

March 25, 1999

**ARAPAHO AND ROOSEVELT NATIONAL FOREST**  
**AND PAWNEE NATIONAL GRASSLAND**  
**FISCAL YEAR 1998 FOREST PLAN MONITORING AND EVALUATION REPORT**

**EXECUTIVE SUMMARY:**

This report describes the monitoring and evaluation work completed during FY 98. It identifies lessons learned after one field season of plan implementation following its formal approval in November 1997. Inputs for monitoring and evaluating plan implementation were developed from project review, field trips, responses from Districts to request from the M&E IDT for information, comparing plan implementation accomplishments with the Forest Plan Supplemental Table of estimated outcomes, customer report cards, and stakeholder meetings. Information is organized to be compatible with the Government Performance and Results Act of 1993 (GPRA) and the 1998 Regional document "Achieving Alignment in Land and Resource Planning", both which focus on plan implementation outcomes.

It is fair to say that plan implementation accomplishments have ranged from fully meeting plan goals and objectives to lower levels of accomplishments. This variation is due to the Forest being in the initial phases of plan implementation, funding for programs at less than base level to full, start up time needed to initiate management activities identified in the plan, and some shifts in priorities.

The major findings of the deliberations by the M&E ID Team point to the following set of issues, recommended solutions and responsibility to address recommendations. Findings have been reviewed and concurred with by the Forest Leadership Team. It should also be noted that all recommendations "cut across" the GPRA and Regional goal and objective categories.

**1. Issue:** The basic issue is the reduction of tax dollars available for government funded programs. Related to insufficient funding is leveling of available funding among forests. At the Forest level there is not full flexibility as to allocate to accomplish balanced implementation of plan objectives.

**a. Recommended Solution:** Continue to support the Regional effort to encourage the leveling of the national budget. Continue to evaluate initial outside funding sources efforts to offset reduction in government funding.

**b. Responsibility to Address Solution:** Forest Budget Team, Forest Leadership Team

**2. Issue:** The forest needs to improve interdisciplinary involvement in project planning, contract administration, monitoring and evaluation of plan implementation and effectiveness of standards and guidelines.

**a. Recommended Solution:** Insure that adequate attention is paid to implementing Forest Plan Standards and Guidelines, NEPA decisions, and other planning documents as written. Program for Leadership Team, District Ranger, Monitoring and Evaluation Team, and Stakeholder field trips. Have a half day refresher to review roles and responsibilities for monitoring and evaluation. Explore the merits of a systematic M&E self audit.

**b. Responsibility to Address Solution:** Forest Leadership Team; District Rangers.

**3. Issue:** The Forest needs additional information to make better, more informed decisions related

to assessing user impacts, recreation special use permits, and recreation use capacities for developed, dispersed, and wilderness areas.

**a. Recommended Solution:** Follow through on the Limits of Acceptable Change (LAC) process project. Field test the process to determine how to apply forestwide. Take a cautious approach to approving new recreation special use permits until the LAC process is finalized.

**b. Responsibility to Address Solution:** Information Management, Planning, Monitoring, and Budget Group; Forest Recreation Team; Infrastructure, Operations, Lands, and Recreation Group; District Rangers.

**4. Issue:** The Forest needs to continue to apply a monitoring and evaluation to address plan accomplishments, effectiveness of Standards and Guidelines, linking budget to plan goals and objectives, and needed trend analyses to enhance Forest Plan implementation.

**a. Recommended Solution:** Continue the monitoring and evaluation direction established for FY 1999 through FY 2000 Annual Operational Plan to validate accomplishments, trends in effects from plan implementation, effectiveness of standards and guidelines, identification of emerging issues, link budget to plan goals and objectives, and needed changes in management practices.

**b. Responsibility to Address Solution:** Information Management, Planning, Monitoring, and Budget Group; Monitoring and Evaluation Interdisciplinary Team; District Rangers.

**5. Issue:** The Forest needs further information to assess the effects of a burgeoning populations, changing public attitudes and values, and the intermix on resource management and vice-versa.

**a. Recommended Solution:** Follow through on recently approved stakeholder process, public survey to maintain a positive outreach to communities, the public; develop a base for information sharing, public understanding and acceptance of management practices, and identification of emerging issues; and develop partnerships where appropriate to facilitate plan implementation.

**b. Responsibility to Address Solution:** Information Management, Planning, Monitoring, and Budget Group; Forest Leadership Team.

#### **CERTIFICATION:**

The Revised Forest Management Plan (and FEIS) approved in November 1997 has provided goals and objectives to direct the future of resource management of the Forest and Grassland for the next ten years. The Forest and Grassland are in the initial season of implementing plan goals and objectives (approximately 11 months). Lessons learned from the initial round of monitoring and evaluation point to how to better do the job of interdisciplinary resource management, monitoring and evaluation of plan implementation by Forest personnel. Monitoring and evaluation carried out by the Monitoring and Evaluation Team with findings reviewed and concurred with by the Forest Leadership Team has resulted in no significant problems or reasons for change to the Revised Forest Management Plan and FEIS at this time. The only exception will be incorporating the Williams Fork area into the Arapaho and Roosevelt National Forest and Pawnee National Grassland Revised Forest Plan from the Routt National Forest Revised Forest Plan.

/s/ Peter L. Clark  
Forest Supervisor

#### **MONITORING ACTIVITIES:**

## MONITORING ACTIVITIES:

This report describes the monitoring and evaluation work completed during FY 1998. The staff on the Arapaho Roosevelt National Forest and Pawnee National Grassland (ARNF-PNG) have completed one field season of plan implementation following its formal approval in November of 1997. Most of the inputs for monitoring and evaluating plan implementation were developed from project review, field trips, responses from Districts to the M&E ID Team for information, MAR reports, comparing plan accomplishments with the Forest Plan Supplemental Table of estimated outcomes, customer report cards, and stakeholder meetings.

The content of this report is consistent with the Government Performance and Results Act of 1993 and follows the direction found in the Washington Office document "GPRA - Strategic Plan. The report is organized by the following three broad Regional goals from their 1998 alignment document.

- **Ensure Sustainable Ecosystems** - focuses on achieving ecosystem health and sustainability through conserving and restoring ecosystem structure, composition and processes, or ecological integrity.
- **Provide Multiple Benefits for People Within the Capabilities of Ecosystems** - within the limitations of maintaining ecosystem health and conserving biological diversity, forests and rangeands will be managed to meet people's needs for uses, values, products, and services.
- **Ensure Organizational Effectiveness** - initiatives designed to improve our organization, customer service, capital infrastructure, and the way we do business

For purposes of demonstrating the continuity between the Rocky Mountain Region's document "Achieving Alignment in Land and Resource Planning" and the Forest Plan, plan goals and objectives were also stratified by Regional Goals and Objectives. (Appendices A - Crosswalk of Regional Office Goals with the 1997 ARNF - PNG Forest Plan and C - Summary of Forest Plan implementation accomplishments for FY 1998)

Results of plan implementation monitoring and evaluation activities are organized by the following:

1. Legally Required.
2. Forest Plan Management Emphasis.
3. Effectiveness of Standards and Guidelines.
4. Citizen/Stakeholder Response to ARNF-PNG management activities.
5. Annual Operational Plan to Address M&E Needs.

The results of the monitoring and evaluation activities have been reviewed and concurred with by the Forest Leadership Team and the Forest Supervisor.

## EVALUATION OF MONITORING ACTIVITIES AND CONCLUSIONS:

**1. Legally Required M&E Activities** - The legally required activities (1997 Forest Plan, Chapter 4, Pages 391 - 393) were all addressed. Examples are shown below. Appendix B (Legally Required Monitoring Activity Accomplishments for FY 1998) provides more detailed comments/related accomplishments by Regional Goal categories.

### **a. Ensure Sustainable Ecosystems:**

\* Lands adequately restocked was covered in the 1998 NFMA report.

- \* Lands not suited for timber production was addressed in the preparation of the 1997 Forest Plan and will be re-evaluated in five years.
- \* There was no harvest unit size change in FY 98.
- \* Based upon Rx burns, some increase in mountain pine beetle (MPB) attacks increased paralleling increased MPB populations on the Front Range.
- \* Preplanning was accomplished to assess population trends of management indicator species in relationship to habitat changes.

**b. Provide Multiple Benefits for People:**

- \* On the ground monitoring was accomplished at selected locations. Preplanning was initiated to better assess the effects of off-road vehicles for better monitoring and evaluation in the future.

**c. Ensure Organizational Effectiveness:**

- \* There is ongoing work with adjacent communities for planning and implementation of prescribed burning and travel management in the "intermix".
- \* Comparison of projected and actual outputs and services can be found in Appendix C (Summary of Forest Plan implementation accomplishments for FY 1998).
- \* Examples of effectiveness of prescriptions can be found in Appendix D (Examples of Effectiveness of Standards and Guidelines for FY 98 Projects Implemented Under Direction of the Forest Plan).
- \* Comparison of estimated and actual costs will be reported as required in years 5 and 10 following plan implementation.
- \* Effects of management practices is being considered via directions in Chapter 4 of the Forest Plan, stakeholder involvement, survey of citizen perceptions, customer reports and the FY 99 Annual Operational Plan.

**2. Forest Plan Management Emphasis Accomplishments** - All Forest Plan management emphasis objectives were reviewed for FY 98 accomplishments. It is understood that accomplishment of objectives varied due to program priorities, program start-up time, and available budget to carry out programs. The key accomplishments with follow-up recommendations are outlined below. More detailed information on FY 98 Forest Plan implementation accomplishments can be found in Appendix C (Summary of Forest Plan Implementation Accomplishments for FY 1998).

**a. Ensure Sustainable Ecosystems:**

1) Fisheries

a) Accomplishments - 10% funding provided for a fisheries habitat inventory, to contract for a greenback cutthroat population trend assessment, implement a significant cutthroat trout habitat improvement project; the LT approved a fisheries person for the south zone of the Forest. On-the-ground accomplishments included inventories described above, genetic analysis to determine the purity of cutthroat populations, assessing effects of travel management activities, completion of the Hamilton Creek fish barrier project, completion of the Como Creek culvert project.

b) Recommendations to Maintain or Enhance Program - Consistent annual funding and timely availability of funds to develop a stable out year program. Base level funding only allows for program coordination and implementation of one major project. Need on-the-ground interdisciplinary monitoring of timber sales, grazing allotments and travel management during FY 99. Need integrated planning and monitoring of outcomes of multi-financed activities to assure benefits to EBLIs that funded the activity.

## 2) Hazardous Fuels Reduction

a) Accomplishments - This is the main contributor to vegetation treatment on the Forest - 3,943 acres treated. This was accomplished with an "experienced" budget level. Direct benefits to the program were increasing experience and skills in using prescribed fire, increasing the level of public acceptance, increased the opportunity to replicate historic fire effects on the landscape.

b) Recommendations to Maintain or Enhance Program - Make sure a Communication and Smoke Management Plan are components of a Project Implementation Plan. Improve project budgeting estimates to account for variation in geographic and management areas. Explore the use of mechanical treatments in the future. Continue to review vegetation management organization needs, goals and capabilities. Develop better successional stage information to improve assessments of landscape flammability over time. Conduct more rigorous smoke emission and dispersion monitoring of prescribed fire treatments in the intermix.

## 3) Soil, Air and Abandoned Mine

a) Accomplishments - Established the framework for field soil survey work in FY 99 for the entire Forest. Air quality monitoring equipment is being tested and calibrated to establish baseline data and determine compliance.

b) Recommendations to Maintain or Enhance Program - Maintain the time and effort on soil work. Increase time and funding in the air and abandoned mine program. Develop methodology to evaluate fire smoldering times; model smoldering times.

## 4) Wildlife

a) Accomplishments - Wildlife habitat improvement was greater than expected due to multi-funded prescribed burning efforts (primarily wildlife and fuels funds). A good example of adaptive management in FY 98 is prescribed burning for plover; monitored and evaluated the immediate results (increased plover nesting but higher predation); and changed burning patterns to achieve desired results in FY 99. In other areas of wildlife habitat improvement, achievement was below expectations (funding below base level). Due to inadequate funding and other Forest & Grassland priorities, remaining funding was directed to TES projects to compensate for low TES funding.

b) Recommendations to Maintain or Enhance Program - Prescribed burns need to be considered at low elevation sites (old growth development areas) to address specific habitat needs in these areas. Course - scale treatments need to be more sensitive to fine - scale identified in the plan as emphasis goals and objectives. More attention needs to be given to benefitting wildlife and terrestrial TES habitat and species. Better integration of wildlife and TES management into other Forest programs (lands, special uses, recreation special uses, dispersed recreation, and travel management) is needed. Approaches need to be put in place that incorporate biological concerns in the planning, decisions and implementation of programs and projects. Approaches need to assess level and types of recreational/human uses on the effectiveness of wildlife habitat. Baseline information to monitor and evaluate conditions for TES and management indicator species and habitats is needed.

## 5) Watershed

a) Accomplishments - Road obliteration and watershed improvement projects are progressing toward plan objectives, but conditions have not improved enough to upgrade condition class in watersheds where the project work is occurring. Inventory has been initiated to identify areas of concern within high priority watersheds.

b) Recommendations to Maintain or Enhance Program - Maintain the level of desired accomplishment for watershed assessments, identification of areas of concern within high priority watersheds, and improved watershed condition class.

## **b. Provide Multiple Benefits for People Within the Capabilities of Ecosystems:**

### **1) Recreation**

a) **Accomplishments** - The Forest upgraded 75 developed sites to standard consistent with resource capability. 30 new dispersed campsites were designated and "developed. 87% of recreation visitors on the Forest indicated they were satisfied with the experience provided.

b) **Recommendations to Maintain or Enhance Recreation Opportunities** - The recreation information management system (meaningful measures - MM) needs to be completed to insure adequate levels of recreation funding. The Limits of Acceptable Change (LAC) process needs to be completed, tested and used to identify areas needing priority attention. Develop an interim strategy for dealing with recreation use problems until the LAC process is in place. Dispersed recreation management actions should be identified consistent with inputs from MM and LAC. An appropriate recreation fee program should be explored and planned, including an implementation strategy. Creative ways need to be explored to provide field staff in order to insure recreation experiences to standard.

### **2) Grazing**

a) **Accomplishments** - Grazing plans were in place to meet expected outputs but completion was not possible to a one time significant funding reduction. NEPA decisions were accomplished on three Allotments due to available prior work.

b) **Recommendations to Maintain or Enhance Grazing Management Activities** - Monitoring and evaluation should be included in planning for Allotment Implementation. There should be interdisciplinary monitoring of allotments on-the-ground to insure better implementation of the Forest Plan.

### **3) Timber**

a) **Accomplishments** - The Forest exceeded targets in both the green and salvage timber sale program. Timber stand improvement was a little short of its target however it did exceed the annual average estimated for the life of the Forest Plan. Accomplishments were commensurate with the current organization's ability to respond to an increasing program.

b) **Recommendations to Maintain or Enhance Timber Management Activities** - Increase interdisciplinary monitoring and evaluation of projects to determine if Forest Plan standards and guidelines were followed in project analysis, design, and implementation. Strive to balance funding levels in all programs consistent with meeting Forest Plan objectives. Review organizational staffing needs, including specialist support, to accomplish the full budget level vegetation management program (for ecosystem sustainability).

## **c. Ensure Organizational Effectiveness:**

### **1) Lands**

a) **Accomplishments** - The Forest met or exceeded (or were within the range of) most of its objectives in the Forest Plan. For non-rec permits, the Forest succeeded in collecting thousands of outstanding dollars due the Forest. The non-rec team issued/reissued new permits/leases for communications users.

b) **Recommendations to Maintain or Enhance Lands Team Efforts** - Seek funding for FY 1999-2001 to reorganized a Forest & Grassland Special Uses and Lands Service Team. Their function would be to focus on recurring, backlog, and revenue generating; also focus on the financial health and legal liabilities of special uses and lands program.

## 2) Travel Management

a) Accomplishments - Completed signing of existing system where significant changes are not expected. Development of District plan(s) to develop the travel management plan, including self assessment of current status (issues, level of controversy, the scope and/or selection of areas to concentrate activities). The District plans are soliciting inputs from external and internal sources to address wildlife habitat and watershed protection while providing recreational opportunities. Implemented "low risk" obliterations and conversions. Implemented and maintained existing NEPA decisions. Increased dialogue with user groups. Developed an outyear prioritized list of activities to complete.

b) Recommendations to Maintain or Enhance Travel Management Activities - Districts need to aggressively pursue completion of travel management planning. These planning efforts should include an integrated level of work with all disciplines as well as public involvement. Encourage interdisciplinary monitoring and evaluation with joint participation from both districts and the SO. Use the interdisciplinary monitoring and evaluation to improve decisions and actions guided by the Forest Plan.

**3. Effectiveness of Standards and Guidelines (S&G)** - Given that only one season's management actions have been implemented under the direction of the Forest Plan, monitoring and evaluation (M&E) activities have been limited. A mix of qualitative and quantitative approaches were used to look at Standards and Guidelines (S&G). These include the following.

- \* Review several projects, project elements for compliance with standards and guidelines S&G.
- \* Review the same projects, project elements for effectiveness of S&G.
- \* Based upon review, make recommendations for changes in S&G to improve implementation of Forest Plan objectives.
- \* Develop a refined M&E process(s) to better evaluate effectiveness of S&G and management practices.

Examples of some of the FY 98 projects evaluated for effectiveness of standards and guidelines are outlined below. These examples reflect the range of circumstances where information gaps exist or inconsistencies in application of and compliance with S&G have occurred. More detailed information on effectiveness of S&G can be found in Appendix D (Examples of Effectiveness of Standards and Guidelines for 1998 Projects Implemented per the Forest Plan).

### **a. Ensure Sustainable Ecosystems:**

1) Mountain Plover Prescribed Burn - S&G were included in project design, followed during implementation, and effectiveness determined to be good to excellent. Nesting has increased due to additional suitable habitat but 1st year population has decreased.

2) B-11 Timber Sale - S&G were followed and effective where riparian areas were identified in advance. Some riparian areas were difficult to identify due to snow which prevented timely mitigation to meet S&G.

3) Caribou Travel Management - S&G were included in the project design, followed but mitigation did not have sufficient water erosion control for natural recovery including revegetation.

4) Hamilton Creek Colorado River Cutthroat Fish Barrier Program - S&G followed were less effective in the short-term but most effective for longterm TES habitat protection. There was insufficient contract administration (budget & staff constraints) resulting in some short-term mitigation not being completed.

5) Air Visibility Monitoring for Prescribed Fires - S&G were incorporated in burn permits. S&G were not effective in reducing air visibility problems. The Forest needs to develop a way to evaluate smoldering times; model smoldering times. Conducted particulate monitoring with a Dataram on the Jamestown intermix burn to help establish a benchmark for use of Rx fire as an intermix tool.

**b. Provide Multiple Benefits for People Withing Capabilities of Ecosystems:**

1) Timber Sales Offered - S&G were included in timber sale planning. Once sales are implemented, S&G need to be monitored for compliance and effectiveness.

2) Upgrade developed facilities - Stillwater Campground - S&G were part of the project design, project documentation. While S&G were generally effective, accessibility standards need to be improved.

3) Designated dispersed sites - Manhattan Road - S&G were incorporated in the project design. S&G were effective evidenced by significant reduction of resource impact.

**c. Ensure Organizational Effectiveness:**

1) Road and trail maintenance activities - S&G followed plan direction. It is still too early to measure effectiveness. Post maintenance monitoring and evaluation should be done by interdisciplinary on site inspection.

2) Rights of Way - S&G followed plan direction. Action resulted in access to additional 7,680 acres of NFS lands.

**SUMMARY EVALUATION AND CONCLUSIONS:**

**a. Legally Required Activities:**

The legally required M&E activities have been initiated and information is being gathered annually to meet reporting requirements for years 5 and 10 following plan implementation. The Budget Team and Forest Leadership Team are developing a refined process to link budget allocations with accomplishment of plan objectives and associated costs to implement objectives.

**b. Forest Plan Management Emphasis:**

Reasonable progress has been made in year one to implement priority plan management objectives as well as maintaining ongoing management activities. This progress demonstrates that the Forest is on track to meet objectives for the life of Forest Plan. Budget limitations, changes in Forest priorities (due to budgets and emerging issues), and start-up time for some activities has resulted in not fully achieving some plan objectives. It is expected that the Forest will balance objective accomplishment within the life of the Forest Plan where the Forest was not able to fully achieve some objectives in this initial implementation year.

The key points that surfaced in many of the program areas were:

\* A system/process is needed to improve interdisciplinary involvement in project planning. This is particularly important when implementing multi-funded, multi-benefit projects and activities.

\* A system/process is needed to improve interdisciplinary on-the-ground monitoring and evaluation of plan objectives.

\* Virtually all programs have been moving towards accomplishing objectives. Factors that affect accomplishing objectives (budget shortfalls, changing Forest priorities, and emerging issues) will require "internal" solutions (with shared inputs from stakeholders where appropriate).

\* There is nothing to indicate a shift in management objectives is needed yet.

**c. Effectiveness of Standards and Guidelines:**

At this time it is premature to make specific recommendations to change standards and guidelines. It takes time from implementation of management practices to evaluate S&G effectiveness. The M&E IDT is still refining the process used to test effectiveness of S&G following plan implementation. The M&E IDT is well aware of monitoring gaps and process inconsistencies but is doing a reasonable job where budget and staffing permit. One key recommendation is to allow for more interdisciplinary monitoring and evaluation of S&G on-the-ground (this approach to testing is just getting under way).

**ACTION PLAN (PROPOSED PLAN AMENDMENTS/REVISIONS AND ADDITIONAL MONITORING NEEDS):**

**1. Proposed Plan Amendments/Revisions** - There are no proposed plan amendments or revisions at this time other than adding the Williams Fork Area to the Forest Plan. As monitoring proceeds and evaluation indicates any other needs for amendmenst or revisions, the Forest will take appropriate action.

**2. Additional Monitoring Needs (Annual Operational Plan)** - The FY 99 monitoring and evaluation (M&E) activities described below demonstrate the commitment the Forests and Grassland has made to addressing M&E needs raised in the Forest Plan and reaffirmed by stakeholders and the public. It represents information critical to more effective plan implementation; better addressing effectiveness of and compliance with plan standards and guidelines; and provides an internal forum to improve interdisciplinary involvement in project planning, monitoring and evaluation. It is definitely a reflection of items where monitoring information has been less than desired to better address both legal requirements and forest management program priorities.

The FY 99 Annual Operational Plan (AOP) will be used to develop the Monitoring and Evaluation Report for Fiscal Year 1999 plus be the **basis for the FY 2000 AOP** to insure monitoring needs are met. The specific techniques and protocols for FY 99 monitoring activities are found in the project work plans. The following FY 99 activities were developed in conjunction with the annual budget and the work planning process and approved by the Leadership Team.

**a. Ensure Sustainable Ecosystems:**

- 1) Wildlife TE&S Habitat Trends      Management Code 002661

Assure that 36 CFR 219.19(a)(6) [a FP M&E requirement] is met through this multi-year project. Steps include 1) ESTABLISHMENT of MIS baseline, 2) DEVELOP a process for monitoring & evaluating population trends, 3) MONITOR population trends, and 4) DO SAME (1-3) for certain fine-scale habitats that we don't already have a handle on. IN FY99, work on STEPS 1 & 2.

Total Planned Costs are \$13,000

- 2) Wildlife Habitat Inventory      Management Code 002662

Inventory of 2000-6000 acs to enable annual presc burning of 400-800 acs and cutting of 40-130 acrs for PP ecosystem health (avoid DF succession/ fire/insect risks near-term and provide more PP OG long-term). This inv will also enable 20-65 acs of cutting by partner contributions in add-

ition to FS funded outcomes. This is a multi-year effort.

Total Planned Costs are \$10,200

3) Successional Stage Assessment Management Code 002663

Define methods, approach, and schedule to determine how to meet five and ten year M&E reporting requirements.

Total Planned Costs are \$18,563

4) Watershed Assessment Management Code 002510

Perform level 2 recon. Begin level 3 assessments on priority watersheds. Id watershed improvement needs for following year. Develop report from previous year on conditions, identify Watershed Improvement needs. Watershed condition assessment Phase 2. Improve/upgrade riparian data and Watershed condition assessment phase II.

Total Planned Costs are \$59,726

5) Soil Monitoring Management Code 002554

Soil Quality Monitoring. Develop, design and implement a Soil Monitoring Plan and written reports; internal coordination with Engineering and Forest Plan Monitoring. Coordination with other Agencies; develop and administer partnerships with CSU, NRCS, and others.

Total Planned Costs are \$5,000

6) Air Monitoring Management Code 002580

Administration and implementation of Air Management and Monitoring Plan; response to PSD Permits; NEPA Air Analysis; Coop/Partnership with Forest Research and Pike San Isabel NF; prescribed burn monitoring, and partnership with BLM; AQRV monitoring; other Agency Coordination.

Total Planned Costs are \$12,100

**b. Ensure Sustainable Ecosystems/Provide Multiple Benefits for People Within the Capabilities of Ecosystems**

1) Limits of Acceptable Change and Carrying Capacity Study Management Code 002320

Study to develop Limits of Acceptable Change on test cases in the Forest This was formerly known as Rec. Carrying Capacity Study. First year is to develop and test the process.

Total Planned Costs are \$30,841

**c. Ensure Sustainable Ecosystems/Provide Multiple Benefits for People Within the Capabilities of Ecosystems/Ensure Organizational Effectiveness**

1) Plan Maintenance                      Management Code 001902

Analysis for William Fork to integrate Routt Plan with ARNF Plan.  
Interpret Forest Plan for Unit IDTs. Assist with project level amendments

Total Planned Costs are \$66,731

2) Monitoring and Evaluation Team      Management Code 001905

Covers the salary for Forest Plan Monitoring and Evaluation Team members.  
Work activities in costing this PWP are: collection of information, assessment of information collected, assessment of MAR and GIS info; preparation of reports or activity reviews; field trips with stakeholders.  
Prepare M&E Report and implement Stakeholder Plan.

Total Planned Costs are \$156,504

3) Other M&E Activities                      Various Management Codes

Includes activities to monitor site specific projects, such as timber sales, grazing activities, wildlife habitat improvement projects, prescribed burning, etc. It establishes the basis for improved interdisciplinary involvement in project planning, monitoring and evaluation. It involves both minimum legally required monitoring activities as well as monitoring Forest Plan priority management objectives based on the availability of funding and personnel. The level and intensity of the activities will vary with the budget and other forest priorities.

Total Planned costs are hard to estimate since the actual M&E activities are not tracked separately. They include salary for planning and implementing the various projects designed to implement the Forest Plan.

**d. Summary:**

FY 2000 Annual Operational Plan will build off of and be an extension of the FY 99 AOP. Given that the Forest Plan has only been available and used for one field season since its approval, measurable changes or effects will not occur until several years from the time of initial plan implementation. If and when budgets and program priorities are adjusted, the FY 2000 will have to be modified to address changing situations.

For the moment, all M&E activities for FY 99 and projected in to FY 2000 reflect priority activities identified in the Revised Forest Plan where information is inadequate. These activities are also consistent with concerns that stakeholders have shared with the Forest through the stakeholder process.

**STATUS OF PREVIOUS YEAR'S RECOMMENDATIONS:**

Given that the Revised Forest Plan had just been approved and the only relevant recommendation was to proceed with its implementation. The status of the recommendation is that the plan is into its initial year of implementation.

**UPDATE ON RESEARCH NEEDS:**

Research needs include the following:

- \* Public Survey on Understanding and Acceptance of existing plan implementation; emerging issues.
- \* Attitudes toward opportunities to enhance revenues so the Forest has the capability to offer additional or enhanced services to user groups (the initial test case would be with recreation); and assess the general public for any emerging issues.
- \* Develop methodology to evaluate fire smoking times; model smoldering times.
- \* Maintain longitudinal studies that relate TES species to habitat characteristics.

**LIST OF PREPARERS:**

|                      |                            |
|----------------------|----------------------------|
| Howard Sargent       | Forest Planner             |
| Deb Jensen           | Planner                    |
| Howard Alden         | Recreation Planner         |
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| Carl Chambers        | Forest Hydrologist         |
| Paula Guenther-Gloss | Forest Fisheries Biologist |
| Dennis Lowry         | Forest Wildlife Biologist  |
| Veronica Mitchell    | Civil Engineer             |
| Kevin Colby          | Landscape Architect        |
| Susan Leschnik       | Realty Specialist          |
| Bob Peterson         | Range Conservationist      |

**LOCATION OF SUPPORTING DOCUMENTATION:**

Documentation assembled by the M & E Interdisciplinary Team for their deliberations is located in Planning Office, Pitkin St. Building basement. Specific discipline information and monitoring information, data and notes reside with the specialists in their respective offices.

**PUBLIC PARTICIPATION:**

**1. FY 98 Citizen Involvement in and Response to ARNF & PNG Management Activities** - The ARNF and PNG has several excellent examples of both citizen and stakeholder involvement in implementing the Forest Plan and giving their perception of the Forests and Grasslands management activities. The examples of key sources of inputs are:

- \* Customer responses to management activities and level of satisfaction with goods and services provided.
- \* Overview of direct volunteer involvement forestwide during FY 98.
- \* Effective partnerships that have contributed to meeting of Forest Plan Objectives.

\* The development and implementation of a stakeholder involvement process for purposes of sharing information on what works better and to assist in identifying emerging issues.

\* A preliminary survey study on public understanding and acceptance of existing plan implementation practices and emerging issues.

**a. Customer Responses:** Customers agreed (75%+) that the value of their recreation opportunities and services was at least equal to the fee they paid; that recreationists should help pay for visitor services on public lands; and that they were approached in a friendly and positive manner by recreation field staff.

**b. Overview of Volunteer Involvement:** Based upon information from the 1998 Human Resource Program Accomplishment Report, volunteer efforts equated to 20,086 person years with an appraised value of \$481,382.00. These efforts were in eight resource categories with 95% occurring in recreation.

**c. Effective Partnerships:**

1) Colorado Association of 4 Wheel Drive Clubs Inc. - has spent 2,431 Adopt-A-Road/Volunteer Project Hours four of the Forest's districts. Their work has included maintenance of 4WD roads and facilities; desire to maintain public access to public lands by mitigation of natural resource impacts before they become critical

2) Poudre Wilderness Volunteers - This group assists in managing and protecting wilderness and backcountry areas. They also recruit, train, equip, field citizen volunteers to serve as wilderness rangers to educate the public. During FY 98 they contacted over 20,000 wilderness and backcountry users, and donated over 18,000 hours of volunteer time. Lost hikers have been found, forest fires averted by their prompt action.

**d. Stakeholder Involvement Process:** The Forest initiated a Stakeholder Involvement Process about the time the Forest Plan was approved. The goal of this activity has been to engage in an ongoing process to foster sharing ideas and learning from each other on how to move from the focus on planning to focus on plan implementation and monitoring of plan implementation. Initial dialogue included issue scoping (11/6/97); clarification of items in the Revised Forest Plan (4/1/98); and the appropriate framework for collaboration opportunities between stakeholders and the ARNF & PNG (8/27/98). The outcomes of these meetings included identification of both broad areas for collaboration and specific opportunities for sharing information dealing with plan implementation activities. The Forest is currently working with several stakeholder groups to evaluate specific plan implementation activities and identify emerging issues.

Examples of issues that stakeholders considered worthy of attention included:

\* User paying (a fee system) for bringing existing recreation facilities and areas to standard and providing new facilities and opportunities consistent with resource capabilities.

\* Develop user capacity along with "limits of acceptable change" regarding the relationship between the magnitude of use and impacts on resources.

\* Develop better ways for communities and the Forest to work together with emphasis on the intermix.

\* Develop a forum/task group so stakeholders can review water issues; share scientific, social and legal information to enhance understanding of issues.

\* Continue some form of the travel management working group to keep issues current and share information between stakeholders and the Forest.

\* Develop a forum/task group so stakeholders can enhance their understanding of fire management, fuel reduction and fire related impacts; share stakeholder views with the Forest.

\* Share information on noxious weed managements/control programs and funding opportunities.

\* Look at the implications of increased Front Range Populatio growth and development on Front Range Forests.

\* Look at ways to help stakeholders sort out issues and information related to "balanced" and sustainable use of resources, wildlife population stewardship, management activities that may affect local communities.

**e. Public Survey on Understanding and Acceptance of existing plan implementation; emerging issues:** A preliminary study survey is being formulated to cover understanding and acceptance of existing plan implementation; attitudes toward opportunities to enhance revenues so the Forest has the capability to offer additional or enhanced services to user groups (the initial test case would be with recreation); and assess the general public for any emerging issues.

**f. Summary Evaluation - Public Involvement:** The Forest has been aggressively developing a stakeholder process and involvement in information sharing and partnership building. Partnership activities have included monitoring wilderness use and trail maintenance. The Forest is following through on a survey to generate inputs from the public regarding their understanding and acceptance of plan implementation/management practices; identification of emerging issues.

#### **DISCLOSURE OF REPORT:**

The Forest will publish an executive summary of this report for stakeholder consumption. This report will be posted on the Forest website.

#### **APPENDICES:**

**Appendix A.** Crosswalk of Regional Office Goals with 1997 Arapaho and Roosevelt National Forest and Pawnee National Forests Forest Plan.

**Appendix B.** Legally Require Monitoring Activity Accomplishments for FY 1998.

**Appendix C.** Summary of Forest Plan Implementation Accomplishments for FY 1998.

**Appendix D.** Examples of Effectiveness of Standards and Guidelines for FY 1998 Projects Implemented per the Forest Plan.

**Appendix A. Crosswalk of Regional Office Goals (GPRA) with 1997 Revised LRMP Goals.**

HRA/KLR 12/29

| R.O. Goal Category                                    | Forest Plan Goals   |
|---|---|
| <b>Goal 1: Ensure Sustainable Ecosystems</b>          |   |
| 1.1 Endangered, Threatened, and Sensitive Species     | Goal 4, p. 4: Estab an upward trend for TES plant and animal species and maintain sensitive species through mgmt. activities that recognize TES habitat needs   |
|   | Goal 44, p. 17: Restore, protect, enhance habitats for TES in accord with ESA and regional sensitive species list   |
|   | Goal 45, p. 17: Habitats for TES are protected . FS lands are managed to help assure species survival, population increase or stabilize, or threats are eliminated  |
|   | Goal 46, p. 18: Prepare Biological Evaluations for effects of activity on TES   |
|   | Goal 47, p. 18: Prepare species mgmt. guides to address effects of activities on sensitive species  |
| 1.2 Species of Concern                                | Goal 8, p. 4: Provide a range of success. Stages of community types across the Forests and Grassland landscapes   |
|   | Goal 6, p.13: Activities that have the ability to affect the continuity of structure, composition, and function within riparian ecosystems shall be managed to sustain riparian areas.                                |
| 1.3 Protected Areas                                   | Decision of recommended Wilderness and W&S Rivers in ROD of Forest Plan EIS. Management Area Direction 1.2 (Wilderness Recommendation); 1.5 (W&S Rivers Recommendation); 2.2 (RNAs); and 3.1 (Special Interest Areas) |
| 1.4 Conserve Watershed, Riparian, and Aquatic Systems | Goal 5, p. 4: Protect the basic air, soil and water resources.  |
|   | Goal 6, p. 4: Bring all sixth-level watersheds to functional condition.   |
|   | Goal 7, p. 4: Maintain/improve water quality, stream processes, channel stability and aquatic MIS, and riparian resources while providing for municipal/agric. uses   |
|   | Goal 3, p. 13: Protect water related values in perpetuity on NFS lands.   |
|   | Goal 6, p.13: Activities that have the ability to affect the continuity of structure, composition, and function within riparian ecosystems shall be managed to sustain riparian areas                                 |
|   | Goal 14, p. 14: Maintain/enhance physical, chemical and biological process of soil  |
|   | Goal 95, p. 30: Retain integrity of effective habitat areas.  |
|   | Goal 110, p. 31: Maintain water quantity/quality for maintenance of riparian areas, aquatic habitat and fish populations.   |
| 1.5 Conserve Forest Ecosystems                        | Goal 1, p. 4: Manage Forests/Grasslands to assure productive, healthy ecosystems.   |
|   | Goal 3, p. 4: Retain /encourage old-growth qualities in ponderosa and Douglas-fir   |
|   | Goal 8, p. 4: Provide range of successional stages.   |
|   | Goal 52, p. 18: Conserve variety of genotypes across the full range of Forests/Grassland habitats.  |
| 1.6 Conserve Rangeland Ecosystems                     | Goal 1, p. 4: Manage Forests/Grasslands to assure productive, healthy ecosystems.   |
|   | Goal 8, p. 4: Provide range of successional stages.   |
|   | Goal 35, p. 16: Manage veg. composition/structure on rangelands/grasslands nesting and brood-rearing habitat.   |
|   | Goal 52, p. 18: Conserve variety of genotypes across the full range of Forests/Grassland habitats.  |
| 1.7 Disturbance Processes                             | No goals. Many guidelines are listed in the Forest Plan   |

|   |  |
|---|--|
| 1.8 Wildlife & Fish Habitat                         | Goal 7, p. 4: Maintain/improve water quality, stream processes, channel stability and aquatic MIS, and riparian resources while providing for municipal/agric. uses  |
|   | Goal 34, p. 16: Maintain/restore compositional/structural/functional elements which perpetuate diversity   |
|   | Goal 38, p. 17: Estab/maintain landscape linkages to provide connections among large, contiguous blocks of late-successional forest.   |
|   | Goal 44, p. 17: Restore, protect, enhance habitats for TES in accord with ESA and regional sensitive species list  |
|   | Goal 45, p. 17: Habitats for TES are protected. FS lands are managed to help assure species survival, population increase or stabilize, or threats are eliminated  |
|   | Goal 94, p. 29: Maintain or improve habitat capability for terrestrial wildlife.   |
|   | Goal 95, p. 30: Retain the integrity of effective habitat areas.   |
|   | Goal 110, p. 31: Maintain water quantity/quality for maintenance of riparian areas, aquatic habitat and fish populations.  |
|   | Goal 111, p. 31: Favor improvement or maintenance of natural aquatic habitats over replacement or substitution.  |
| 1.9 Hazardous Substance Sites                       | None   |
| 1.10 Water Quantity                                 | Goal 7, p. 4: Maintain/improve water quality, stream processes, channel stability and aquatic MIS, and riparian resources while providing for municipal/agric. uses  |
|   | Goal 3, p. 13: Protect water related values in perpetuity on NFS lands.  |
|   | Instream flows for Recreation is in Standard 135 and Guideline 136.  |
| 1.11 Air Quality                                    | Goal 5, p. 4: Protect the basic air, soil and water resources.   |
|   | Goal 1, p. 13: Protect the Forests/Grassland ecosystems from unacceptable on-forest air pollution-caused impacts.  |
| <b>Goal 2: Provide Multiple Benefits for People</b> |  |
| 2.1 Recreation Opportunities                        | Goal 1, p. 7: Provide quality dev., disp., wilderness rec opportunities within resource capacity   |
|   | Goal 2, p. 7: Provide travel sys that considers various modes of motor/nonmotor. use within the resource capacity.   |
|   | Goal 133, p. 34: Management activities are consistent with ROS class   |
|   | Goal 134, p. 34: Encourage outfitters/guides to provide desired rec, experiences within the resource capacity.   |
|   | Wilderness Stds are included under Management Area Direction 1.1 Wilderness  |
| 2.2 Wilderness & Special Area Opportunities         | Goal 1, p. 7: Provide quality dev., disp., wilderness rec opportunities within resource capacity   |
|   | Goal 134, p. 34: Encourage outfitters/guides to provide desired rec, experiences within the resource capacity.   |
|   | Desired Conditions, Standards and Guidelines are included under Management Area Direction 1.1 (Wilderness), 1.2 (Wilderness Recommendation); 1.5 (W&S Rivers Recommendation); 2.2 (Research Natural Areas); and 3.1 (Special Interest Areas) |
| 2.3 Heritage Education & Resource Use               | None   |
| 2.4 Forest Products                                 | Goal 55, p. 19: Make fuelwood, Christmas tree, and other misc. products available where consistent with mgmt area direction/desired conditions.  |
| 2.5 Grazing   | Goal 35, p. 16: Manage veg. composition/structure on rangelands/grasslands nesting and brood-rearing habitat.  |

|  |   |
|--|---|
|  | Goal 80, p. 25: Provide forage for wildlife and dom. livestock consistent with other resource objective and environmental constraints.  |
|  | Goal 81, p. 25: Achieve veg. trends toward satisfactory range condition within 5 yrs after grazing systems are implemented.   |
| 2.6 Mineral & Energy Resources                     | Goal 25, p. 15: Encourage and facilitate orderly exploration, development, and production of mineral and reclamation of disturbed areas in environ. sound manner                      |
| 2.7 Geologic & Paleontologic Resources             | None  |
| 2.8 Scenery  | No Goals. Listed and Standards and Guidelines on p. 38.   |
| 2.9 Special Uses                                   | Goal 134, p. 34: Encourage outfitters/guides to provide desired rec, experiences within the resource capacity   |
|  | Goal 167, p. 40: ensure util. corridors are consistent between adjoining Forests, etc   |
| 2.10 Wildlife & Fish Resource Use                  | Goal 6, p.13: Activities that have the ability to affect the continuity of structure, composition, and function within riparian ecosystems shall be managed to sustain riparian areas |
|  | Goal 35, p. 16: Manage veg. composition/structure on rangelands/grasslands for nesting and brood-rearing habitat.   |
|  | Goal 38, p. 17: Estab/maintain landscape linkages to provide connections among large, contiguous blocks of late-successional forest.  |
|  | Goal 39, p. 17: Maintain/restore habitats of sufficient area to minimize effects of human-caused fragmentation.   |
|  | Goal 44, p. 17: Restore, protect, enhance habitats for TES in accord with ESA and regional sensitive species list.  |
|  | Goal 45, p. 17: Habitats for TES are protected . FS lands are managed to help assure species survival, population increase or stabilize, or threats are eliminated                    |
|  | Goal 47, p. 18: Prepare species mgmt guides to address effects of activities on sensitive species and to identify opportunities to enhance/develop habitat.                           |
|  | Goal 80, p. 25: Provide forage for wildlife and dom. livestock consistent with other resource objective and environmental constraints.  |
|  | Goal 94, p. 29: Maintain or improve habitat capability for terrestrial wildlife.  |
|  | Goal 95, p. 30: Retain the integrity of effective habitat areas.  |
|  | Goal 110, p. 31: Maintain water quantity/quality for maintenance of riparian areas, aquatic habitat and fish populations.   |
|  | Goal 111, p. 31: Favor improvement or maintenance of natural aquatic habitats over replacement or substitution.   |
|  | Goal 116, p. 32: Maintain/develop network of existing/future old-growth for associated wildlife species.  |
| <b>Goal 3: Ensure Organizational Effectiveness</b> |   |
| 3.1 Capital Infrastructure                         | Goal 2, p. 7: Provide travel sys that considers various modes of motor/nonmotor. use within the resource capacity.  |
|  | Goal 1, p. 8: Protect/enhance Forests/Grassland resources through significantly improved boundary mgmt, access, and adjustments in landownership.                                     |
|  | Goal 2, p. 8: Provide improved customer service in rights-of-way by reducing backlogged cases.  |
|  | Goal 140, p. 35: Manage trail development to coordinate with trail systems developed by others.   |
|  | Goal 141, p. 35: Consider loop trails for all trail networks  |

|                                 |   |
|---------------------------------|---|
| 3.2 Land Ownership              | Goal 1, p. 8: Protect/enhance Forests/Grassland resources through significantly improved boundary mgmt, access, and adjustments in landownership. |
|                                 | Goal 2, p. 8: Provide improved customer service in landownership by reducing backlogged cases.  |
|                                 | Goal 164, p. 39: Seek opportunities to acquire/dispose of lands.  |
| 3.3 Boundary & Title Management | Goal 1, p. 8: Protect/enhance Forests/Grassland resources through significantly improved boundary mgmt, access, and adjustments in landownership. |

Appendix B. Legally Required Monitoring Activity Accomplishments for FY 1998

| R.O. Goal Category                   | Legally required Activity (action, effect or resource)  | Freq. of Measurement After Plan                 | Minimum Reporting Freq. | Comments/ Related Accomplishments   |
|--------------------------------------|---|---|-------------------------|---|
| Ensure Sustainable Ecosystems        | Lands are adequately restocked. 36 CFR 219.12(k)5(i)  | 1st, 3rd, and 5th years Following Final Harvest | Years 3 & 5             | Identified in annual NFMA Table 22 report, FY 98.. Survey annually for appropriate acres.   |
|                                      | Lands not suited for timber production. 36 CFR 219.12(k)5(ii)   | Year 10   | Year 10                 | None identified in FY 98. Completed in 1997 for Revised Forest Plan.  |
|                                      | Harvest unit size. 36 CFR 219.12(k)5(iii)   | Years 5 & 10                                    | Years 5 & 10            | No size limit change identified in FY 98.   |
|                                      | Control of destructive insects and diseases. 36 CFR 219.12(k)5(iv)  | Annually  | Annually                | Survey of Jamestown Rx Burn to determine if burn resulted in an abnormal increase in Mtn Pine Beetle attacks. Survey indicated about a 2.5 time increase in MPB attacks from 1997 to 1998 which is not abnormal during MPB population increase which we are experiencing in areas along the Front Range.  |
|                                      | Population trends of management indicator species in relationship to habitat changes. 36 CFR 219.19(a)(6)   | Years 5 & 10                                    | Years 5 & 10            | In FY 98 there was only pre-planning. In FY 99 we will establish the baseline for making comparisons and the methodology for monitoring trends of each MIS. Reference.  |
| Provide Multiple Benefits for People | Effects of off-road vehicles. 36 CFR 219.21   | Annual Analysis years 5 & 10.                   | Years 5 & 10            | Forest Plan was used as a guiding document for transportation planning. Various levels of implementation occurred ranging from landscape assessments, roads and trails signing, and some road obliteration. M&E was conducted on the Caribou Area of the Boulder RD by the M&E IDT. Future monitoring will need to study the effectiveness of the closures and obliterations. |
| Ensure Organizational Effectiveness  | Effects to lands and communities adj to/near the National Forest and effects to the Forest from lands managed by government entities. 36 CFR 219.7(f) | Years 5 & 10                                    | Years 5 & 10            | There is ongoing work with communities reference planning and implementation of prescribed burning in the "intermix" (eg. Jamestown Rx Burn, Winiger Gulch), and travel management. The Winiger Ridge Landscape Assessment has been a cooperative effort with Boulder County and the City of Boulder and is considering projects with multiple ownership.                     |

|  |  |              |              |   |
|--|--|--------------|--------------|---|
|  | Comparison of projected & actual outputs and services. 36 CFR 219.12(k)1 | Annually     | Annually     | See Table 3. Mgt. Emphasis Accomplishments, on going management activities, and Supplemental table on outcomes.   |
|  | Prescriptions and effects. 36 CFR 219.12(k)2                             | Years 5 & 10 | Years 5 & 10 | See Table 4. Effectiveness of application of S&G for FY1998 projects implemented under direction of the Forest Plan.  |
|  | Comparison of estimated and actual costs. 36 CFR 219.12(k)3              | Annually     | Years 5 & 10 | See FY 98 Budget allocation and actual cost info. See S Table.  |
|  | Effects of management practices. 36 CFR 219.11(d)                        | Years 5 & 10 | Years 5 & 10 | 36 CFR 219.11(d) directs Forests to include in each plan requirements for monitoring and evaluation to determine effects of management practices. The Monitoring and Evaluation Strategy in Chapter Four of the Plan contains those requirements. Specific information gathered to satisfy the requirements is reported here under sections for 36 CFR 219.7, 219.12, 219.19, and 219.21 above. |

**Appendix C. Summary of Forest Plan implementation accomplishments for FY 1998.**

| R.O. Goal Category                                     | Forest Plan Mgt. Emphasis Objectives   | MAR Target                        | MAR Accompl.                      | Plan Obj. Accompl.                              | Comments/ Related Accomplishments  |
|--|--|-----------------------------------|-----------------------------------|---|--|
| Ensure Sustainable Ecosystems                          |  |                                   |                                   |   |  |
| 1.1. Endangered, Threatened, and Sensitive Species     | * Complete 3 or more TES habitat improvement projects annually. (FP Ch.1, Obj. 3, Page 5)  |                                   |                                   | 100%  | * 642 a. of TES Terrestrial Resource/Enhance. completed for Boreal Toad & mountain plover hab. imp. ; 3 miles of aquatic enhancement for Co. River Cutthroat Trout.  |
| 1.2. Species of Concern                                | (On going management activity)   | (?)                               | (?)                               | (?)   | * See 1.1 above.   |
| 1.3. Protected Areas                                   | -----  | -----                             | -----                             | -----   |  |
| 1.4. Conserve Watershed, Riparian, and Aquatic Systems | * Improve the watershed condition of approximately one sixth-level watersheds annually. (FP Ch.1, Obj. 7, Page 5)                                      | -----                             | -----                             | -----   | * No WS have been improved sufficiently to change cond. class, but road obliteration and WS improvement projects are progressing toward goal. Inventory has been initiated to identify areas of concern within high priority watersheds. |
|  | * Obliterate approx. 44.0 miles of system roads, trails & "ways" to improve wildlife habitat & watershed condition annually. (FP Ch.1, Obj. 1, Page 4) | 22.5 mi.                          | 39.5 mi.                          | 90%   | * See MAR Code #91.3 - final report.<br>* To accurately assess wildlife habitat effectiveness & watershed condition will require a GIS analysis & detailed input from districts. This also relates to goals 1.1, 1.4-1.7.                |
|  | * Improve channel stability on 1.0 to 4.0 miles of stream by annually. (FP Ch.1, Obj. 9, Page 5)   | -----                             | -----                             | 25%   | * Less than one mile.  |
| 1.5. Conserve Forest Ecosystems                        | * Manage forest to obtain range of structural stages. (FP Ch. 1, Obj. 12, Page 6)  | 125,000 ac.<br>700 ac.<br>500 ac. | 125,000 ac.<br>700 ac.<br>500 ac. | To soon to evaluate outcomes                    | * Forest Resource Inventory (MAR Code # 60.1).<br>* Wildlife Habitat Inventory (MAR Code # 60.3).<br>* TE&S Specs Habitat Inventory (MAR Code # 60.4).   |
|  | * Reduce (treat) the number of high risk/high value, and high and moderate risk acres by 2,000 to 7,000 acres annually. (FP Ch. 1, Obj. 11, Page 6)    | 4,330 ac.                         | 3,306 ac.                         | Within the range of treated acres per plan obj. | * Prescribed burns have been used to emulate natural veg. patterns, enhance veg. diversity, break up fuel continuity, enhance wildlife habitat and recycle nutrients. (MAR Code # 16.2) Future monitoring needed to evaluate outcomes.   |

| R.O. Goal Category                 | Forest Plan Mgt. Emphasis Objectives  | MAR Target           | MAR Accomp.          | Plan Obj. Accomp.                               | Comments/ Related Accomplishments  |
|------------------------------------|---|----------------------|----------------------|---|--|
|                                    | <p>* Manage acres of old growth and acres of mature forests to retain or encourage development of old growth. (FP Ch. 1, Obj. 2, Page 5, Table 1.1)</p>               | ----                 | ----                 | 100% Retained per table 1                       | <p>* Management to <u>retain</u> PP &amp; DF was met.<br/>           * Deliberate management to <u>increase</u> has not been initiated yet.</p>  |
| 1.6. Conserve Rangeland Ecosystems | <p>* Manage grassland to obtain range of structural stages. (FP Ch. 1, Obj. 12, Page 6)</p>   | 72,000 ac.           | 62,000 ac.           | "   | <p>* Rangeland Resource Inventory (MAR Code # 60.2).</p>   |
| 1.7. Disturbance Processes         | <p>* Reduce (treat) the number of high risk/high value, and high and moderate risk acres by 2,000 to 7,000 acres annually. (FP Ch. 1, Obj. 11, Page 6)</p>            | 4,330 ac.            | 3,306 ac.            | Within the range of treated acres per plan obj. | <p>* Prescribed burns have been used to emulate natural veg. patterns, enhance veg. diversity, break up fuel continuity, enhance wildlife habitat and recycle nutrients. (MAR Code # 16.2) Future monitoring needed to evaluate outcomes.</p>        |
| 1.8. Wildlife & Fish Habitat       | <p>(On going management activity)</p>   | 2,335 ac.<br>1.0 mi. | 2,335 ac.<br>1.0 mi. | ----  | <p>* WL Hab. Rest/Enhance. (MAR Code #66.2)<br/>           * Stream rest/protection. (MAR Code #68.3)</p>  |
|                                    | <p>* Obliterate approx. 44.0 miles of system roads, trails &amp; "ways" to improve wildlife habitat &amp; watershed condition annually. (FP Ch.1, Obj. 1, Page 4)</p> | 22.5 mi.             | 39.5 mi.             | 15% Wildlife Benefit                            | <p>* See MAR Code #91.3 - final report.<br/>           * To accurately assess wildlife habitat effectiveness &amp; watershed condition will require a GIS analysis &amp; detailed input from districts. This also relates to goals 1.1, 1.4-1.7.</p> |
| 1.9. Hazardous Sub-stance Sites    | -----   | ----                 | ----                 | ----  | <p>* Nothing accomplished in 1998.</p>   |
| 1.10. Water Quantity               | <p>* Obtain stream flows to sustain aquatic life &amp; maintain stream processes on approximately 1 new segment annually. (FP Ch. 1, Obj. 8, Page 5)</p>              | ----                 | ----                 | ----  |  |
| 1.11. Air Quality                  | <p>* Improve approximately 1 Air Quality Related Value at risk to maintenance or higher level of protection by annually. (FP Ch. 1, Obj. 4, Page 5)</p>               | ----                 | ----                 | ----  | <p>* Monitoring equipment is being tested and calibrated to establish baseline data and determine compliance.</p>  |

| R.O. Goal Category                   | Forest Plan Mgt. Emphasis Objectives  | MAR Target                               | MAR Accompl.                             | Plan Obj. Accompl. | Comments/ Related Accomplishments   |
|--------------------------------------|---|--|--|--------------------|---|
| Provide Multiple Benefits for People |   |  |  |                    |   |
| 2.1. Recreation Opportunities        | <p>* Upgrade 60 to 75 developed facilities to standard annually consistent with resource capability. (FP Ch. 1, Obj. 4, Page 7)</p> <p>* Reconstruct or rehabilitate up to 60 high-impact, dispersed camping areas annually consistent with resource capability. (FP Ch. 1, Obj. 1, Page 7)</p> <p>* Construct up to 30 new dispersed campsites annually consistent with resource capability (FP Ch. 1, Obj. 3, Page 7)</p> <p>* Provide a satisfactory recreational experience for at least 70% of Forest &amp; Grassland visitors annually. (FP Ch. 1, Obj. 5, Page 8)</p> <p>* Convert approx. 30.0 miles of "ways" to system roads or trails annually. (FP Ch.1, Obj. 6, Page 8)</p> <p>* Reconstruct 1.5 to 7.0 miles of both system roads and trails annually. (FP Ch. 1, Obj. 7, Page 8).</p> <p>* Develop approx. 2.5 to 11.0 miles of new nonmotorized and motorized trails annually. (FP Ch. 1, Obj. 8, Page 8)</p> <p>* Construct 1.0 to 4.0 miles of new system roads annually. (FP Ch. 1, Obj. 9, Page 8)</p> <p>* Construct approx. 1.0 to 4.0 miles of system trails annually. (FP Ch. 1, Obj. 10, Page 8)</p> | -----                                    | -----                                    | -----              | <p>* Canyon Lakes RD - 30; Boulder RD - 20; Sulfur RD - 25.</p> <p>* Assessment in progress to determine specific areas needing attention.</p> <p>* Canyon Lakes RD - 11.</p> <p>* ARNF &amp; PNG Customer Ratings are above national ratings. National Customer Survey Results, 1998. (87% satisfied)</p> <p>* 19.26 mi. of ways converted to roads.<br/>* 3.6 miles of ways converted to trails.</p> <p>* See MAR Code #93.2 - final report.<br/>* See MAR Code #21.0 - final report.</p> <p>* 3.6 miles of ways were converted to FDTs</p> <p>* See MAR Code #93.1 - final report.</p> |
|                                      |   |  |  | 100%               |   |
|                                      |   |  |  | 0%                 |   |
|                                      |   |  |  | 37%                |   |
|                                      |   |  |  | 100%               |   |
|                                      |   |  |  | 76%                |   |
|                                      |   | 5.5 mi. of roads.<br>90.0 mi. of trails. | 5.9 mi. of roads.<br>90.0 mi. of trails. | 93%<br>77%         |   |
|                                      |   | 0  | 0  |                    |   |
|                                      |   | 0  | 0  | 0%                 |   |
|                                      |   | -  | -  | 0                  |   |

| R.O. Goal Category                       | Forest Plan Mgt. Emphasis Objectives   | MAR Target  | MAR Accomp.                                       | Plan Obj. Accomp.                | Comments/ Related Accomplishments   |
|--|--|---|---|----------------------------------|---|
| 2.2. Wilderness & Special Area Opportun. | * Provide designated wilderness campsites where resource impacts are high & consistent with resource capacity. (FP Ch. 1, Obj. 3, Page 7)  |   |   | Unknown                          | * Canyon Lakes RD - 4 campsites.  |
| 2.3. Heritage Education & Resource Use   | (On going management activity)   | 400 ac.<br>6 Sites<br>3 Sites<br>5 Sites          | 1320 ac<br>35 Sites<br>3 Sites<br>5 Sites         | -----<br>-----<br>-----<br>----- | * Heritage Inventory. (MAR Code #61.9)<br>* Heritage Sites Evaluated. (MAR Code #65.2)<br>* Heritage Sites Interpreted. (MAR Code #65.3)<br>* Heritage Sites Prsv/Prtct. (MAR Code #65.4) |
| 2.4. Forest Products                     | (On going management activity)   | 3,000 mbf<br>1,700 mbf                            | 3,946 mbf<br>2,085 mbf                            | 59% of ASQ<br>-----              | * Volume Offered, New. (MAR Code #17.1)<br>* Volume Offered, SSF. (MAR Code #17.2)  |
| 2.5. Grazing                             | (On going management activity)   | 1 Structure<br>14 Allot.<br>3 Allot.<br>2,501 ac. | 1 Structure<br>14 Allot.<br>3 Allot.<br>2,501 ac. | -----<br>-----<br>-----<br>----- | * Range Structural Improve. (MAR Code #30.1)<br>* Allotment Administration. (MAR Code #75.1)<br>* Allotment s Analyzd/Desn. (MAR Code #75.3)<br>* Rangeland Moni/Eval. (MAR Code #76.1)   |
| 2.6. Mineral & Energy Resources          | (On going management activity)   | 10 Oper.<br>79 Oper.<br>79 Oper.<br>9,000 ac.     | 11 Oper.<br>50 Oper.<br>94 Oper.<br>27,751 ac.    | -----<br>-----<br>-----<br>----- | * Energy Oper. Processed. (MAR Code #87.1)<br>* Energy Oper. Adm. - Std. (MAR Code #87.2)<br>* Total Energy Operations. (MAR Code #87.3)<br>* Energy Acres Processed. (MAR Code #87.5).   |
| 2.7. Geologic & Paleontologic Resources  | -----  | -----   | -----   | -----                            |   |
| 2.8. Scenery                             | (On going management activity)   | -----   | -----   | -----                            | * Part of project planning, administration and implementation. Periodic on-site inspections for compliance.   |
| 2.9. Special Uses                        | * FLPMA, SUP applications on file & processed; expired permits, permits needing new auth. (FP Ch. 1, Obj. 2, Page 9)<br>* Recreation Special Use Permits. (On going management activity)<br>* Authorizations administered to standard. (On going management activity)<br>* Authorizations Administered Total. (On going management activity) | 26 cases  | 118 cases   | 280%                             | * Plan objective was 42 cases annually. (MAR Code #89.2)  |
|  |  | 420 permits                                       | 420 permits                                       |                                  | * See MAR Code # 62.5.  |
|  |  | 154 permits                                       | 461 permits                                       |                                  | * See MAR Code #89.3.   |
|  |  | 540 permits                                       | 542 permits                                       |                                  | * See MAR Code #89.4.   |

| R.O. Goal Category                  | Forest Plan Mgt. Emphasis Objectives   | MAR Target | MAR Accomp. | Plan Obj. Accomp.                    | Comments/ Related Accomplishments   |
|-------------------------------------|--|------------|-------------|--------------------------------------|---|
| 2.10. Wildlife & Fish Resource Use  | -----  | -----      | -----       | -----                                | * No information available.   |
| Ensure Organizational Effectiveness |  |            |             |                                      |   |
| 3.1. Capital Infrastructure         | * Maintain 20 percent of system roads & trails annually. (FP Ch. 1, Obj. 1.1, Page 8). | -----      | -----       | 164%                                 | * "Overachievement" was due to 10% monies available for program initiatives - specifically road and trail maintenance. (Mar Code #34.0) |
|                                     | * Consolidation of lands - ROW acquisition. (FP Ch. 1, Obj. 1, Page 8)                 | 8 cases    | 17 cases    |                                      |   |
| 3.2 Land Ownership                  | * Encroachments; STA applications on file & processed. (FP Ch. 1, Obj. 2, Page 9)      | 15 cases   | 23 cases    |                                      | * Plan objective was 48 to 105 cases annually. (MAR Code #89.1)   |
|                                     | * Consolidate NFS lands through landownership adjustments. (FP Ch. 1, Obj. 1, Page 8)  | 15.0 ac.   | 1,474.5 ac. | Within Range of Plan Obj.            | * Plan objective was from 1,005 ac. to 4,905 ac. annually. (MAR Code #32.1)   |
| 3.3. Boundary & Title Management    | * Identify NFS Boundaries. (FP Ch. 1, Obj. 1, Page 8)                                  | 7 mi.      | 7 mi.       | "                                    | * Plan objective was from 2.5 to 40.5 mi. annually. (MAR Code #33.0)  |
|                                     | * Maintain NFS Boundaries. (FP Ch. 1, Obj. 1, Page 8)                                  | 3 mi.      | 3 mi.       | 67% of low end of range of plan obj. | * Plan objective was from 4.5 to 6.5 mi. annually. (MAR Code #90.1)   |

1 It should be noted that many of the accomplishments for specific plan objectives are multi-benefit in nature and cross over to more than one of the Regional goal and objective categories.



**Appendix D. Examples of Effectiveness of Standards and Guidelines FY 98 Projects Implemented Per the Forest Plan.**

| FY 98 Project Examples<br>by<br>R.O. Goal Category                  | Project<br>Status        | Incorporated S&G<br>Into Project<br>Design                  | Were S&G<br>Effective in Project<br>Implementation                                  | Comments<br>Including Recommended<br>Changes  |
|---|--------------------------|---|---|---|
| <b>Ensure Sustainable Ecosystems</b>                                |                          |   |   |   |
| a. Camp Bethel Boreal Toad<br>Habitat Improvement.                  | Complete                 | Yes - via project design & implementation.                  | Good to excellent based upon on-site inspection.                                    | * Results will be most apparent by June/July 1999. Population change needs to be monitored.   |
| b. Mountain Plover Prescribed<br>Burn.                              | Complete                 | "   | "   | * Nesting has increased due to additional suitable habitat.   |
| c. B-11 Timber Sale.  | Complete                 | 90% yes, 10% no. Part of project planning & implementation. | Good where riparian areas identified in advance otherwise poor. On-site inspection. | * Portions of project area riparian areas were difficult to identify because of snow - prevented application of mitigation to meet Standards & Guidelines                                   |
| d. Sand Creek Prescribed Burn.                                      | Planned; Ongoing in FY98 | Yes, including soils via project design.                    | Need to be evaluated upon completion, on an ongoing basis for soils.                | * Mitigation measures include Standards & Guidelines for soil erosion and organic matter retention. Recommend post project evaluation with interdisciplinary on-site inspection.            |
| e. Caribou Travel Management.                                       | On-going (60% Complete)  | Yes   | Yes & no. Visual walk through.  | * 80% successful. Roads closed but insufficient water erosion control for natural recovery including revegetation.  |
| f. Hamilton Creek Colorado River<br>Cutthroat Fish Barrier Program. | Complete                 | Yes   | Yes & no. Yes for longterm TES habitat protection if applied.                       | * Insufficient contract admin. (staff & budget constraints). GL #115 violated during implementation. Recommend resources to properly administer contract and monitor during implementation. |
| g. Air Visibility Monitoring for<br>Prescribed Fires                | Complete                 | Yes - for burn permits                                      | No.- Not effective, need to work with state & research to change.                   | * Need to develop a way to evaluate smoldering times: model smoldering times.   |
| <b>Provide Multiple Benefits for<br/>People</b>                     |                          |   |   |   |
| a. Timber Sales Offered.  | On-going                 | Yes - via timber sale planning.                             | N/A   | * Once timber sales are implemented on the ground, monitor for effectiveness of standards & guidelines, compliance.   |

| FY 98 Project Examples<br>by<br>R.O. Goal Category          | Project<br>Status     | Incorporated S&G<br>Into Project<br>Design            | Were S&G<br>Effective in Project<br>Implementation | Comments<br>Including Recommended<br>Changes  |
|---|-----------------------|---|--|---|
| b. Grazing Allotments Imple-<br>mented.                     | Ongoing               | Yes - built into<br>project planning<br>documentation | Yes - verified by on-<br>site inspection           | * Measurable effects will be most evident five<br>years after implementaion.        |
| c. Upgrade developed facilities -<br>Stillwater Campground. | Complete              | "   | Yes - verified by on-<br>site inspection           | * Accessibility standards still need to be im-<br>proved.                           |
| d. Designated dispersed sites -<br>Manhattan Road.          | Complete              | Yes   | Yes - verified by on<br>site inspection.           | * Significant reduction of resource impact is al-<br>ready evident.                 |
| Ensure Organizational<br>Effectiveness                      |                       |   |  |   |
| a. Road & trail maintenance ac-<br>tivities.                | Complete<br>Ongoing   | Yes - followed plan<br>direction.                     | Monitoring needs to<br>be done.                    | * Recommend post maintenance evaluation by<br>interdisciplinary on-site inspection. |
| b. Rights of Way.   | 17 Cases<br>Completed | "   | Yes - verified by<br>project review.               | * Resulted in access to 7,680 acres of NFS lands<br>previously inaccessible.        |
|   |                       |   |  |   |
|   |                       |   |  |   |