the proximity to the Chinese Wall. Management actions may be necessary in the future if this trend continues.

No monitoring was documented concerning forage utilization by pack stock, however, campsite inspections included an inspection of forage use. When use reached the moderate impact level, the campsites were closed. No range analysis was conducted to inventory range vegetation. Likewise, no range condition and trend monitoring was done on the range allotments. The limited monitoring reflects the funding for range management and recreation activities which was less than identified in the Forest Plan.

B-2 Bob Marshall-Great Bear-Scapegoat Management Direction.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Failure to meet time table established in Appendix U.

The time table was dropped from the final Forest Plan. There is a need to revise this reporting item.

As indicated above, new recreation management direction was completed for the Bob Marshall Wilderness Complex in April 1987 and each of the four Forest Plans were amended to include this direction.

After the revised management direction was completed, an assessment of trail reconstruction needs was completed for the entire Bob Marshall Wilderness Complex. This information will be used to address trail construction/reconstruction needs and priorities throughout the Complex. The Forest Plan budget needs to be amended to include proper funding for this construction/reconstruction effort.

B-3 Change in Roadless Inventory.

Frequency of Reporting: 100%/10 year.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: \pm 10% projected change in roadless inventory.

This item is only measured at ten-year intervals. However, no significant change occurred in the roadless inventory in FY 1987. Timber sales sold in FY 1987 were all in existing roaded areas and no other management activities occurred which would alter the present inventory.

WILDLIFE AND FISH

C-1 Threatened and Endangered Species: Grizzly Bear-Maintain occupied habitat capacity.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Any indication of downward trend in grizzly bear population.

The grizzly bear population appears to be stable or increasing. Four biological evaluations were completed (Marias Pass recreation project, Waldron Creek, a seismic operation, and revision of the Forest Travel Plan). The first three biological evaluations showed no effect on the grizzly bear, and the biological evaluation for the Forest Travel Plan showed a beneficial effect for the bear. The cumulative effects model was developed and is operational (Forest Plan, Appendix L). The vegetation mapping was completed for two bear management units. A draft recovery monitoring strategy was completed for the Grizzly Bear Recovery Plan and includes information on reproduction and mortality. The interagency monitoring and evaluation program document was completed and approved (Forest Plan, Appendix I). Law enforcement efforts were increased in Geographic Unit RM-1.

C-2 Threatened and Endangered Species: Gray Wolf, Bald Eagle, Peregrine Falcon - Maintain suitable, unoccupied habitat.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Infiltrate Further Evaluation: Deterioration or continuing disturbance on more than 5% of suitable unoccupied habitat.

No projects were approved which would cause a deterioration or continuing disturbance to suitable unoccupied habitat for the gray wolf, bald eagle, or peregrine falcon.

Management of gray wolf habitat on the Forest is currently limited to the Rocky Mountain Division. Habitat management has included identifying travel plan restrictions limiting public access to reduce disturbing human activities on deer and elk winter ranges. The decrease in disturbance is expected to benefit wintering animals as well as potential gray wolf wintering areas. Vehicle access restrictions on grizzly bear spring range are expected to help maintain existing habitat for grizzly bear as well as potential habitat for gray wolf.

The Forest is coordinating with the Region on direction for implementing the recently completed gray wolf recovery plan (USFWS 1987).

No wolves were detected on the Lewis and Clark National Forest in any surveys in FY 1987. It appears the gray wolf is extending its range to the east side of the Rocky Mountains as evidenced by the recent control actions on the Blackfeet Reservation.

There are currently no known active bald eagle or peregrine falcon nest sites on the Forest. The interagency monitoring and evaluation program for the Rocky Mountain Front was completed and included guidelines on bald eagle and peregrine falcon habitat. Bald eagles were again seen foraging over broad areas of private rangeland and on the Forest during the winter. Management practices that could potentially affect wintering bald eagles were reviewed. Forest biologists cooperatively assisted Montana Department of Fish, Wildlife, and Parks biologists in monitoring one active bald eagle nest located between the Rocky Mountain and Jefferson Divisions.

The Forest again participated in the National Bald Eagle survey in January 1987. Mid-winter sightings of bald eagles were recorded regularly for base line information on habitat use. No surveys were conducted on historic peregrine falcon sites during FY 1987.

All projects possibly affecting any known Federally listed Threatened or Endangered Species were reviewed.

C-3 Elk: Winter range capacity (population level), sex, age ratios, and habitat effectiveness.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation:

Winter range capacity, sex, and age ratios: Decrease of 5% or more in 3 year running means.

Habitat effectiveness: Decrease of 10% or more in habitat effectiveness in any timber compartment.

Elk Population Level and Sex Age Ratios

Elk populations trends (winter range capacity) are stable to increasing Forest-wide. The 3 year running mean for the period from 1980-1986, of the total elk counted on winter ranges within or adjacent to the Forest range from a low of 2,522 to a high of 2,918 for the Jefferson Division and from 2,558 to 2,774 for the Rocky Mountain Division. In both Divisions, the high count has come in the last three years.

Montana Department of Fish, Wildlife, and Parks provided updates on results of radio telemetry data on elk movements and relative numbers in the Jefferson Division. The information was considered in the selection of alternatives on several timber harvest and road construction actions.

Elk Habitat Effectiveness

On the Rocky Mountain Division guidelines were completed for elk. These guidelines were considered in the evaluation of land management activities.

On the Jefferson Division the emphasis was placed on analyzing timber compartments in which road construction and timber harvest actions are planned and in which changes in elk habitat effectiveness values are most likely to occur. The following sub-compartments were examined. South Fork Complex sales: 449-001, 002, 003, 005, 006, 007, and 009; all sub-compartments in 450; 451-001 and 005. Mill-Lion Timber Sale: 631-006; 632-001, 002, 003, and 632-006. Central Park Timber Sale: 781-001, 002, 003, and 004. All actions approved by the Forest Supervisor exceed the minimum effective cover level specified in the Forest Plan (pages 2-30 and 3-16).

Elk habitat in the south end of Belt Park was monitored in response to a 1985 Congressional Inquiry on the effect of a change in road location on a known elk calving area. The FY 1987 evaluation showed the same relative level of continued use of the area by elk for calving and security cover.

C-4 Bighorn Sheep and Mountain Goat: Winter range capacity (population level), sex, and age ratios.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Decrease of 5% or more in 3 years running means.

Occupied bighorn sheep habitat on the Forest is limited to the Rocky Mountain Division. Bighorn sheep in the Sun River area continued to show high reproduction and recruitment following the 1983-84 die-off. Data indicates lamb survival in August of 1986 was 54 young per 100 females. A winter and spring survey showed 44 and 56 lambs per 100 ewes, respectively. It was felt that the late date of the spring survey, April, may have showed artificially high recruitment rates because some ewes had separated from the larger groups and were isolated in a lambing area. The survey indicates a high over-all survival rate of lambs.

On the Jefferson Division, over the last 10 years, occasional reports have been received of bighorn sheep in the lower Tenderfoot and Smith River areas. No bighorn sheep were detected in the Jefferson Division in FY 1987.

The mountain goat populations in the Rocky Mountain Division appear to be stable and within the range of past counts based on Montana Department of Fish, Wildlife, and Parks helicopter survey counts. The population is stable, however, 1987 was one of the highest production years (60 kids:100 adult females) in several years. Mountain goats are limited to the Big Snowy Mountains within the Jefferson Division. Forest Service trail maintenance contractors reported seeing mountain goats in late June 1987 in the Crystal Lake area. Based on Montana Department of Fish, Wildlife, and Parks Region 5 summary reports, no formal surveys were conducted for mountain goats in the Big Snowy Mountains during FY 1987.

On the Rocky Mountain Division the Interagency Rocky Mountain Front wildlife monitoring/evaluation program was completed and included guidelines for bighorn sheep and mountain goats. These guidelines were considered in the evaluation of land management activities and are consistent with the Forest Plan.

C-5 Other Big Game Species: Mule Deer, Whitetail Deer, Black Bear, Mountain Lion, population trend, sex, and age ratios.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Decrease of 10% or more in 3 year running means.

The Montana Department of Fish, Wildlife, and Parks recommended changes in hunting season regulations which were supported by the Forest. Restrictions on vehicle use on selected roads as well as area vehicle restrictions for elk management are felt to also benefit deer, black bear, and mountain lion.

An interagency monitoring and evaluation program document for the Rocky Mountain Division was completed and approved which includes guidelines for mule deer management.

It is recommended that only mule deer be monitored. The reason being that if the Forest is managing the habitat for elk and mule deer, the requirements will also benefit black bear and mountain lion. The monitoring requirements for mule deer should not be limited to population figures but also to harvest data and hunter success.

Population data for these species was not summarized.

C-6 Small Game (Blue Grouse): Harvest level.

Frequency of Measurement: 100% sample annually.

Reporting Period: 3 years (FY 1989).

Variability Which Would Initiate Further Evaluation: Decrease of 20% or more in average harvest from previous reporting period.

The Forest Plan requirement is to report this activity every three years. The item was not monitored in FY 1987 due to the high natural turnover rate. It is recommended that the monitoring item be deleted. Data on broad observations have been discontinued by the Montana Department of Fish, Wildlife, and Parks (MDFWP) and the Forest Service. Harvest data is now reported for the entire MDFWP Region. The hunting season regulations have been basically the same for the past 10-15 years. The current management philosophy on hunter harvest is that it is insignificant, regardless of the population level.

C-7 Furbearer (Beaver & Bobcat) Special Interest (Lynx & Wolverine): Harvest level.

Frequency of Measurement: 100% sample annually.

Reporting Period: 3 years (FY 1989).

Variability Which Would Initiate Further Evaluation: Decrease of 10% or more in average trapper take from previous reporting period.

The Forest Plan requirement is to report this activity every three years. The item was not monitored in FY 1987. This data is only available from the Montana Department of Fish, Wildlife, and Parks and is lumped for private and public lands. It is therefore recommended that this monitoring item be eliminated.

C-8 Old Growth Habitat (Goshawk): Active nesting territories.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Decrease of 10% or more in active nesting territories.

On the Rocky Mountain Division the Interagency Rocky Mountain Front wildlife monitoring/evaluation program was completed and included guidelines for goshawk. These guidelines were considered in the evaluation of land management activities.

On the Jefferson Division the draft Region 1 Goshawk Habitat Suitability model was used as a guide. Old growth stands were field checked to validate the model. A total of 1, 5, and 8 goshawk nest territories (active at least one year) on the Forest were reported in FY 1985, 1986, and 1987, respectively. Emphasis was placed on identifying new territories while protecting the habitat around known nest territories. A contract survey was designed to detect active goshawk nest territories in prospective timber sale areas. Three nest territories were also monitored by contract. The results of these contracts were the identification of one new nest territory and the monitoring of three known nest territories. A contract was completed which reviewed the Missouri Breaks Audubon Society members field notes and contact with knowledgeable individuals. At least 15 suspected goshawk nest territories and three additional great gray owl sightings, as well as several other raptor nest sites were identified. Field examinations of the locations are needed. Forest Service biologists also surveyed several prospective timber sale areas and field checked various reported raptor nest sites.

C-9 Special Interest Species (Golden Eagle, Prairie Falcon): Nesting territories.

Frequency of Measurement: 100% sample of selected nesting territories annually.

Reporting Period: 3 years (FY 1989).

Variability Which Would Initiate Further Evaluation: Reduction in occupied nesting territories of 10% or more from previous reporting period.

The Forest Plan requirement is to report this activity every three years. The item was not monitored in FY 1987.

On the Rocky Mountain Division the Interagency Rocky Mountain Front wildlife monitoring/evaluation program was completed and included guidelines for golden eagles and prairie falcons. These guidelines were considered in the evaluation of land management activities.

One new prairie falcon eyrie was detected on the Kings Hill Ranger District through a Forest Service contract. Another contract was completed which accomplished the review of the Missouri Breaks Audubon Society members field notes, and contacts with knowledgeable individuals. At least 5 suspected golden eagle nests and three prairie falcon eyries, as well as several other raptor nest sites were identified. Field examinations of the locations are needed to verify nesting birds.

C-10 Cavity Nesting Habitat (Northern 3-Toed Woodpecker): Percent optimum habitat.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: Reduction in snags to below numbers needed to maintain minimum viable population level in any timber compartment.

The Forest Plan requirement is to report this activity every five years. The item was not monitored in FY 1987.

The following progress was established toward the monitoring objective. A complete assessment of the non-wilderness timber stand data base will be available in FY 1991. Stand delineation, strata designation, and stand examination are ongoing and several compartments in the "B" Management Areas are complete. This information will permit queries of the data base for existing snag densities.

The impact of commercial woodcutting on snag management was evaluated. The majority of woodcutting activity occurred on the Kings Hill Ranger District. Administrative changes in commercial woodcutting on the Kings Hill Ranger District have improved options for managing snags. Policies on commercial woodcutting were modified in FY 1987 to restrict cutting to a specified sale area and to require operators to purchase a minimum of 40 cords. The number of commercial cutters decreased from over 100 in FY 1986 to 28 in FY 1987. The existing policy of allowing woodcutters to cut standing dead trees is thought to have had a cumulative adverse effect on snag recruitment, a reduction in snag diameter, and the removal of snags from roaded areas. Year-long vehicle restrictions on roads have improved the potential post-timber sale snag retention and management.

C-11 Aquatic Habitat Condition (Cutthroat Trout, Brook Trout, Rainbow Trout): Habitat quality (Coordinate with F-1 and F-2; Should be F-7 and F-8).

Frequency of Measurement: 100% sample annually.

Reporting Period: 3 years (FY 1989).

Variability Which Would Initiate Further Evaluation: Predicted decrease of 5% or more (below planned level) in fish habitat capability based on predicted or actual changes in water quality or fish habitat parameters in any stream or lake.

Measures of effects on habitat quality have been made by sampling 4 streams for intragravel sediment (also reported in item F-7) and by use of the COWFISH model on 2 streams in FY 1987 and 12 streams in FY 1986 (also reported in item F-8). Additional years of data are necessary to indicate relative change in condition.

C-12 Threatened and Endangered Habitat Improvement Outputs. Wildlife & Fish Habitat Improvement Outputs.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation:

Threatened and Endangered Habitat Improvement: Accomplishment 10% below Forest Plan level over 5-year average.

Wildlife and Fish Habitat Improvement Outputs: Accomplishment 20% below Forest Plan level over 5-year average.

Summary of Forest Plan wildlife habitat improvements and actual accomplishment for FY 1987 are as follows:

| Description | Forest Plan | FY 1987 Actual | Percent of Forest Plan |
|------------------------------------|---------------|----------------|------------------------|
| Habitat Improvement(Wildlife/Fish) | | | |
| Non-structural (WL) | 680 Acres | 300 Acres | 44% |
| Non-structural (F) | 5 Acres | 2 Acres | 40% |
| Structural(W or TE) | 10 Structures | 2 Structures | 20% |
| Structural (F) | 25 Structures | 16 Structures | 64% |

All targets except structural habitat improvement, are outside of the allowable variance stated in the Forest Plan. The main reason for this variance is the lack of funding and targets. However, this is the first year of the five year reporting period addressed in the Forest Plan. In order to be within the allowable variance increased funding and targets will be necessary.

C-13 Oil and Gas Activity/Wildlife Monitoring Rocky Mountain Front.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Any indication of downward population trend in species/management guidelines related to oil and gas activity.

For discussion on the selected species see monitoring items: C-1, C-2, C-3, C-4, C-5, and C-9 in this report.

There were two projects on the Rocky Mountain Front this past year: Mobil's testing of gas well I-13 and Texaco's seismic exploration that was permitted along the Rocky Mountain Front on private, Bureau of Land Management, and National Forest lands.

In both cases the guidelines were followed to regulate the timing of the activities. In the case of the seismic permit, the most critical habitats that would be affected were raptor nest sites, and grizzly bear habitat. The raptor guidelines were the most restrictive and were followed thereby causing no disturbance to the potential or active nest sites. The testing of the well was within grizzly bear spring range. No known raptor nest sites were within 1/2 mile of the well site. The grizzly bear spring range restriction was used in conjunction with the recommendation from the State of Montana Fish, Wildlife, and Parks to not allow work at the well site until after July 1.

Because the guidelines were followed and because of the small size of the oil and gas program, there was no affect on animal populations along the Rocky Mountain Front due to the oil and gas program in FY 1987.

RANGE

D-1 Range Outputs.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 10\%$ of target.

Summary of Forest Plan range improvements and actual accomplishment for FY 1987 are as follows:

| RANGE OUTPUT | UNIT OF MEASURE | FOREST PLAN | FY 1987 ACTUAL | PERCENT OF FOREST PLAN |
|--|-----------------|-------------|----------------|------------------------|
| Permitted Grazing Use | M AUM | 71.1 | 70.5 | 99 |
| Range Improvement Nonstructural | Acres | 1329 | 1999 | 149 |
| Structural | Structures | 40 | 30 | 75 |
| Range Resource Plans (allotment management plans) | Plans | 10 | 5 | 50 |
| Noxious Weed Control (chemical and mechanical) | Acres | 300 | 772 | 257 |

M = Thousand measure AUM = Animal Unit Month

Except for permitted grazing use, all of the range outputs in FY 1987 are outside of the Forest Plan variability limit. Reasons for these deviations are as follows.

Nonstructural Range Improvement - The over accomplishment in prescribed fire used for range improvement reflects the scheduling of logical burning units. For example, much of the acreage burned in FY 1987 is to implement the Management Plan for the Highwood Allotment. This plan provides a five-year burning program with rather large acreages. Over the ten-year planning period these high years will be compensated for by years of lower burning acreages.

Structural Range Improvement - The under accomplishment in structural range improvements reflects the lower budget in FY 1987 than is scheduled in the Forest Plan. Continued funding at this level will result in under accomplishment in range improvement. Without these investments during the first decade of Forest Plan implementation, it is unlikely that the increase in permitted grazing use that is scheduled in the second decade of the Forest Plan will be possible.

Range Resource Plans - The under accomplishment in allotment management plans is a result of a range budget that is below the Forest Plan level. The Region did not assign allotment management plan targets to the Forest in FY 1987 at this budget level.

Funding for range management must increase to the Forest Plan level in order for allotment planning to reach the priority to accomplish the Forest Plan target level of 10 allotment management plans per year. See monitoring item D-4 for further evaluation and discussion.

Noxious Weed Control - The over accomplishment in noxious weed control is a reflection of the increased program of noxious weed control that resulted from the 1986 Environmental Impact Statement for a five year noxious weed control program for the Lewis and Clark National Forest. This increased program is the result of better information on weed infestations on the Forest. The budget in the Forest Plan needs to be revised to meet this increased need.

D-2 Range Conditions and Trend.

Frequency of Measurement: 25 allotments per year which will allow all Forest allotments to be sampled every 10 years.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation:

Condition - Acres of range in fair or less condition that have not shown any improvement in condition score during the monitoring interval (10 years).

Trend - Any acres in downward trend which were previously (at the last reading) stable or in an upward trend.

Trend - Any acres in downward trend which still show a downward trend after another monitoring interval.

There are 276 condition and trend studies established on the 243 grazing allotments of the Lewis and Clark National Forest. Most, if not all, of these studies are on the 173 "A" type allotments (livestock grazing allotments).

There were no range condition and trend transects monitored on the Forest in FY 1987. The last year that transects were monitored was in 1983, when 8 transects were monitored on 3 allotments.

Data from these studies show two areas that were in fair condition when the studies were established in 1965 had improved to good condition. The balance of the studies were in good condition when established, and had remained in good condition.

The data available from the last monitored studies indicates range condition and trend within the Forest Plan standards. However, the sample is very small and far outside the frequency of measurement standards in the Forest Plan. At the current rate of monitoring (8 studies per 5 years) it would take over 172 years to monitor all of the 276 existing studies, or 288 years to monitor all of the type "A" allotments only once. This level of condition and trend monitoring does not meet the intent of the Forest Plan or the monitoring standards in the allotment management plans.

Funding for range management in FY 1987 was 80% of the Forest Plan level. However, low funding can only partially explain the lack of condition and trend monitoring. There needs to be an increased awareness and commitment to monitoring range condition and trend on the Forest from the line officers, range conservationists, and range technicians. Training needs to be conducted in the new ecodata plot monitoring methods. Careful prioritization of allotments and existing studies needs to be done so that the monitoring efforts are applied to the most cost effective areas.

D-3 Supply.

Frequency of Measurement: Annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: 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.

Suitable Range Acres:

| | | | |
|------------|---------|----------------|--------|
| FY 1986 | 250,607 | | |
| FY 1987 | 249,200 | | |
| DIFFERENCE | -1,407 | PERCENT CHANGE | -0.56% |

The level of suitable range acreage supplied in FY 1987 is within the acceptable Forest Plan variability of 1%.

D-4 Allotment Management Plan status.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: More than 10% of the allotment plans are outdated.

Considering all allotment types, there are 154 allotments, or 64% of all allotments, that are now either without an Allotment Management Plan (AMP) or have outdated AMPs. If only the higher priority type "A" allotments (livestock grazing allotments) are considered, there are 94, or 54%, of the "A" allotments that are either without an AMP or have outdated AMPs. Within the balance of the first decade of the Forest plan (through 1996) another 49 allotments (approved 1973-1981) will become outdated. All but 3 of these AMPs are on "A" allotments.

This data shows that there is currently a major departure from the Forest Plan standard of "less than 10% of AMPs outdated". To correct this situation within the first decade of Forest Plan implementation (through 1996) will require 20 AMPs per year, including 10 new AMPs and 10 revisions per year. If only the highest priority "A" allotments are considered to be essential, then 14 AMPs (3 new and 11 revisions) must be completed per year to stay within the Forest Plan standard by the end of the first decade. This is the recommended approach, since the Annual Range Allotment Management Status Report from Forest Service Range Management Information System considers only type "A" allotments.

The projected outputs in the Forest Plan is 10 AMPs per year. At this level of allotment planning 90 "A" allotments would have AMPs by the end of the decade, but 50, or 29%, of "A" allotments would remain unplanned or have outdated AMPs.

In FY 1987 the Forest accomplished 5 AMPs. At this rate 45 more AMPs would be accomplished to the end of the decade, leaving 95 "A" allotments (55%) unplanned or with outdated AMPs. Range management funding in FY 1987 was \$291,000, or 80% of the Forest Plan budget of \$361,000 adjusted to FY 1987 dollars.

It is apparent from this evaluation that to meet the Forest Plan monitoring standard (no more than 10% of AMPs outdated) will require a higher level of allotment planning than is now targeted in the Forest Plan, or currently being programmed. Funding for range management must be increased above the current Forest Plan level in order to meet this objective. Allotments must be carefully selected by priority to insure that the backlog is reduced. Only type "A" allotments that are unplanned, or currently have plans approved before 1982, will contribute to reducing the backlog of outdated AMPs.

TIMBER

E-1 Assure silvicultural management prescriptions are best suited to management area goals with all resources considered.

Frequency of Measurement: One sale annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: A departure from management prescription.

The scheduled sale review (Pasture Gulch on the Musselshell Ranger District) was postponed until FY 1988 due to major forest fires that occurred in Regions 5 and 6 which occupied key personnel during the scheduled review dates. The Williams Mountain sale was briefly reviewed as part of a Regional Office/Timber Zone Organizational Review held in August, 1987. Silvicultural prescriptions

reviewed by members of the team were found to be adequate in all resource areas. Other sales were informally reviewed by appropriate specialists throughout the year for specific items; such as, site preparation and reforestation. Informal reviews are generally unscheduled, concentrating on a specific area; such as, reforestation.

E-2 Assure prescription not primarily chosen on basis of greatest dollar return or greatest timber output.

Frequency of Measurement: One sale annually.

Reporting Period: 5-years (FY 1991).

Variability Which Would Initiate Further Evaluation: Test management area outputs against those predicted.

During sale reviews on the Forest, it was determined that other resource values besides timber and subsequent dollar returns were considered. Other values included recreation viewing, cultural, wildlife, soil, and water resources. Size of cutting units were smaller than the 40 acre limitation, which accommodated both the viewing and wildlife resources. Timing of site preparation work was monitored to minimize soil and water disturbance. Recreation opportunities and cultural values were protected.

Evaluation will be done during the FY 1991 review.

E-3 Assure openings comply with size limits and are periodically evaluated for appropriateness.

Frequency of Measurement: One sale annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review.

Sale reviews on the Forest revealed all cutting units within size limitations. No biological justifications for exceeding the 40 acre limitation were necessary.

E-4 Assure timber sold does not differ from allowable sale quantity for 10-year period.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 20\%$ annually or $\pm 10\%$ over a 5-year period.

FY 1987 TIMBER SALE PROGRAM

| | FOREST PLAN (MMBF) | 1987 TARGET (MMBF) 1/ | 1987 AC- TUAL (MMBF) |
|------------------------------|-----------------------|--------------------------|----------------------------|
| Volume Sold: | | | |
| Regular Program | | | |
| Live Timber | | | |
| A. Chargeable | 11.0 | 9.4 | 6.1 |
| B. Nonchargeable | 1.0 | .5 | .3 |
| Mortality Timber | | | |
| A. Chargeable | 1.0 | 1.2 | 1.0 |
| B. Nonchargeable | 1.0 | .5 | .5 |
| Total Sold Volume | <u>14.0</u> | <u>11.6</u> | <u>7.9</u> |
| Volume Offered but not Sold: | | | |
| Regular Program | | | |
| Live Timber | | | |
| A. Chargeable | -- | -- | 4.4 |
| B. Nonchargeable | -- | -- | -- |
| Total Volume not Sold | <u>--</u> | <u>--</u> | <u>4.4</u> |
| Total Volume FY 1987 | 14.0 | 11.6 | 12.3 |

1 / (MMBF) million board feet

The Forest timber sale program of 14.0 million board feet (MMBF) was adjusted downward in FY 1987 to 11.6 MMBF because of stays of three timber sales which were granted by the Chief of the Forest Service in response to appeals on the Lewis and Clark National Forest Plan. The Forest offered for sale 12.3 MMBF of which 7.9 was sold. Of the remaining 4.4 MMBF, 1.9 MMBF was advertised but not sold and 2.5 MMBF withdrawn because of an appeal. The FY 1987 sell program was 88 percent of the Forest Plan. Therefore, no further evaluation is required.

E-5 Assure restocking is in progress within 5 years.

Frequency of Measurement: 1, 3, and 5 years.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review.

Stocking surveys conducted on 3,568 acres in FY 1987 revealed regeneration was progressing satisfactorily. Some of the drier high elevation sites are typically regenerating slowly. However, stocking levels are improving each year and planned seedling numbers are expected to be reached within the certification time period.

E-6 Assure timber acres harvested are as projected.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5-years (FY 1991).

Variability Which Would Initiate Further Evaluation: \pm 10% deviation over a 5-year period.

At the start of FY 1987, there was 37.8 million board feet of timber under contract. Volume harvested during FY 1987 was 16.9 million board feet. The estimated acres harvested was 2,000. The projected Forest Plan annual acreage harvest is 1,800. At the end of FY 1987, there was 25.2 million board feet of timber under contract.

Evaluation will be done during the FY 1991 review.

E-7 Assure accomplishment of thinning and other silvicultural treatments as projected in plan.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5-years (FY 1991).

Variability Which Would Initiate Further Evaluation: \pm 10% deviation over a 5-year period.

The Forest Plan projected 200 acres thinned annually. In FY 1987, 483 acres were thinned with another 205 receiving release work. Many of the young plantations that were created in the late 1960s and early 1970s are now ready for stocking control, also portions of the Cross Creek burn of 1970 are now ready for stocking control, segments of which were thinned last year. The Forest program will show a variance beyond the 10 percent during the first half of the planning period then should taper off slightly, but may exceed the 10 percent variance for the planning period.

No planting was done in FY 1987. Some planting is proposed during this planning period (10-15 years), however, the plan recommends natural regeneration for almost all of the Forest regeneration harvests.

Evaluation will be done during the FY 1991 review.

E-8 Insure harvest by even-age management is compatible with resource values.

Frequency of Measurement: One sale annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review.

Williams Mountain sale on the Kings Hill Ranger District was reviewed in FY 1986 by the Forest Management Team and again in FY 1987 by a Region timber program review team. Even-age management was practiced throughout this sale due to the pure mature and overmature lodgepole pine types. Even-aged management was determined to be compatible with wildlife, fisheries, and watershed values for this sale.

E-9 Firewood removal.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Use increase exceeds 10% per year.

In 1987, 3.5 million board feet of personal use firewood was sold and harvested. During FY 1986, 4.1 million board feet was sold and harvested and in FY 1985, 4.9 million board feet was sold and harvested. The trend is a reduction in the use of personal use firewood.

E-10 Evaluate availability of lands classified as suitable/unsuitable.

Frequency of Measurement: 5-years.

Reporting Period: 5-years (FY 1991).

Variability Which Would Initiate Further Evaluation: \pm 5% change in acreage.

This item is ongoing through area and timber stand analysis, determining at that time the suitability of timber land. Data is being entered in the Timber Stand Management Record System data base which will be the data source for this monitoring item.

Evaluation will be done during the FY 1991 review.

E-11 Projected yields. (Growth Plots)

Frequency of Measurement: 5-years (FY 1991).

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Standard error of 10% at 1 standard deviation.

There are a total of 27 growth plots established during FY 1979 through FY 1985 located on the Forest throughout an array of habitat types. Two additional plots are scheduled to be installed. The Forest is in a remeasurement mode which started in FY 1986 and will continue indefinitely. Eleven plots have been remeasured through September 30, 1987.

Efforts during the planning period (10-15 years) will be to continue the remeasurement so that at least each Growth Plot is remeasured on a 5-year interval in order to establish a base data file. The Forest is on schedule to accomplish the remeasurement program.

At this time there is insufficient data available to run any type of comparison between the Growth Plot data and the projected yields of the Forest Plan.

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, other than a regeneration harvest (Example: thinning, precommercial or commercial). Therefore, Growth Plots that have had their planned timber activity accomplished and remeasurement completed have data only from one remeasurement.

Evaluation will be done in FY 1991.

SOIL, WATER, AND AIR

F-1 Adequacy and Cumulative Effects of Project Best Management Practices.

Frequency of Measurement: 100% sample.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Projected deterioration of soil productivity or water usability.

Each proposed project with a potential for impact on soil or water quality is reviewed to determine the adequacy of the project's Best Management Practices (BMP's) before it is approved to ensure soil productivity and water usability. At least eight projects were evaluated in FY 1987 to provide detailed BMPs required to protect soil and water quality. In addition, cumulative effects on water yield and sediment were evaluated on four projects where the potential impact included significant soil disturbance or vegetation removal, as required by Forest-wide Management Standard F-3, #4.

All of these projects provided adequate BMPs to meet water quality goals and State water quality standards. These standards require that all reasonable land, soil, and water conservation practices are used. The cumulative effects analyses indicated, in each case, that reasonable use of conservation practices would protect the beneficial uses and goals for the water resource and prevent deterioration of the soil or water. Water yield and sediment yield increases for three projects involving timber harvest ranged up to 10% to 15% above natural levels for some alternatives; these increases are acceptable according to available guidelines and are within the general increases resulting from previous activity, before recovery. The fourth project involved only new road construction across a watershed and would have less than 2 percent increase in sediment, an amount too small for measurement by ordinary means, and therefore showing no important cumulative impact on the water resource.

F-2 Revegetation of temporarily disturbed areas and roads within 5 years.

Frequency of Measurement: 75% sample 2 years after termination.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review.

Projects completed under the Forest Plan with temporarily disturbed areas and roads are required to be revegetated within 5 years. A review 2 years after completion would demonstrate the effectiveness of seeding required by the project. All previously-closed projects have been informally reviewed; however, projects completed under the Forest Plan have not been closed for 2 years for the formal review as stated.

F-3 Water quality effects of activities in municipal watersheds.

Frequency of Measurement: All projects.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Adverse water quality effects or violates water quality standards.

No activities were proposed or conducted in either of the two municipal watersheds on the Forest in FY 1987. Any projects to be conducted in municipal watersheds, as required by law, are first reviewed by the State Water Quality Bureau.

F-4 Activities in riparian areas, flood plains, and wetlands.

Frequency of Measurement: 50% of all projects.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review.

Riparian areas include flood plains and wetlands, and activities conducted in them pose an added risk to water-related resources and to water quality. No projects were reviewed that impacted riparian areas.

F-5 Effects of other activities on watershed conditions.

Frequency of Measurement: 20% of all projects.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable management practices or land productivity.

Activities not in municipal watersheds nor in riparian areas may also have impacts on soil or water quality. There have been no Interdisciplinary Team reviews of activities indicating unacceptable management practices on soil, land productivity, or water quality.

F-6 Elimination of soil and water restoration backlog.

Frequency of Measurement: Annually.

Reporting Period: 5-years (FY 1991).

Variability Which Would Initiate Further Evaluation: Less than 50% by 1990; less than 100% by 1995.

Direction is that the backlog of soil and water restoration needs be eliminated by the year 1995. The Forest Plan identified a backlog of 373 acres of these restoration needs. Only 26 acres of this backlog were restored in FY 1987 for a total of 47 acres over the last 3 years. An average of 54 acres per year is now necessary in order to meet this objective.

F-7 Water and Stream Quality as affecting fish habitat and other uses: validation of estimations of sediment.

Frequency of Measurement: Seasonal-continuous and annual.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Not meeting State or Federal water quality standards or significant (90% confidence) deterioration, by best available indexes.

Water quality monitoring did not identify any significant deterioration which would require immediate action. State or Federal water quality standards are met when all reasonable land, soil, and water management or conservation practices, Best Management Practices (BMP's), have been applied. The adequacy of these BMP's is determined through monitoring item number F-1, and the application and effectiveness of these BMP's monitored in items numbered F-3, F-4, and F-5. Data is required to validate estimates of sediment and to determine if water quality or fish habitat might deteriorate where estimates of effects are incorrect. Methods and intensity of validation and evaluation of sediment are still in a state of development. Nevertheless, sampling of representative streams by available techniques has been conducted over the last two years and will continue next

year. The sampling in FY 1987 included five stations with regular (automated) sampling of suspended sediment along with a continuous record of streamflow and four streams sampled for intragravel sediment. Twelve streams were evaluated in FY 1986. Full analysis of results will require at least one more year of data, as annual variability requires at least 3 seasons of data.

F-8 Riparian areas and streams: stream cover and pools.

Frequency of Measurement: High-impact annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Significant (90% confidence) decline in condition.

Inventory of the condition of riparian areas and streams is presently conducted using the COW-FISH model. Two streams were evaluated in FY 1987, and twelve were evaluated in FY 1986. Additional analysis and additional years of data are necessary to indicate relative change in condition. Indication of further riparian condition requires classification. This is being done in cooperation with the Montana Riparian Association to provide a basis of ecodata plots for emphasis in development of range allotment management plans. Riparian areas and stream monitoring did not identify any significant decline which would require immediate action.

F-9 Public Health.

Frequency of Measurement: Monthly when in use.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Violates State or Federal drinking water standards per year.

All water systems maintained by the Forest Service were sampled monthly while in use. During FY 1987, 41 Forest systems and 7 special use systems were opened for use. All were tested and operated in accordance with State and Federal Safe Drinking Water Acts.

MINERALS

G-1 Effect of Mining Activities.

Frequency of Measurement: 100% annually of active operations on a monthly basis.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Adverse effect of Forest Service project on mineral activities or revision or departure from approved operation plans.

Reviews of Forest Service activities showed that no mining activities were effected by these projects.

All proponents of mining type prospecting and development proposals are required to submit a Notice of Intent and in some cases an operating plan prior to any surface disturbance. Four operating plans were reviewed during the 1987 field season. The proposals were reviewed in the field by District resource specialists. An environmental analysis was prepared on each proposal. Approval and modification of the proposal were subject to mitigation and application of the surface operating standards in the Forest Plan.

During the summer of 1987 shallow drilling requests were made by a mining company in the vicinity of Black Butte - Iron Butte area on the Kings Hill Ranger District. An analysis was conducted on the application and specific mitigation included:

- Construction was limited to the actual drill sites, no access road construction;
- A plan for prevention of noxious weed introduction was established; and
- A reclamation plan was agreed to in advance and a performance bond was established.

A Cultural Resource Inventory was completed.

G-2 Effect of Prospecting.

Frequency of Measurement: 100% of active operations on a biweekly basis.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Adverse effect upon surface resources or departure from conditions of the approved permit.

During FY 1987, the Rocky Mountain Ranger District received and permitted a geophysical prospecting permit application from Texaco, USA. Two permits approved 1-1/2 miles of helicopter supported porta-drill seismic exploration in the Deep Creek Reservoir North Further Planning area and 4-1/2 miles of the same type of exploration in the Teton/Ear Mountain area.

The conditions of the permits required that all seismic holes be plugged with Forest Service approved materials. They also required that all explosives be stored and handled in compliance with Federal, State, and local rules and regulations. No loaded holes were to be left unprotected (meaning having cap or lead wires exposed) and helicopter flight routes were established. The initiation of the project was timed so as to avoid conflicts with potential raptor nest sites as outlined in the Interagency Guidelines. A fire plan was included as part of the permit and inspections made on crews and equipment to ensure that proper and adequate fire suppression equipment was available. An inspection of the explosive magazines was made by the Regional blaster to ensure that it was in conformance with State and Federal regulations.

Numerous inspections of the operation were made throughout the period of the permit. These were documented on permit diary forms. These inspections served to identify any departure from

the approved permit and reconcile the situation prior to any adverse effect on surface resources. Drill hole cuttings were required to be raked to a depth of 1 inch, as specified in the permit. Random inspection of the holes drilled showed that the permit specifications were complied with. The application of the Interagency Wildlife Guidelines effectively prevented adverse effects upon raptors.

G-3 Effect of Drilling.

Frequency of Measurement: 100% of active operations on a weekly basis.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Adverse effect upon surface resources or departure from conditions of the approved permit.

An Environmental Impact Statement is being prepared on two pending Applications for Permit to Drill in the North End Geographic Unit, on the Rocky Mountain Ranger District. There were no permits issued in FY 1987, and therefore no monitoring.

G-4 Rehabilitation of disturbed areas.

Frequency of Measurement: 100% of activity on a weekly basis during rehabilitation. A final inspection will be made within 5 years after rehabilitation has been completed.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Rehabilitate less than 90% of disturbed areas.

Rehabilitation was completed on all disturbed areas. Four mineral related proposals were reviewed and prior to any permit issuance, reclamation standards were established. Reclamation bonds were collected to cover the cost of each project, and retained until final reclamation standards are met. In addition, the entire Jefferson Division was reviewed and prioritized to develop a detailed rehabilitation plan and submit long term budget requests to rehabilitate past disturbed areas.

G-5 Mineral Availability.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Denial of more than 10% of proposed projects.

Table on page 2-13 of the Forest Plan displays land status as a result of designated wilderness, recommended wilderness, laws such as the Threatened and Endangered Species Act and those listed species, Executive Orders, and special resources which require special stipulations. Any

changes in these laws and Forest Service requirements for resources requiring special stipulations are monitored and subsequent effects on land status as shown on this table. In FY 1987, no changes have been made which would affect the mineral availability. No projects have been denied.

LANDS

J-1 Compliance with use permits.

Frequency of Measurement: As needed.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Unacceptable results or deviation from permits.

The special use permits on the Forest are generally up to date and are in conformance with current policy. In 1987, the National Forest Service policy for several major classes of permits was changed or proposed for change, including such permits as recreation residences, electronic sites, road uses, etc. Many of these changes have been proposed in the Federal Register, but no final decision has been made concerning implementation. This has resulted in additional permit workload and uncertainty by Forest Service personnel, as well as the public. Even so, the permits have generally remained up to date and questions from the public have been answered. The automation of the permit preparation and billing system has been in large part responsible for meeting these challenges.

The administration of special use permits on the ground has been focused on health and safety problems and on permits which are under definite tenure. The continuing low level of funding for administration of non-recreation special uses reduces the number of special use inspections which would be desirable. However, the condition of special use facilities on the ground is generally acceptable.

Forest personnel, together with personnel from Glacier National Park, resolved a long-standing status/special use permit problem related to the Burlington Northern Railroad line which forms the boundary between the Lewis and Clark National Forest and Glacier National Park. Extensive research was necessary into records of the Park, the Forest, and the Railroad to establish the current land status and the status of special use permits to the railroad.

Recommendations were also completed in 1987 to the Federal Energy Regulatory Commission concerning license conditions for a proposed hydropower installation at Gibson Dam on the Sun River. This completed a process which has spanned two years and provides proper environmental safeguards for the project. Action on the license is now pending before the Federal Energy Regulatory Commission.

J-2 Right-of-way Easements Accomplishment.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Less than 75% accomplishment of 5-year Program.

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 rights-of-way program. The rights-of-way program for FY 1987, as specified in the Forest Supervisor's 1950/5460 April 23, 1987 letter to the Regional Forester, contains four road easements and one trail easement.

Three road easements and a trail easement were acquired in FY 1987 for an 80% accomplishment. This is within the acceptable limits of variability. A road easement on the existing Dry Fork of the Belt Creek Road #120 was scheduled but not acquired. Acquiring this easement is scheduled in FY 1988.

J-3 Land Ownership Adjustment Accomplishment.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987)

Variability Which Would Initiate Further Evaluation: Less than 75% accomplishment of 5-year Program.

It is recommended that this monitoring item be deleted from further review. 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 says 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's annual target with the Region is 60 acres. In FY 1987 no lands were exchanged. The Forest is currently working on exchanging approximately 200 acres of Federal land which will probably be completed in FY 1988.

FACILITIES

L-1 Road and Trail Construction/Reconstruction; Trails; Arterial/Collector Roads; Local Roads.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 20\%$ of programmed construction/reconstruction accomplished.

The Forest Plan programs an average of 10 miles of trail construction/reconstruction annually. In FY 1987, a total of 6.5 miles of trail was reconstructed and a new trail pack bridge was built over the Dearborn River (the cost of this bridge would be equivalent to approximately 2 miles of trail reconstruction). Therefore, the accomplishment was 85% of the projected goal. This compares favorably to the funding received in FY 1987, which was approximately 75% of the Forest Plan budget level.

A review of the trail construction needs of the Forest in FY 1987 showed these shortcomings in the Forest Plan. First, the completion of the trail assessment in the Bob Marshall Wilderness Complex identified a larger job for trail construction/reconstruction than was shown in the Forest Plan. Second, no funding was identified in the Forest Plan to deal with advance planning, design, and administration of trail construction projects. Third, no funding was specifically identified to provide for rights-of-way negotiation and acquisition where trail rights-of-way are needed. Therefore, the Forest Plan output for trail construction/reconstruction should be increased to 14 miles/year and the Forest Plan budget should be increased to meet the newly identified needs.

The Forest Plan (Table 2.1) indicates that the Forest would build 3.6 miles of arterial and collector roads and 13.0 miles of local roads. In FY 1987 the Forest constructed 3.7 miles and reconstructed 29.7 miles for a total of 33.4 miles under the Capital Investment Program (Congressional Appropriated Funding). No miles were constructed or reconstructed under the Timber Management Program.

The following errors have been noted in the Forest Plan:

- Funding for Capital Investment Roads and Timber Purchaser Roads (Appendix T) was reversed;
- The Forest Plan does not make any distinction between "construction" and "reconstruction"; and
- The Forest Plan projected targets did not include reconstruction of arterial and collector roads.

The Forest Plan should be amended to reflect these changes.

L-2 Miles of roads open to public use.

Frequency of Measurement: 100% sample.

Reporting Period: Annually.

Variability Which Would Initiate Further Evaluation: \pm 20% of target miles to be left open to public.

The Forest Travel Plan was revised in the 1987/1988 and the outcome of the decision resulted in the following summation of road restrictions/closures. On the Jefferson Division, approximately 230 miles of road are restricted either yearlong or seasonally to some forms of motorized public use. On the Rocky Mountain Division, approximately 23 miles of road are restricted either yearlong or seasonally to some forms of motorized public use.

It is estimated that there are approximately 1,480 miles of roads left open to the public.

The Forest Plan did not establish any target miles to be left open to the public. This item should only be monitored when there is a significant change in the Forest Travel Plan.

PROTECTION

P-1 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.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: Unacceptable results of an Interdisciplinary Team review, or if less than 70% of timber volume is programmed from high risk mountain pine beetle stands.

In FY 1987, over 90 percent of the timber sold on the Lewis and Clark National Forest was high risk lodgepole pine. Reviews of timber sale location showed the Forest is continuing to breakup large concentrations of natural fuels. Future planning is also emphasizing removal of high risk lodgepole pine. The Forest has started to breakup the large areas of dead trees (red belt) in the Little Belt Mountains by building a temporary low standard road into a large area to provide firewood access.

P-2 Acres and volume of insect and disease infestations.

Frequency of Measurement: Once annually.

Reporting Period: 5 Years (FY 1991).

Variability Which Would Initiate Further Evaluation: Introduction of new insect or disease or spread of an existing insect or disease.

Insect and disease surveys conducted during the summer of 1987 showed no significant change in insect and disease infestation on the Forest. However, mountain pine beetle activity has increased on the adjacent Helena National Forest.

P-3 Management practices to ensure activities do not promote an increase in insect and disease organisms.

Frequency of Measurement: Continuous.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: Significant increase in insect and disease organisms.

No significant increase in insect and disease organisms has been observed. Post sale reviews showed that the Forest may be leaving a larger amount of untreated slash than was necessary to provide shade for new seedlings. This could increase insect and disease organisms. Fire Management Officers have been instructed to insure timber slash treatments meet regional standards.

P-4 Assure prescribe fire meets air quality standards.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: \pm 10% beyond standard guidelines.

In 1987 the Forest treated 4,276 acres with prescribed fire. All projects were within State established guidelines and within the conditions of Montana Department of Health and Environmental Sciences Burning Permit (#MOB#87-1). The Forest did not receive any complaints about air quality being affected by prescribed fire from Forest projects.

P-5 Fuel treatment outputs.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 25\%$ of programmed targets.

In FY 1987 the Forest treated 1,813 acres of activity fuels and 665 acres of natural fuels. The Forest Plan shows a target of 1,470 acres of activity fuels and 70.0 acres of natural fuels per year. The natural fuels target in the Forest Plan is in error. The correct figure should be 700 acres per year. The annual accomplishment is within the limit of variability, therefore no further evaluation is required.

P-6 Wildfire acres burned.

Frequency of Measurement: 100% sample annually.

Reporting Period: October 1, 1986 - September 30, 1987 (FY 1987).

Variability Which Would Initiate Further Evaluation: $\pm 25\%$ above projected average annual wildfire burned acres.

In FY 1987, wildfires burned 37 acres which is well below the 497 acre projected average annual acreage. The season was unusual in that it was very dry in the spring, wet in July and August and unusually dry in the fall. The Forest took action on 37 fires: 14 lightning and 23 person caused. The number of person caused fires was up significantly due to the long, dry fall. The Forest allowed two unplanned ignitions to burn under fire management prescriptions in the Bob Marshall Wilderness Complex. These fires covered 125 acres.

(Acreage)

| 10-Year Average | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| 497 | 37 | | | | | | | | | |

P-7 Cost of Suppression and Protection Organization.

Frequency of Measurement: Once annually.

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: +5% increase in total costs.

The total cost of fire protection in FY 1987 was \$379,000. This is below the 10-year average of \$590,000 because most of the wildfires occurred in the fall when burning conditions were low resulting in less burned acreage.

(Thousand Dollars)

| | 10-Year Acreage | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|------------|-----------------|------|------|------|------|------|------|------|------|------|------|
| Total Cost | 590 | 379 | | | | | | | | | |

GENERAL

I-1 Validation of cost and values used in the Forest Plan.

Frequency of Measurement: 100% sample annually.

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: In general, $\pm 25\%$; however, very large cost items such as stump-truck costs would have a smaller degree of acceptable variability.

The Forest is reviewing and updating all costs and values in the Forest Plan. This project should be completed by July 1, 1988.

I-2 Effect of emerging issues or changing social values.

Frequency of Measurement: 100% sample annually.

Reporting Period: Continuous.

Variability Which Would Initiate Further Evaluation: If issue cannot be dealt with under the Forest Information and Involvement Plan.

The Forest recognizes the public interest in management of the National Forest lands. Three projects involved extensive scoping and public involvement efforts during FY 1987. While other

projects involved public involvement efforts on a smaller scale, the three projects necessitating more extensive efforts because of the sensitivity of the issues involved were: Chevron Environmental Impact Statement, Crazy Mountains Land Exchange Environmental Assessment, and revision of the Forest Travel Plan.

Chevron Environmental Impact Statement: During the scoping stages of the Environmental Impact Statement, public comment revealed a issue for the social and economic implications of the proposed oil and gas exploration project. The Interdisciplinary Team felt that a social assessment in the local communities should be prepared. A team consisting of a social scientist, and anthropologist/archaeologist and a public involvement specialist conducted unstructured interviews with forty residents from the communities of Browning, Heart Butte, East Glacier Park, and Cut Bank. Their findings are summarized in a Social Assessment Report, April 1987. The purpose of the report was to provide information regarding social values, perceptions, and attitudes of those residents most likely to be influenced by oil and gas exploration and/or development, particularly with regard to the exploratory well proposal made by Chevron.

Opinions and sentiments about the social impacts of the proposal differ. Some feel oil and gas development would bolster the economic condition on the reservation and the local communities. They feel the National Forest lands should be managed for multiple use purposes, oil and gas development being one of those uses. Others are supporting protection of the area. The range of protection varies from those who support a recreation-based management concept to those who support Wilderness classification. Some of the Blackfeet traditionalists believe that the area needs protection to allow for the practice of the traditional Blackfeet religion. Wilderness classification is seen as a way to achieve this protection.

The Social Assessment Report (April 1987) is being used by the Interdisciplinary Team to address the environmental impacts for the Chevron Environmental Impact Statement.

Crazy Mountains Land Exchange: A land exchange proposed by a private landowner in the Crazy Mountains has been the focus of concern for publics having an interest in both the Lewis and Clark and Gallatin National Forests. The checkerboard land ownership pattern in the mountain range has made management of the National Forest lands difficult for the Forest Service and sometimes confusing for the Forest visitor. Scoping meetings were conducted in Harlowton, Livingston, and Billings. Access to the National Forest lands was identified as the key issue during the scoping period. Also expressed was the issue that the Forest lands involved in the exchange may be more valuable for wildlife than those lands to be acquired.

The comments received during the scoping period are being used by the Interdisciplinary Team in the analysis of the land exchange proposal.

Travel Plan Revision: The Forest undertook a public review of the 1984 Forest Travel Plan during FY 1987. This review was undertaken with the idea of actively involving the users of the Lewis and Clark National Forest so that the final Travel Plan provided an appropriate mix of recreation opportunities and met as many of the needs of people as possible. A series of Advisory Groups were formed to help work with the Forest Service in the development of a draft revision which then received wide public review. Nine Advisory Groups were formed in all. Seven of these groups provided direct input into the Travel Plan for the Jefferson Division, the remaining two concentrated on the Rocky Mountain Division.

Each of the groups was composed of a cross-section of users, representing snowmobilers, crosscountry skiers, hikers, horsemen, outfitters, motorcyclists, all terrain vehicles users, and representatives from the Montana Department of Fish, Wildlife and Parks. A large number of alternatives were considered and discussed at the Advisory Group meetings. These alternatives ranged from suggestions to retain the current Travel Plan to a variety of suggestions for adding or deleting restrictions to the current map.

The following are the major issues raised by the public during the travel planning process:

--The Forest decided to address the issue of All Terrain Vehicle (ATV) use as a distinct class of vehicle on the National Forest. Determination of where ATV use was appropriate became a key issue.

--User conflicts in the Tenderfoot-Deep Creek area made travel management decisions difficult. Disagreement over motorized versus nonmotorized use created some polarization between user group. A compromise was reached in the final decision, but several user groups continue to remain dissatisfied with the outcome. ATV use in the Tenderfoot-Deep Creek area proved to be most sensitive.

--The use of llamas on five trails on the Rocky Mountain Division became an issue between outfitters and llama users. The five trails under consideration for prohibiting llama use are recognized as difficult trails, having steep, winding turns with limited passing clearance. The outfitters contended that the llamas presented a safety hazard to their riders. The llama owners felt that llama use should not be discriminated against.

--Travel management in the Badger-Two Medicine area on the northern portion of the Rocky Mountain Division was an issue of both motorized and nonmotorized recreationists. As discussed with the Chevron topic, some feel that the area should be classified as Wilderness and motorized use prohibited. Snowmobiling and motorcycling are popular activities in the area, and restricting future motorized use is unpopular with these users.

A final decision of the Travel Plan was made on December 30, 1987. The decision is currently undergoing a 45-day administrative review period.

Other Issues: Other issues on the Forest include the following:

Two timber sales on the Jefferson Division were appealed by the American Wilderness Alliance. In the Central Park Timber Sale, the appellant contended that failure to prepare and environmental assessment was a violation of the NEPA process; that cumulative effects were not analyzed; and that the cost benefit analysis was inadequate. In the Smith Flat timber sale, the appellants contended that the cost-benefit analysis was flawed; that the analysis process used the Forest Plan direction as a primary evaluation criteria; and that the cumulative effects analysis was incomplete.

Management of the Badger-Two Medicine area remains sensitive with the Blackfeet people and the Wilderness advocates. Protection of the lands is a key issue with traditional Blackfeet practitioners. Interpretation of the Tribal rights retained by the Blackfeet in the Agreement of 1896 continue to cloud management decisions. Specifically, some members of the Tribe feel they have retained rights to the leasable minerals in the Badger-Two Medicine area of the National Forest. Other

related rights issues include: the right to freely access the area with motorized vehicles, the rights to the grazing, and the rights to hunt and fish without government restrictions.

I-3 Evaluate lands identified as not meeting physical or biological characteristics used in initial allocation.

Frequency of Measurement: 100% sample annually.

Reporting Period: Continuous.

Variability Which Would Initiate Further Evaluation: All changes will be evaluated annually.

The Forest is updating its timber stand inventory. As of January 29, 1988, 288,970 acres of the Forest total acres of 1,843,397, or 16 percent, has been inventoried.

Following is a summary by Ranger Districts:

| Ranger Districts | Total National Forest Acres | Inventoried Acres |
|------------------|-----------------------------|-------------------|
| Rocky Mountain | 776,259 | 36,812 |
| Judith | 362,841 | 97,144 |
| Musselshell | 267,415 | 48,439 |
| Kings Hill | 436,882 | 106,575 |
| Total | <u>1,843,397</u> | <u>288,970</u> |

This inventory program is scheduled for completion by the end of FY 1991. Project level Environmental Analysis produced in FY 1987 found no variation in allocation from the Forest Plan.

I-4 Validation of employment and income projections.

Frequency of Measurement: 5 years (FY 1991).

Reporting Period: 5 years (FY 1991).

Variability Which Would Initiate Further Evaluation: $\pm 20\%$ of projected changes.

This is a 5 year frequency measurement and will be validated in FY 1991.

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

**TABLE I
COMPARISON OF OUTPUTS AND ACTIVITIES WITH THOSE PROJECTED IN THE FOREST
PLAN**

Projected Outputs and Activities by Time Period (Average Annual Units)

| Target Item | Output or Activity | Unit of Measure | First Decade | 1987 |
|--------------------------|---|-----------------|--------------|--------|
| Recreation | | | | |
| T01 | Developed Use | M RVD | 169 | 145 |
| T02 | Dispersed Use | | | |
| | Wilderness | M RVD | 86 | 54 |
| | Non-wilderness | M RVD | 614 | 518 |
| Wildlife and Fish | | | | |
| T03 | Wildlife Habitat Improvement | Acres | 600 | 300 |
| T04 | Fish Habitat Improvement | Acres | 5 | 2 |
| T05 | T&E Habitat Improvement | Acres | 100 | 0 |
| T29 | Wildlife Habitat Structures | Structures | 10 | 2(T&E) |
| T30 | Fish Habitat Structures | Structures | 25 | 16 |
| Range | | | | |
| T06 | Permitted Graze Use | M AUM | 71.1 | 71.0 |
| T07 | Range Improvement | | | |
| | Nonstructural | Acres | 1329 | 1999 |
| | Structural | Structures | 40 | 20 |
| T08 | Range Resource Plans (Allotment Mgt Plans) | Plans | 10 | 5 |
| T09 | Noxious Weed Control | Acres | 300 | 772 |
| Soil | | | | |
| T10 | Soil Inventory | Acres | 2000 | 0 |
| Minerals | | | | |
| T12 | Minerals Management | Cases | 90 | 160 |
| Timber | | | | |
| T13 | Total Volume Offered | MM BF | 14 | 12.3 |
| T15 | Silvicultural Exams | M Acres | 15.5 | 30.6 |
| T16-17 | Reforest-Approp | Acres | 54 | 0 |
| T18-19 | Reforest-KV | Acres | 270 | 1064 |
| T20 | Timber Stand Imp-Approp | Acres | 200 | 563 |
| T21 | Timber Stand Imp-KV | Acres | 0 | 125 |
| T22 | Landline Location | Miles | 26 | 14 |
| T44 | Fuels Management-BD | Acres | 1470 | 1813 |
| Protection | | | | |
| T23 | Fuels Management-FFP | Acres | 700 | 665 |
| Facilities | | | | |
| T81-82 | Road Construction | Miles | 9.0 | 3.7 |
| | Road Reconstruction | Miles | 24.0 | 29.7 |
| | Total | Miles | 33.0 | 33.4 |
| T83 | Trail Construction /Reconstruction | Miles | 10.0 | 8.5 |

**TABLE II
COMPARISON OF THE ACTUAL BUDGET RECEIVED IN FY 1987 WITH THE FOREST PLAN
PROJECTED ANNUAL BUDGET:**

| Funding Item | Budget Activity | Forest Plan Projected Budget FY87 Dollars Thousand \$ | 1987 Actual Budget FY87 Dollars Thousand \$ |
|--------------|------------------------------------|--|---|
| 00 | General Administration | \$983 | \$920 |
| 01,02 | Fire and Fuels | \$437 | \$325 |
| 03-05 | Timber | \$653 | \$589 |
| 06,07 | Range | \$487 | \$344 |
| 08 | Minerals | \$451 | \$242 |
| 09 | Recreation | \$522 | \$331 |
| 10 | Wildlife and Fish | \$472 | \$222 |
| 11 | Soil, Air, Water | \$163 | \$111 |
| 12 | Facility Maintenance | \$147 | \$43 |
| 13-15 | Lands/Land Management | \$111 | \$48 |
| 42,43 | Planning | \$197 | * |
| 16 | Landline Location | \$92 | \$87 |
| 17 | Road Maintenance | \$292 | \$233 |
| 18 | Trail Maintenance | \$158 | \$150 |
| 19 | Co-op Law Enforcement | \$42 | \$26 |
| 20 | Reforestation - Appropriated | \$58 | \$26 |
| 21 | TSI - Appropriated | \$29 | \$62 |
| 23 | Tree Improvement | \$8 | \$10 |
| 26-28 | KV (Trust Fund) | \$103 | \$160 |
| 29 | CWFS - Other (Trust Fund) | \$21 | \$15 |
| 30 | Timber Salv. Sales (Perm.Fund) | \$32 | \$62 |
| 31 | Brush Disposal (Perm. Fund) | \$24 | \$77 |
| 32 | Range Improvement | \$85 | \$42 |
| 33 | Recreation Construction | \$27 | \$10 |
| 34 | Facility Construction - FA&O | \$0 | \$0 |
| 35 | Engineering Construction Support | \$306 | \$347 |
| 36 | Const. - Capital Investment Roads | \$453 | \$567 |
| 37 | Trail Construction/Reconstruction | \$94 | \$64 |
| | Total Budget | \$6,447 | \$5,113 |
| 24,38 | Timber Purchaser Road Construction | \$158 | \$0 |
| | Total Cost | \$6,605 | \$5,113 |

* not a budget item

IV. *PLANNED ACTIONS*

These planned action items have been identified in this report. They are in addition to the routine actions listed in Chapter V Implementation section of the Forest Plan.

Planned Action

- A. There is a need to update the Forest Plan budget (Appendix T) (A-2 and B-2).
- B. There is a need to strengthen the law enforcement program on the Jefferson Division (A-6).
- C. There is a need to revise the wildlife monitoring requirements (C-5; C-6; and C-7).
- D. There is a need to revise C-11 reference from: Coordinate with F-1 and F-2 to Coordinate with F-7 and F-8 (C-11).
- E. There is a need to increase the program and budget for noxious weed control (D-1).
- F. There is a need to increase awareness and commitment to monitoring range condition and trend (D-2).
- G. There is a need to place greater emphasis on range management planning (Allotment Management Plans) (D-4).
- H. There is a need to establish a process for obtaining an accurate timber harvest acre figure by fiscal year (E-6).
- I. There is a need to place greater emphasis on elimination of soil and water restoration backlog (F-6).
- J. It is recommended that Item J-3 be removed from the list of items to be monitored (J-3).
- K. There is a need to increase the trail construction/reconstruction program to 14 miles/year. There is also a need to increase the trail budget to reflect this increase and for rights-of-way negotiation and acquisition (L-1).
- L. There is a need to correct the miles of road construction/reconstruction needed to implement the Forest Plan (L-1).
- M. There is a need to correct the Forest Plan natural fuels target acres from 70 to 700 (P-5).
- N. There is a need to continue to validate costs and values used in the Forest Plan (I-1).
- O. Need to correct specific wording in Table 5.1 (A-6, A-7, B-2, C-11, E-4, L-1, L-2, P-4, and P-7).

V. RESEARCH NEEDS

The following additional research needs have been identified:

- A. Initiate written recommendations for research on the percent effectiveness of restricting vehicle access on existing open or newly constructed roads.
- B. Coordinate research in cavity dependent wildlife on the Tenderfoot Experimental Forest. Review transects previously established in the Tenderfoot Experimental Forest as a possible base line on cavity dependent wildlife populations.

VI. AMENDMENTS

The following amendments have been made to the Lewis and Clark National Forest Plan:

- A. Bob Marshall, Great Bear, and Scapegoat Wilderness Recreation Management Direction (Replaces Appendix U, April 1987).

VII. APPENDICES

APPENDIX A - Lewis and Clark National Forest Wilderness Monitoring Report (B-1).

VIII. 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 1987.

| <i>Name</i> | <i>Functional Resource Area</i> |
|-----------------|---|
| William Duryee | Staff Officer Engineer/Lands |
| James Eakland | Forester - Planning |
| Roger Evans | Wildlife Biologist |
| Chuck Frey | Staff Officer Soil/Water/Air/Minerals |
| Donald Godtel | Wildlife Biologist |
| Cynthia Hamlett | Archaeologist |
| Valdon Hancock | Hydrologist |
| Ronald Meyers | Civil Engineer |
| Wayne Phillips | Range Conservationist |
| Jerry Reese | Staff Officer Range/Wildlife/Recreation |
| Donald Sasse | Wildlife Biologist |
| Dick Smith | Staff Officer Land Management Planning/Fire |
| Al Underwood | Zone Timber (Silviculturist) |
| Len Walch | Zone Fisheries Biologist |
| Jane Weber | Public Information Officer |

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

John Gorman
Paul Threlkeld
Lloyd Swanger
Jerry Dombrowske
Carl Fager
Victor Standa

Forest Supervisor
Staff Officer Administration
District Ranger, Rocky Mountain Ranger District
District Ranger, Judith Ranger District
District Ranger, Musselshell Ranger District
District Ranger, Kings Hill Ranger District

IX. APPROVAL

I have reviewed the annual Forest Plan Monitoring and Evaluation Report for Fiscal Year 1987 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 both the Forest Plan (Chapter V) and 36 CFR 219. I have also considered the recommendations of the Interdisciplinary and Management Teams on proposed changes to the Forest Plan and will process the necessary Amendment after appropriate public notification.

This report is approved:


JOHN D. GORMAN
Forest Supervisor

March 21, 1988
Date

APPENDIX A

LEWIS AND CLARK NATIONAL FOREST WILDERNESS MONITORING REPORT (B-1)

June to Labor Day 1987

South Fork Sun River Trail #202 and Pretty Prairie

Monitors: Heidi Froke and Ray Mills.

Times Monitored: 16, including both trail and campsite encounters.

Opportunity Class: IV.

Trail Encounters: 80% probability of 5 or fewer encounters per day.

Campsite Encounters: 80% probability of 3 other camps within sight or continuous sound of each other.

Trail Encounters: Of the 16 days monitored 5 days exceeded 5 encounters, or only 69% of the time was this standard not exceeded. 11% of the time it was exceeded.

Campsite Encounters: Of 16 days monitored 4 days exceeded the standard or 75% of the time this standard was not exceeded. 5% of the time it was exceeded.

West Fork Sun River Trail #203

Monitor: Heidi Froke.

Times Monitored: 8

Trail Encounters: Exceeded the 5 encounters twice or 75% of the time this standard was not exceeded; 5 % of the time it was exceeded.

Campsite Encounters: Did not exceed the standard. However, 3 days it did reach the maximum standard for Opportunity Class IV.

North Fork Sun River (Wilderness Boundary to Gates)

Monitors: Jim Forrest and Joel Varland.

Times Monitored: 15

Trail Encounters: Exceeded standard one day or 94% the standard was not exceeded.

Campsite Encounters: Equaled but did not exceed standard on three occasions.

Other Areas, Opportunity Class III : None exceeded standards.

| Area | Times Monitored |
|---------------------------------------|------------------------------|
| North & South Wall Trail #175 | 6 |
| Moose Creek Trail #131 | 8 - Equaled encounters twice |
| Rock Creek Trail #111 | 6 |
| Bear Creek Trail #222 | 8 |
| Hoadley Trail #226 | 4 |
| Route Creek Trail #108 | 6 |
| Upper Sun River #110 | 4 |
| Open Fork Trail #116 | 12 - Trail Construction Crew |
| Lick Creek Trail #151 | 6 |
| Red Shale Trail #130 | 8 |
| Dearborn River | 8 |
| Straight Creek | 8 |
| Upper South Fork Sun River Trail #202 | 4 |

Opportunity Class III area that did exceed standards was Headquarters Pass Trail #165. Monitored by Ray Mills and Jim Forrest; 14 days of which four days exceeded standards, or 71% of the time within standard and 9% of time exceeded standard.

Opportunity Class II areas were monitored twice during the summer, but none exceeded standards.

Self-registering trail registers along Trails #165 and #202 were tabulated, estimating that 60% of hikers and 20% of horse users register.

Headquarters Trail, June 1 to Labor Day, 443 hikers and 193 horsemen registered, while at Benchmark (Trail 202) 403 hikers and 313 horsemen registered. Considering these figures, there is little doubt that the trail and camp encounters exceed the Limits of Acceptable Change standards for these two areas.

Summer campsites, despite the heavy use, remained within the standards except at the mouth of Headquarters Creek and Gates Creek. When they had received moderate impact, the sites were closed and alternate sites with low impact were offered to the users.

Hunting Season, Labor Day to November 30, 1987

Scapegoat Area: Monitored by Kelly Hirsch 10/23 to 11/10. Area did not exceed any of the standards.

Windfall (South Fork Sun River): Patrolled 8 times during the five-week season. Trail encounters averaged one per day, or did not exceed Opportunity Class IV standard. It did, however, on two occasions have three camps within sight and hearing of each other.

North Fork Sun River Trail #201 and #110: October 22 to November 28. 23 actual days of actual monitoring the entire drainage, of which 15 days of monitoring was in the heavy use area of Circle Creek to Biggs Flats.

On 5 days the trail encounters exceeded the standard for Opportunity Class IV of 5 encounters, or 66% of time within standard or 14% of time the standard was exceeded. This usually occurred when outfitters were changing parties; and private hunters were also on the trail.

On three days the camp encounters met the upper limit but did not exceed the standard for Opportunity Class IV. This occurred on Bridge Creek, Cabin Creek, Grouse Creek and Circle Creek during the first week of the season, and on Cabin Creek again the last week of the season.

Camps on Bridge Creek and Circle Creek were closed November 12 to prevent the sites from exceeding the moderate impact standard.

It should be noted that the private hunting camps and hunters were down from the fall of 1986 by 24%.