

**ARAPAHO AND ROOSEVELT NATIONAL FOREST**  
**AND PAWNEE NATIONAL GRASSLAND**  
**FISCAL YEAR 1999 FOREST PLAN MONITORING AND EVALUATION REPORT**

March 28, 2000

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## **I. FOREST CERTIFICATION:**

The Revised Forest Management Plan 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 Forests and Grassland are in the second season of implementing plan goals and objectives. Lessons learned from a second season 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 at this time. Some work has been initiated on amendments dealing with Threatened, Endangered and Sensitive (TES) species and 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. These efforts will be back on track as soon as budgets and priorities permit.

*/s/ William A. Wood*

William A. Wood  
Forest Supervisor

## **II. EXECUTIVE SUMMARY**

This summary describes accomplishments of the Arapaho-Roosevelt National Forests and Pawnee National Grassland (ARNF-PNG) following two field seasons of implementing the goals and objectives outlined in Chapter one of the Revised Forest Plan. Actual accomplishment of Forest Plan objectives and on-going management activities can be attributed to the excellent job by personnel in spite of significant budget and staffing constraints. The report summary also includes an overview of both lessons learned during this two year time period and recommendations to improve on the ground management.

Plan implementation accomplishments have addressed long term goals in the Forest Plan. Implementation of annual Plan objectives have ranged from full to a predominance of lower levels of accomplishments. The primary cause for lower levels of accomplishment is that funding for many programs has been at less than base level for FY 1999. Due to the budget situation, there have also been shifts in plan implementation priorities for several programs. Changes in program priorities have been dictated by National initiatives such as the Roadless Initiative; implementing meaningful measures, the Foundation Finance Information System and deferred maintenance; and the National Forest Planning Regulations. Regional priorities such as the Canada Lynx Plan Amendment and species viability work have also resulted in a shift in Forest program priorities.

The major findings of the deliberations by the Monitoring and Evaluation Interdisciplinary (M&E ID) Team point to 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 these are consistent with both the Government Performance and Results Act (GPRA) of 1993 and the Regional goal and objective categories. Issues and recommendations are presented by the following categories:

- Improving the Forest Plan.
- Improving Unit Operation
- Improving the M&E Process, Documentation of Needed Inputs.

### **A. Plan Implementation Accomplishments**

The Forests and Grassland have been making forward progress in accomplishing plan objectives in the categories of **Ensuring Sustainable Ecosystems, Providing Multiple Benefits for People, and Ensuring Organizational Effectiveness**. Actual levels of accomplishment by programs within these categories have varied tremendously due to funding levels. Where Management Attainment Report (MAR) targets have paralleled both Forest Plan objectives and ongoing management activities, accomplishments have been excellent (79% of the targets were right on; 11% were above target; and 10% were below target with a range of accomplishment at 25% to 95%).

**1. Ensuring Sustainable Ecosystems.** This category includes the following programs: Fisheries; Hazardous Fuel Reduction; Soil, Air, and Abandoned Mines; Wildlife; and Watershed. Program funding has essentially varied from unfunded to below Forest Plan base levels to between base and experienced levels. Accomplishments have ranged from 100% achievement in completing 3 or more TES habitat improvement projects annually (Wildlife and Fisheries Programs) to nothing accomplished in 1999 for the objective of obtaining stream flows to sustain aquatic life and maintain stream processes on approximately one to five segments over the life of the Forest Plan (the Boulder Hydro Gravity Line Special Use Permit offered one opportunity to accomplish this objective in FY 1999, but was not funded through the lands program). Both overall expected accomplishments and the different types of expected accomplishments in restored/enhanced wildlife habitat acres were not met. For air quality, inventory of Air Quality Related Values (AQRV's) is still the primary activity before any consideration can be given to improving any AQRV (Soil, Air, and Abandoned Mine Program). The Hazardous Fuels Program, funded between base and experienced levels, was within the range of the treated acres objective in the Forest Plan. The Watershed Program made some progress on improving channel stability and working with travel management to realize watershed benefits from road obliteration.

**2. Providing Multiple Benefits for People.** This category includes the following programs: Recreation Management (Wilderness and some elements of Travel Management); Scenery Management; Rangeland Management; Timber; and Heritage Resources. Similar to **1.** above, program funding has varied from unfunded to full funding. Most programs were funded at below base level. The result of this situation is that only one objective in the recreation program was worked on (upgrading

developed facilities to standard with 44% accomplishment). Only one of the travel management program elements that contribute to providing recreation opportunities met the plan objective for reconstructing roads and trail (800% accomplishment due to 10% monies and volunteer efforts of user groups). Positive maintenance on trails and public contacts in wilderness was accomplished primarily because of volunteer work. While on going management activities have been below base to full level of funding (Rangeland Management, Timber, and Heritage Resources), they have at least kept pace with MAR targets.

**3. Ensuring Organizational Effectiveness.** This category includes the following programs: Lands, and Travel Management. Variation in funding for organizational effectiveness essentially paralleled **1.** and **2.** above. The Lands program made excellent progress on meeting its Forest Plan objectives dealing with special uses, land ownership, and boundary and title management. The range of accomplishments for Forest Plan objectives was from 36 to over 100%. The same level of accomplishments was met where FY 1999 Management Attainment Report (MAR) targets are consistent with Forest Plan objectives. While the Travel Management Program met objectives of road obliteration and maintaining 20% of system roads and trails it fell short of Forest Plan expectations for wildlife habitat effectiveness. A significant problem associated with keeping up with the road obliteration objective was that the public has created new roads and trails, and reopened closed roads.

### **B. Monitoring & Evaluation (M&E) Results**

The Forest has had two seasons to implement management actions under the direction of the Forest Plan. Both qualitative and quantitative approaches were used to look at Standards and Guidelines (S&G) where possible. 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.

**1. FY 1999 Monitoring Projects.** FY 1999 projects included: establishing MIS baseline data and developing a process for monitoring and evaluating population trends; inventorying sufficient acreage to enable an annual prescribed burning program; and define methods, approach, and schedule to determine how to meet “out year” M&E requirements; perform level 2 watershed assessment recon. and begin level 3 assessments on priority watersheds. Soil and air monitoring activities were limited due to loss in staff during FY 1999. The Limits of Acceptable Change project never got beyond the preplanning step. Analysis of the Williams Fork was completed providing the basis for a Forest Plan plan amendment. However, no funding was available to complete the actual amendment.

**2. Forest Plan Project Implementation.** The Monitoring and Evaluation Interdisciplinary Team reviewed a series of projects looking at the effectiveness of management practices and Standards and Guidelines (S&G’s). This review demonstrated that project planners and field staff who were responsible for on-the-ground implementation were diligent in paying attention to S&G’s and best management practices. In a few instances, unexpected conditions (severe weather events following project

implementation, insufficient contract administration, insufficient information, and timeliness of implementing mitigation S&G's) resulted in a few inconsistencies in application of and compliance with S&G's.

**3. Field Trip Monitoring Activities.** Field trips reinforced that field implementation of projects followed best management practices known at this time. The most interesting outcome of field evaluation was the unpredictability of severe weather events that created unforeseen effects. This obviously points to reviewing and modifying S&G's in light of new information as it becomes available. Other areas of concern are better on-the-ground administration of projects and contracts, interdisciplinary monitoring of project completion and compliance with S&G's (including involvement from District field staff), and utilization of information from the FY 1999 monitoring projects to refine and enhance project implementation.

### **C. Emerging Issues**

Emerging issues constitute those policy and resource management priorities that have surfaced since the completion and approval of the Forest Plan (November, 1997). They include an array of new National priorities and initiatives, and shifts in Regional and Forest priorities. The Forests and Grassland have been addressing these issues consistent with available funding and personnel. The current situation is the dilemma of increased workloads, essentially a level budget and insufficient field staff to address the new priorities and meet Forest Plan Objectives at the same time. This situation has clearly led to an increasing gap in meeting Forest Plan objectives and concern by our publics that the Forest will have difficulty in providing public benefits identified in the plan. Examples of emerging issues include:

**1. National Priorities.** A tremendous amount of effort went into setting up the Foundation Financial Information System; Real Property Infrastructure Inventory of roads, trails, recreation sites, buildings, and other structures; and the Forest Stewardship Program (Winiger Ridge and Mt. Evans). Some effort also went into the Roadless Initiative; proposed revised language in the Federal Endangered Species Act. and National Historic Preservation Act (NHPA), 36CFR Part 800; the new Forest Planning Regulations; and the interim Roads Management Policy.

**2. Regional Priorities.** The Lynx Plan Amendment, assessment of species viability at scales larger than an individual forest.

**3. Forest Priorities.** Further inventories, planning and implementation of travel management plans to address the generating of new roads and reopening of roads by users; fuels management (vegetation management, Rx burns) for wildlife habitat improvement; Lakewood Pipeline; Mt. Evans Fee Demonstration project implementation; invasion of noxious weeds from private lands to FS lands and vice-versa; implementation of the Scenery Management System; inability to address soils, air and abandoned mine program to meet Forest Plan objectives; the effects of Forest Supervisor's order allowing camping or picnic parking within 300 feet of travel routes; and the Forests' Integrated Resource Inventory program.

## **D. Areas of Needed Improvement & Recommendations**

Three basic questions that led to documenting lessons learned and making recommendations to improve the ARNF-PNG's ability to achieve Plan goals and objectives were:

- Did the Forests and Grasslands do what they said they would do in the Forest Plan?
- Did the Forests and Grasslands carry out management activities in a timely and cost effective manner?
- Were standards and guidelines, management practices effective?

These questions were addressed in the context of translating lessons learned to develop recommendations for **improving the Forest Plan, Unit Operations, and the M&E Process and Documentation**. Inputs to document lessons learned and make recommendations to improve how the ARNF – PNG carries out its mission were developed from a variety of sources. These included project reviews, field trips, responses from Districts to requests from the Monitoring & Evaluation Interdisciplinary Team (M&E IDT) for information, comparing plan implementation accomplishments with the Forest Plan Supplemental Table of estimated outcomes, and stakeholder meetings. A summary of the documentation leading to the issues and recommendations comes from III and IV of this report. The recommendations are not decisions, rather they represent items that need to be reflected in subsequent work plans and budget allocation decisions. Several recommendations need to be considered as part of day-to-day management activities.

### **1. Improving the Forest Plan:**

#### **a. Incorporate Williams Fork Area into the ARNF/PNG Revised Forest Plan.**

- **Issue:** The Williams Fork area was shifted from the Routt to ARNF/PNG administration in 1998. The Williams Fork area still needs to be incorporated into the ARNF/PNG Forest Plan from the Routt N.F. Forest Plan.
- **Recommended Solution:** Schedule and fund the activities to incorporate the Williams Fork Area into the ARNF/PNG Forest Plan as soon as possible.
- **Responsibility to Address Solution:** Forest Planning Team, Forest Leadership Team, Sulphur District Ranger

### **2. Improvement of Unit Operations:**

#### **a. Obtain Adequate Funding to Accomplish Forest Plan Objectives.**

- **Issue:** The amount of funding received was different for each program compared to the budget estimates in the Forest Plan. Only a few programs received funding that nearly equaled or exceeded the highest level in the Forest Plan (called the full level). Most were funded at or near the lowest level (called the base level). A few programs were funded at levels that were similar to funding

in past years (called experienced level). This resulted in most program accomplishments being moderately to way below outcomes estimated in the Forest Plan (see Tables 1 through 13). To fully accomplish the balanced program of work outlined in the Forest Plan, programs must be funded at or near the experienced or full budget levels.

The funding by program has varied due to the fact that Congressional priorities and allocations to the Forest Service do not match the priorities and budgets estimated in Forest Plans; there are inequities in how the Forest Service allocates the budget among the Regions; and finally the leadership team has little control or influence over how funding is allocated at higher levels. However, the Leadership Team and Forests and Grassland employees are analyzing and using other methods like recreation fee demo, partnerships, and volunteers to increase the amount of funding and to accomplish important work.

- **Recommended Solution:** Continue to support the Regional effort to encourage the leveling of the national budget. Continue to evaluate potential outside funding sources and take advantage of partnership and volunteer opportunities to offset reductions in government funding. Consider adjustments to both the Forest Plan objectives and predicted outputs in the Supplemental Table to bring both more in line with available funding.
- **Responsibility to Address Solution:** Forest Budget Team, Forest Leadership Team

#### **b. Improve interdisciplinary involvement between and among Forest Units.**

- **Issue:** For FY 1999 projects reviewed, project implementers and staff facilitating field tours were not familiar with many of the Forest Plan standards and guidelines. The Forest needs to improve interdisciplinary involvement (integrated) for project planning, prioritization and implementation; contract administration and working with consultants; and monitoring and evaluation of plan implementation and effectiveness of standards and guidelines.
- **Recommended Solution:** Establish the basis for an integrated approach for the planning, prioritization and carrying out FP implementation and associated Forest Plan Standards and Guidelines, NEPA decisions, and other planning documents as written. Schedule field trips for the Leadership Team, District Rangers, the Monitoring and Evaluation Team, and Stakeholders to review both outcomes and effectiveness of management activities; standards and guidelines
- **Responsibility to Address Solution:** Forest Leadership Team; District Rangers; Group Leaders; Resource Specialists.

#### **c. Assess recreation use and user impact information, recreation management information.**

- **Issue:** The Forest could use additional information to make better, more informed decisions related to: changing trends in activities forest wide (e.g. mountain biking, recreation shooting, and a variety of dispersed recreation activities); assessing user impacts; recreation special use permits and campground concession contracts (insufficient budget to manage 71 dispersed sites no longer part of concession contracts); recreation use capacities for developed, dispersed, and wilderness areas; and scenic quality as it relates to the quality of the recreation experience.

- **Recommended Solution:** Continue to be an active participant in the National Recreation Survey. Continue to explore alternative sources of funding to manage dispersed recreation sites to standard. Take a cautious approach to approving new recreation special use permits until a LAC process can be accomplished.
- **Responsibility to Address Solution:** Information Management, Planning, Monitoring, and Budget Group (IPMB); Forest Recreation Team; Infrastructure, Operations, lands, and Recreation Group (IOLR); District Rangers.

**d. Determine effects of large urban populations and intermix on resource management activities.**

- **Issue:** The Forest could use further information to assess the effects of a burgeoning populations, changing public attitudes and values, and the intermix on forest resource management activities and vice-versa.
- **Recommended Solution:** Continue work with Forest and Grassland stakeholders. Where appropriate, develop partnerships to facilitate plan implementation. Collect and distribute information on social and environmental trends to maintain a positive outreach to communities and the public, develop a base for information sharing, improve understanding of management practices, and identify emerging issues.
- **Responsibility to Address Solution:** IPMB Group; Ecosystem Support Group (ECO); Public Affairs Team; Forest Leadership Team.

**e. Improve field presence and Forest user outreach.**

- **Issue:** Due to the lack of field personnel and a field presence, user behavior has resulted in significant reoccurring work that includes reclosing previously closed or obliterated roads, replacing blown out gates, fences, traffic barriers, signs, information boards, and re-enforcing existing closures.
- **Recommended Solution:** Provide sufficient field staff or work with volunteers to develop a presence. Where violations are more prevalent, follow up with enforcement. Continue to improve relationships with volunteer groups and seek out challenge cost share projects. Work with the public and adjacent landowners to inform them of travel regulations and stewardship responsibilities.
- **Responsibility to Address Solution:** District Rangers; IPMB Group; IOLR Group; Budget Team; Forest Leadership Team.

**3. Improving the M&E Process and Documentation**

**a. Obtain and evaluate information about emerging issues that lead to modification of management practices.**

- **Issue:** The Forest needs to adjust its M&E data collection priorities to identify of emerging issues – some that are already impacting the Forests and Grasslands ability to anticipate and respond to changing management situations in the field.

- **Recommended Solution:** For travel management, evaluate user behavior where the Forest is having to revisit some of the same areas that have to be reclosed, etc.; evaluate the type, location, intensity and effects of off-road travel to gauge impacts upon the user experience and resource condition (eg. mountain biking). Conduct more rigorous smoke emission and dispersion monitoring on prescribed fire treatments in the intermix.
- **Responsibility to Address Solution:** IPMB Group; ECO Group; IOLR Group; Monitoring and Evaluation Interdisciplinary Team; District Rangers.

### **III. EVALUATION OF PLAN IMPLEMENTATION**

This report describes the monitoring and evaluation work completed during FY 1999. The staff on the Arapaho Roosevelt National Forest and Pawnee National Grassland (ARNF-PNG) have completed two field seasons 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 rangelands 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. (Appendix D - Crosswalk of Regional Office Goals with the 1997 ARNF - PNG Forest Plan and Tables 1 through 13 in Section III B, Forest Program Accomplishments for FY 1999)

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

- A. Legally Requirement M&E Activities.
- B. Forest Program Accomplishments.
- C. Public Involvement.
- D. Effectiveness of Standards and Guidelines (S&G).Goals and Objectives.

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

### **A. 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 F (Legally Required Monitoring Activity Accomplishments for FY 1999) provides more detailed comments/related accomplishments by Regional Goal categories.

#### **1. Ensure Sustainable Ecosystems:**

- Lands adequately restocked – 1,164 acres certified as naturally regenerated, 175 acres replanted.
- Lands not suited for timber production was addressed in the preparation of the 1997 Forest Plan and will be re-evaluated in five years from the time of plan approval.
- There was no harvest unit size change in FY 99.
- Mount pine beetle (MPB) infestations in Ponderosa Pine along the Front Range and Lodgepole Pine on the Sulphur Ranger District appeared to be increasing but actual FY 1999 survey data was not available at the time of this report. Preplanning and inventories were accomplished to assess population trends of management indicator species in relationship to habitat changes.

#### **2. Provide Multiple Benefits for People:**

- On the ground monitoring was accomplished at selected locations. Preplanning was initiated and will be revised to better assess the effects of off-road vehicles for better monitoring and evaluation in the future. This will be done using the Roads Analysis: Informing Decisions About Managing the National Forest Transportation document.

#### **3. 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 the following section on Forest Program Accomplishments for Fy 1999.
- Examples of effectiveness of prescriptions can be found in Appendix D (Examples of Effectiveness of Standards and Guidelines for FY 99 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 (FY 2002).
- 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 1999 Annual Operational Plan.

**B. Forest Program Accomplishments**

All Forest Plan management emphasis objectives were reviewed for FY 1999 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.

**1. Ensure Sustainable Ecosystems:**

**a. Fisheries Program:**

1) **Accomplishments** - Funding levels and cooperation with partners provided for two fisheries habitat inventory crews, continued the contract for a greenback cutthroat population trend assessment, and completed two cutthroat trout habitat management projects. The Forest implemented a zoned organization by adding a fisheries biologist for south and west districts. On-the-ground accomplishments included habitat and population inventories described above, projects to provide fish passage and limit non-native trout management, field input to design of projects in other programs, and monitoring effects of fisheries and other resource projects. Accomplishments were higher than Forest Plan projected levels due to increases in efficiency and available funding.

**Table 1. Summary of Fisheries Program Accomplishments, FY 1999.**

<b>iGPRA - R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>iiFY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>1.1. Endangered, Threatened, and Sensitive Species</b>	* Complete 3 or more TES habitat (aquatic or terrestrial) improvement projects annually. (Forest Plan (FP), Chapter (Ch) 1, Objective (Obj) 3, Page 5)	Between FP Base & Exper. budget level		100%	2 miles of aquatic enhancement for Co. River Cutthroat Trout on L. Vasquez Creek.
<b>1.8. Wildlife &amp;</b>	(On going management	"	6.0 mi.	-----	* Stream rest/protection. (MAR Code

iGPRA - R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	iiFY99 Budget	MAR Accomp.	Plan Obj. Accomp.	Comments/ Related Accomplishments
<b>Fish Habitat</b>	activity)				#68.3)
<b>1.10. Water Quantity</b>	* Obtain stream flows to sustain aquatic life & maintain stream processes on approximately 1 - 5 segments by 2007. (FP Ch. 1, Obj. 8, Page 5)	Lands project not funded to obtain these flows.	-----	-----	* Nothing accomplished in 1999. The Boulder Hydro Gravity Line draft preferred alternative includes an instream flow agreement for Middle Boulder Creek. This decision has not yet been made, and project analysis was not funded in FY 1999. Opportunities to address instream flow usually occur through land use authorization issuance or amendments.

i 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.

ii FY 1999 budgets aligned by goal are described by comparing Forest Plan Objectives and FY 1999 outputs with budget level and anticipated outputs in the Supplemental Table 1 found on pages 399 through 405 of the Forest Plan.

**2) Recommendations to Maintain or Enhance Program** - Consistent annual funding and timely availability of funds to develop a stable out-year program. Solidify excellent relationships with partners by formalizing agreements for cost share activities. Suggest on-the-ground interdisciplinary monitoring of specific activities with NEPA since Forest Plan implementation during FY 2000. Need integrated planning and monitoring of outcomes of watershed restoration projects assure benefits to fisheries and aquatic resources. Continue to monitor and adapt zone fisheries organization to meet Forest and Grassland needs.

**3) Emerging Issues** - Proposed revised language for the Endangered Species Act (ESA) has been published in the Federal Register. This revision would allow protection of some hybrid animals or populations under the ESA. This would increase the responsibility (workload) that the Forest has for protecting habitat for several management indicator species of fish, and would increase our workload in demonstrating viability of populations in response to management-changed habitat conditions. Colorado River cutthroat trout have been petitioned for listing under ESA.

**b. Hazardous Fuels Reduction Program:**

1) **Accomplishments** – This continues to be the main contributor to vegetation treatment on the Forest – 3,024 acres treated during FY 1999. However, due to an unseasonable wet summer and early fall, the Forest did not accomplish the plan objectives for prescribed burning. Accomplishment was with a higher than “experienced” but less than “full” budget level. The funding per unit of treatment is not sufficient for the Forest to concentrate most of the treatment on the high priority areas indentified in the Forest Plan objectives. Direct benefits to the program were increasing experience and skills in using prescribed fire, increasing the level of public acceptance, and increased opportunity to replicate historic fire effects on the landscape.

**Table 2. Summary of Hazardous Fuels Reduction Program Accomplishments, FY 1999.**

<b>GPRA - R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>1.5. Conserve Forest Ecosystems</b>	* 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)	Between FP Base & Exper. budget level	3,024 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.

2) **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. Improve outyear hazardous fuels funding requests to increase the funding per unit to a level where we can successfully treat high priority 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) **Emerging Issues** – The effects of smoke emissions and dispersion from Rx fire treatments in the intermix will continue to be an issue.

**c. Soil, Air and Abandoned Mine Program:**

1) **Accomplishments** – Due to the fact that the program manager for soils and abandoned mines was detailed to other assignments and eventually transferred, accomplishments were directed toward providing support to other resource activities. Air resource monitoring was accomplished through the assistance of personnel from the Rocky Mtn. Experiment Station and the Forest fire program.

**Table 3. Summary of Soil, Air, and Abandoned Mine Program Accomplishments, FY 1999.**

GPRA - R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	FY99 Budget	MAR Accomp.	Plan Obj. Accomp.	Comments/ Related Accomplishments
1.11. Air Quality	* Improve approximately 4 Air Quality Related Value (AQRV) at risk to maintenance or higher level of protection by 2007. (FP Ch. 1, Obj. 4, Page 5)	Between FP Base & Exper. Budget level	30 AQRV's inventoried	-----	* No AQRV's were protected at a higher than existing level for FY99. Focus was on continuation of monitoring activities.

2) **Recommendations to Maintain or Enhance Program** – With the transfer of the Forest program manager for soils, air and abandoned mines and the resignation of the term soil scientist, it is important to fill the position(s) to ensure continuation of the programs as well as to provide support services to other disciplines.

3) **Emerging Issues** – See recommendations above.

**d. Wildlife Program**

1) **Accomplishments** – Major accomplishments occurred in three areas: management indicator species (MIS) population trends; low elevation ponderosa pine inventory; and structural stage assessment. The objectives for FY 1999 were to establish a baseline for MIS comparisons and to develop a process to monitor and evaluate population trends in three categories. These objectives were mostly achieved. The three categories in order of priority were (1) MIS with baseline and trend data from existing outside resources; (2) MIS with baseline and trend data from existing ARP efforts; and (3) MIS without adequate baseline and trend data from any existing source. Low elevation ponderosa pine inventory was successfully carried out, achieving well over original acreage targets. This will “cover” the Forest through several years of project treatment objectives. The ponderosa pine inventory was accomplished by making some budget shifts that further put the overall wildlife program out of balance. A team defined the methods, approach, and schedule to ensure that adequate vegetation structural stage data is available to meet 5 and 10 year reporting requirements.

**Table 4. Summary of Wildlife Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>1.1. Endangered, Threatened, and Sensitive Species</b>	* Complete 3 or more TES habitat improvement projects annually. (FP Ch.1, Obj. 3, Page 5)	Between FP Base & Exper. budget level		100%	* 1480 a. of TES Terrestrial Resource/Enhance. completed for Boreal Toad hab. imp.(last phase)
<b>1.8. Wildlife &amp; Fish Habitat</b>	(On going management activity)	Between FP Base & Exper. Budget Level	2,285 ac.	<u>Less</u> than expected and <u>not balanced</u> by project type	* WL Hab. Rest/Enhance. (MAR Code #66.2)
	* Obliterate approx. 44.0 miles of system roads, trails & "ways" to improve wildlife habitat & watershed condition annually. (FP Ch.1, Obj. 1, Page 4)	Between FP Base & Exper. Budget level	1+mi (165 acres)	Little Wildlife Benefit; far less than expected	* See MAR Code #91.3 - final report. * 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.

**2) Recommendations to Maintain or Enhance Program** – For MIS, existing baseline data should be included in a database for futures comparisons, analyses and evaluations. Methods and data collection for MIS in Category 3 need attention. Prescribed burns should be continued at low elevation sites (old growth development areas) to address specific habitat needs in these areas. Coarse - scale treatments need to be more sensitive to fine - scale components 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 Threatened, Endangered, and Sensitive (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.

**3) Emerging Issues** – The Forests and Grassland will be involved with all aspects of species viability, especially for species of common concern that are influenced at scales larger than the Forest (eg., lynx amendment and other species assessments). This represents a substantial work load plus a shift in program priority work.

**e. Watershed Program:**

**1) Accomplishments** – The hydrology organization remained stable during FY 1999, with three hydrologists providing services to Districts. Establishment of reference reaches has provided information on the stability and morphology of high quality stream reaches.

**Table 5. Summary of Watershed Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>1.4. Conserve Watershed, Riparian, and Aquatic Systems</b>	* Improve the watershed condition of approximately 6 sixth-level watersheds by 2007. (FP Ch.1, Obj. 7, Page 5)	Between FP Base & Exper. budget level	Class 1 – 41 Class 2 – 87 Class 3 - 19	-----	* No WS have been improved sufficiently to change cond. class, but road obliteration and WS improvement projects are progressing toward goal. Inventory is continuing 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)	Between FP Base & Exper. Budget level	52.6 mi. 188% of MAR target	>100% App. 50% benefited watershed condition	*See MAR Code #91.3 - final report. *Higher mileage is due to having to reclose roads previously closed. * 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.

R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	FY99 Budget	MAR Accompl.	Plan Obj. Accompl.	Comments/ Related Accomplishments
	* Improve channel stability on 1.0 to 4.0 miles of stream by annually. (FP Ch.1, Obj. 9, Page 5)	Between FP Base & Exper. Budget level	-----	Within expected range	* Objective was accomplished on Eight Mile Creek, through change in management of the Cottonwood Grazing Allotment. While channel stability has improved, it has not yet reached desired condition.

2) **Recommendations to Maintain or Enhance Program** – Consistent funding is the key to the continuation of a stable and effective watershed program. Integrated planning across disciplines would also help to assure that multiple resource recovery efforts were directed to watersheds of the greatest concern.

3) **Emerging Issues:** - None at this time.

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

a. **Recreation Management Program:**

1) **Accomplishments** – In terms of Forest Plan Objectives, the Forest was only able to upgrade 30 developed sites to standard consistent with resource capability. On going management activities included working with the public on special activities like fishing derbies, music fests, and bike races. The Forest worked with volunteers on activities and projects associated with National Public Lands Day, the Continental Divide National Scenic Trail, 4 wheel drive adopt-a-road maintenance and projects, and educating the public about wilderness and backcountry ethics on both wilderness and non wilderness trails. Inventories and condition surveys were conducted on 325 miles of trails, 80 developed recreation sites and related structures to assist managers in planning maintenance and repair projects. A few recreation facilities were reconstructed or upgraded to standard when there was available staffing, and budget.

**Table 6. Summary of Recreation Management Program Accomplishments, FY 1999.**

R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	FY99 Budget	MAR Accompl.	Plan Obj. Accompl.	Comments/ Related Accomplishments
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<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>2.1. Recreation Opportunities</b>	* Upgrade 60 to 75 developed facilities to standard annually consistent with resource capability. (FP Ch. 1, Obj. 4, Page 7)	Below FP Base budget level	-----	44%	* Canyon Lakes RD - 21 sites (Kelly Flats, Sunset, Narrows & Poudre Park); Sulphur RD – 9 sites.
	* Reconstruct or rehabilitate up to 60 high-impact, dispersed camping areas annually consistent with resource capability. (FP Ch. 1, Obj. 1, Page 7)	Below FP Base budget level	-----	0%	* The deferred maintenance and condition survey is in progress to determine specific areas needing attention. Minimum accomplishment by field crews only.
	* Construct up to 30 new dispersed campsites annually consistent with resource capability (FP Ch. 1, Obj. 3, Page 7)	Below Base budget level; 0 funding	-----	0%	* LT has deferred these expansions until existing sites can be inventoried and properly maintained.
	* Provide a satisfactory recreational experience for at least 70% of Forest & Grassland visitors annually. (FP Ch. 1, Obj. 5, Page 8)	Below Base budget level	-----	Unk. at this time due to lack of info.	* No information available for FY99.
<b>2.2. Wilderness &amp; Special Area Opportun.</b>	* Provide designated wilderness campsites where resource impacts are high & consistent with resource capacity. (FP Ch. 1, Obj. 3, Page 7)	Below Base budget level		Unknown	* Canyon Lakes RD - 4 campsites.

**2) Recommendations to Maintain or Enhance Recreation Opportunities** - The recreation information management system (meaningful measures - MM) needs to be fully utilized to insure adequate levels of recreation funding. Inputs from the Scenery Management System and deferred maintenance are also needed prior to establishing a forestwide Limits of Acceptable Change (LAC) process. An LAC process should be developed as soon as other priorities are completed and funding is available. The Forest needs to

develop an interim strategy for dealing with recreation use problems until a 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.

3) **Emerging Issues** – The effects of increased mountain biking, shifts in recreation user preferences and settings; the value of scenery to the recreation experience.

**b. Scenery Management Program:**

1) **Accomplishments** - Partial implementation of the Scenery Management System (SMS) has been initiated.

**Table 7. Summary of Scenery Management Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>2.8. Scenery</b>	(On going management activity)	Below FP Base budget level	-----	-----	* Part of project planning, administration and implementation. Periodic on-site inspections for compliance.

2) **Recommendations** - Improvement to the new Scenery Management System(SMS) should be made when budget conditions allow. The 'visual resource' should receive more consideration in all EAs' and EISs' as a matter of law and policy.

3) **Emerging Issues** – The value of scenery in the recreation experience, user perception of management practices from the visual condition of the landscape.

**c. Noxious Weeds Program:**

1) **Accomplishments** - The Forest/Grassland completed a noxious weed management plan this year incorporating awareness, prevention, inventory planning, treatment, monitoring, reporting and management objectives. A decision on methodologies will be completed in FY00. The Forest/Grassland treated 320 acres of noxious weeds this year. Inventory of noxious weed infestations continued.

2) **Recommendations to Maintain or Enhance Program** - Consistent annual funding; development of relationships with partners (i.e. counties) by formalizing agreements; continue development of inventory and spatial program for noxious weeds; and recognition of weed impacts across all disciplines.

3) **Emerging Issues** - The effectiveness of selected noxious weed control methods; invasion of noxious weeds from private lands to FS lands and vice-versa; public awareness of the noxious weed problem.

**d. Rangeland Management Program:**

1) **Accomplishments** - Managed 30 allotments to standard; completed 1 environmental assessment and partially completed 3 environmental assessments for allotment management plan revisions; conducted allotment management plan monitoring on 3 allotments; and rebuilt approximately 5 miles of fence which was damaged by a prescribed fire project. Inventoried approximately 33% of total number of rangeland improvements on Forests and Grassland.

**Table 8. Summary of Rangeland Management Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>2.5. Grazing</b>	(On going management activity)	Below FP Base budget level	2 Structure 30 Allot. 1 Allot. 9,650 ac.	-----	* Range Structural Improve. (MAR Code #30.1) * Allotment Administration. (MAR Code #75.1) * Allotment s Analyzd/Dcsn. (MAR Code #75.3) * Rangeland Moni/Eval. (MAR Code #76.1)

2) **Recommendations to Maintain or Enhance Program** - Consistent annual funding; implement organizational development recommendations; continue to complete environmental assessments for allotment management plan revisions.

3) **Emerging Issues** - The effect of the Black Hills appeal on rangeland management; real property inventory and documentation; and allotment management plan revision schedule effects on permittees and publics.

**e. Timber Program:**

1) **Accomplishments** – The Forest had a shortfall in timber volume offered target. This shortfall resulted from the unavailability of water based tree marking paint, which was required after May 15, 1999, and delay in completing NEPA requirements in a timely manner. These shortfalls are expected to be accomplished in FY00 in addition to the FY00 program. The timber stand improvement target was accomplished but due to the limited availability of funding it was significantly less than the annual average in the plan. Artificial reforestation, planting was accomplished on 175 acres. This planting eliminated all of the identified reforestation backlog on the Canyon Lakes District.

**Table 9. Summary of Timber Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>2.4. Forest Products</b>	(On going management activity)	At FP Full Budget level	2,022 mbf 1,270 mbf	31% of ASQ -----	* Volume Offered, New. (MAR Code #17.1) * Volume Offered, SSF. (MAR Code #17.2)

2) **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. There is a need to identify and schedule for planting areas on the Sulphur District that are not satisfactorily regenerated.

3) **Emerging Issues** – None identified.

**f. Heritage Resources Program:**

The Forest Heritage Program is divided into two elements: compliance, or work related to Section 106 of the National Historic Preservation Act (NHPA), and program, or activities related to Section 110 of the same law. Compliance work is funded by benefitting function, and includes input into timber sale analyses, range allotment management plans, road construction activities, etc. Program

work is funded from the NFHR budget line item, and includes public outreach, research, interpretation, and stewardship of heritage resources.

- **Compliance**

1) **Accomplishments** - During FY 1999 a total of 73 projects was submitted to the heritage program staff for compliance review. Of these, 47 required survey, field review, or other detailed involvement by the heritage staff. The table below summarizes the results of compliance inventories carried out in FY 1999, as well as trend data from previous years.

**Table 10. Heritage Resource Inventory Trend Data, FY 1996-1999.**

<i>Year</i>	<i>Acres Surveyed (MAR61.9)</i>	<i>Sites Evaluated (MAR65.2)</i>
1999	5711	95
1998	6013	92
1997	3134	113
1996	9387	193

2) **Recommendations** – While compliance work is currently being accomplished on *most* projects in a timely and legal fashion, we recommend that the heritage staff be more closely integrated into the NEPA process on large projects, and that smaller projects involve the heritage staff much earlier in the planning stages.

During FY1999, we successfully created GIS coverages for the Pawnee National Grassland. We must continue to focus on this effort if our compliance and management goals are to be successfully met in the future.

3) **Emerging Issues:**

An important emerging issue related to our heritage compliance is the adoption in July of the new implementing regulations for the NHPA, 36CFR Part 800. These new regulations greatly expand the Forest's requirements to seek out and involve Indian Tribes and interested parties during project planning and analysis. While we are still working to interpret the new regulations, they will no doubt change the way that we do business. Generally, they are much more rigorous than the old regulations, and will require extensive documentation showing potential appellants that we have followed the process to the best of our ability.

- **Program**

1) **Accomplishments** - The centerpiece of the Forest Service heritage program is Passport In Time (PIT). It is through PIT that we achieve most of our program goals of site stewardship, public participation, education, interpretation, and research. During FY 1999, we hosted two PIT projects resulting in 1,599 hours of contributed labor, at a value of over \$18,000. Additionally, the heritage program participated in three Challenge Cost Share (CCS) agreements with private and state partners, with total contributions of over \$37,000.

**Table 11. Heritage Program Activity Trend Data, FY 1996 – 1999.**

<i>Year</i>	<i>Sites Interpreted (MAR65.3)</i>	<i>Sites Preserved &amp; Protected (MAR65.4)</i>
1999	14	29
1998	9	32
1997	0	N/A
1996	5	N/A

2) **Recommendations** - Because of flat and declining budgets, we must continue to find new and creative ways to accomplish heritage program goals. We are currently using CCS agreements, University partnerships, volunteer projects, and grant opportunities to fulfill stewardship, interpretive, and research obligations under Section 110 of the National Historic Preservation Act. We must expand and deepen our existing partnerships, and seek out new and effective ways of funding heritage program activities.

3) **Emerging Issues** – The adoption (July, 1999) of the new implementing regulations for the NHPA, 36 CFR Part 800. This expands the Forests and Grassland requirements to seek out and involve Indian Tribes and interested parties during project planning and analysis. It also requires extensive documentation showing potential appellants that the FS has followed the process to best of its ability.

**3. Ensure Organizational Effectiveness:**

**a. Lands Program:**

1) **Accomplishments** - The Arapaho and Roosevelt National Forests and Pawnee National Grassland acquired approximately 552 acres of private land located in Clear Creek and Gilpin Counties. The land acquired by the Forest Service is made up of 131 separate mining claims surrounded by National Forest System land. Land and Water Conservation Funds, Small Tracts Act, and Land Exchange were Federal authorities used for this acquisition within the context of a Land Bank arrangement.

**Table 12. Summary of Lands Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
<b>2.6. Mineral &amp; Energy Resources</b>	(On going management activity)	At FP Full budget level	5 Oper. 84 Oper. 84 Oper. 0 ac.	----- ----- ----- -----	* Energy Oper. Processed. (MAR Code #87.1) * Energy Oper. Adm. - Std. (MAR Code #87.2) * Total Energy Operations. (MAR Code #87.3) * Energy Acres Processed. (MAR Code #87.5).
<b>2.7. Geologic &amp; Paleontologic Resources</b>	-----	Unknown	4 Sites	-----	* Geologic Management Areas Administered (MAR Code #84.7)
<b>2.9. Special Uses</b>	* FLPMA, SUP applications on file & processed; expired permits, permits needing new auth. (FP Ch. 1, Obj. 2, Page 9)	At FP Base budget level	96 cases	229%	* Plan objective was 42 cases annually. (MAR Code #89.2)
	* Recreation Special Use	Below FP	474		* See MAR Code # 62.5.

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
	Permits. (On going management activity)	Base budget level	permits		
	* Authorizations administered to standard. (On going management activity)	Below FP Base budget level	405 permits		* See MAR Code #89.3.
<b>3.1. Capital Infrastructure</b>	* Maintain 20 percent of system roads & trails annually. (FP Ch. 1, Obj. 11, Page 8).	At Exper. Budget level	510 road mi 550 trail mi	160%	* "Overachievement" was due to 10% monies available for program initiatives - specifically road and trail maintenance.
	* Consolidation of lands - ROW acquisition. (FP Ch. 1, Obj. 1, Page 9)	At FP Base Budget level	55 cases		(Mar Code #34.0)
<b>3.2 Land Ownership</b>	* Encroachments; STA applications on file & processed. (FP Ch. 1, Obj. 2, Page 9)	At FP Base Budget level	8 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 9)	At FP Base Budget level	365 ac.	36% of low end of range of plan obj.	* Plan objective was from 1,005 ac. to 4,905 ac. annually. (MAR Code #32.1)
<b>3.3. Boundary &amp; Title Management</b>	* Identify NFS Boundaries. (FP Ch. 1, Obj. 1, Page 9)	At FP Full Budget level	35 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 9)	At FP Base Budget	4.0 mi.	89% of low end of range	* Plan objective was from 4.5 to 6.5 mi. annually. (MAR Code #90.1)

R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	FY99 Budget	MAR Accomp.	Plan Obj. Accomp.	Comments/ Related Accomplishments
		Level		of plan obj.	

2) **Recommendations to Maintain or Enhance Lands Team Efforts** – The lands team needs to continue to work on improving customer service response time, improving efficiencies in lands business processes, increasing consistency among Ranger Districts, building better accountability in the lands program, and improving the quantifying lands team goals and objectives.

3) **Emerging Issues** - Beaver Brook Watershed Acquisition, Clear Creek Ranger District. The Beaver Brook Watershed is a 5980 acre parcel that serves as an important wildlife refuge and as one of the last remaining intact low-elevation, forested ecosystems along the Front Range of Colorado. The majority of Watershed (approximately 5500 acres) has been owned by the City of Golden since the 1920's, and is currently for sale. The remaining acreage is owned by the State of Colorado Land Board which is also considering selling their portion of the property. Because of the regional importance of this property to the continued ecosystem health of the area, a myriad of public and private organizations support the preservation of the Beaver Brook Watershed. These include the: Colorado State Forest Service, Colorado Division of Wildlife, Clear Creek County, Lookout Mountain Water District, private land trusts such as the Rocky Mountain Elk Foundation, Colorado Open Lands, and the Mountain Area Land Trust, and several other local advocacy groups and homeowners associations. The proposed acquisition of this parcel could take place over three years.

**b. Travel Management Program:**

1) **Accomplishments** - **Travel Management Plans:** Several districts began working on Travel Management Decisions in FY99. Boulder Ranger District is about 35% complete on NEPA for the Winiger, Caribou and West Magnolia Areas. Four thousand scoping documents were sent to the public, five open houses were conducted, alternatives were developed and the NEPA analysis is in progress. Clear Creek Ranger District has held three pre-scoping public open houses and is in the process of reviewing comments for the development of travel management alternatives for the entire district. Canyon Lakes Ranger District has included some travel management decisions as part of their Roach Vegetative Management Project.

**On-the-ground activities:** Projects implemented by water and soil initiative funding include trailhead construction, Buffalo Creek bridge replacement, and Nunn Creek road relocation. 591 miles of wilderness and nonwilderness trail and 527 miles of road were maintained or reconstructed. Most of the trail mileage was accomplished with volunteers groups, such as the Adopt-A-Trail program and about half of the road maintenance work was performed by various Counties. Fifty-three miles of road were decommissioned this

past year. About a third of the mileage decommissioned consisted of system road miles (on PNG) and the remaining consisting of 're-closures' or newly discovered 'resource damage'. A great deal of funding and time was spent on 're-closing' previously closed or obliterated roads. This work involved replacing damaged gates, fences, boulders and signs. On one district, all closures (signs and gates) installed in FY98 were breached and thus all gates and signs had to be replaced. Recurring travel management related work such as managing seasonal gate closures, installing information boards and signs, reinforcing existing closures and obliteration of parallel roads were also performed. Many more 'two-tracks' exist on the Pawnee than were previously inventoried, which is likely to increase travel management efforts there.

**Table 13. Summary of Travel Management Program Accomplishments, FY 1999.**

<b>R.O. Goal Category</b>	<b>Forest Plan Mgt. Emphasis Objectives</b>	<b>FY99 Budget</b>	<b>MAR Accomp.</b>	<b>Plan Obj. Accomp.</b>	<b>Comments/ Related Accomplishments</b>
2.1 Recreation Opportunities – Travel Management	* Convert approx. 30.0 miles of "ways" to system roads or trails annually. (FP Ch.1, Obj. 6, Page 8)	Below FP Base budget level	-----	0%	* Travel mgmt emphasis was on TM planning for these types of projects. Emphasis was placed on existing system problems of maintenance, reconstruction and remedying resource damage as it was found. This was accomplished w/10% money (initiative funding to rehabilitate watersheds).
	* Reconstruct 1.5 to 7.0 miles of both system roads and trails annually. (FP Ch. 1, Obj. 7, Page 8).	Above FP Full budget level	16.7 mi. of roads. 41.2 mi. of trails.	800%	* See MAR Code #93.2 - 1 & 2 -final report.  * See MAR Code #21.0 - final report. * Overachievement was due to available 10% monies.
	* Develop approx. 2.5 to 11.0 miles of new nonmotorized and motorized trails annually. (FP Ch. 1, Obj. 8, Page 8)	Below FP Base budget level	0	0%	* Travel mgmt emphasis was on TM planning for these types of projects. Emphasis was placed on existing system problems of maintenance, reconstruction and remedying resource damage as it was found. This was accomplished w/10% money.
	* Construct 1.0 to 4.0 miles	Below	0	0%	"

R.O. Goal Category	Forest Plan Mgt. Emphasis Objectives	FY99 Budget	MAR Accomp.	Plan Obj. Accomp.	Comments/ Related Accomplishments
	of new system roads annually. (FP Ch. 1, Obj. 9, Page 8)	FP Base budget level			
	* Construct approx. 1.0 to 4.0 miles of system trails annually. (FP Ch. 1, Obj. 10, Page 8)	Below FP Base budget level	-	0	* Travel mgmt emphasis was on TM planning for these types of projects. Emphasis was placed on existing system problems of maintenance, reconstruction and remedying resource damage as it was found. This was accomplished w/10% money.
<b>3.1. Capital Infrastructure</b>	* Maintain 20 percent of system roads & trails annually. (FP Ch. 1, Obj. 11, Page 8).	At Exper. Budget level	510 road mi 550 trail mi	160%	* "Overachievement" was due to 10% monies available for program initiatives - specifically road and trail maintenance.

**2) Recommendations to Maintain or Enhance Program** - Recommendations to maintain or enhance the travel management program are (a) ensure that travel management planning and implementatio (Roads Analysis) ~~that~~ incorporates Forestwide standards and guidelines and is conducted through an interdisciplinary approach; (b) continue to improve relationships with volunteer groups and aggressively seek out challenge cost share projects; (c) continue to sign roads and trails for the types of uses allowed; (d) specify why roads are closed or decommissioned (e) minimize illegal use through enforcement; and (f) work with the public and adjacent landowners ~~in~~ to inform them of ARNF/PNG travel regulations.

**3) Emerging Issues**

a) The cost and time to complete travel management planning is higher than expected. This is due to the high levels of public interest and opposing viewpoints on what type and how much of a travel system is needed to serve public and administrative needs. Concern is developing about meeting Forest Plan objectives to due to higher planning costs and having to “re-close” previously closed roads and trails.

b) The need for aggressive law enforcement and follow up on the districts where the transportation system is being actively signed and managed. The 'closed unless designated open' regulation should be actively enforced. This may help to educate to public on the travel regulations.

c) Reevaluate the Forest Supervisors Order on allowing camping or picnic parking within 300 feet from authorized travel routes. Some forest visitors have been extending unauthorized roads beyond the 300 foot limit. This has created sanitation and erosion problems, resulting in users not knowing where the travel route legally ends. This has been identified as a possible reason for extensive uncontrollable resource damage occurring off system roads.

### **C. Public Involvement**

**1. FY 99 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 stakeholders giving their perception of the Forests and Grasslands management activities. The examples of key sources of inputs are:

- Overview of direct volunteer involvement forestwide during FY 99.
- 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. Overview of Volunteer Involvement:** Based upon information from the FY 1999 Human Resource Program Accomplishment Report, volunteer efforts equated to 48.2 person years with an appraised value of \$1,138,151.00. These efforts were in eight resource categories with 85.2% occurring in recreation.

**b. Effective Partnerships:**

1) Colorado Association of 4 Wheel Drive Clubs Inc. spent 2,826 Adopt-A-Road/Volunteer Project Hours on four of the Forests' districts. Their work included maintenance of 4WD roads and facilities. Their objective has been to maintain public access to public lands by mitigating natural resource impacts.

2) Poudre Wilderness Volunteers Group has assisted in managing and protecting wilderness and backcountry areas. They have also recruited, trained, and equipped field citizen volunteers to serve as wilderness rangers with the objective of educating the public about wilderness use. During FY 1999 they contacted over 22,000 wilderness and backcountry users. Lost hikers have been found and forest fires averted by their prompt action.

**d. 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.

**e. Field Trips:** Two examples of stakeholder involvement are a travel management field trip to look at both motorized and nonmotorized trails, and a source water assessment field trip cosponsored by the ARNF/PNG and the cities of Ft. Collins and Greeley.

Twenty five people (stakeholders and Forest Service personnel) participated in the travel management field trip. The Sulphur Ranger District hosted the trip. Discussions were held on mountain biking issues and social trails near Winter Park. The motorized trail system implemented in the Stillwater area near Lake Granby was reviewed. The main benefits of the field trip were the sharing of information and ideas among participants. ~~Very important to benefits~~ Significant insight was gained by observing problems on-the ground, reviewing methods used to resolve problems, and discussing alternative options to solve problems

The water source assessment field trip took place in June, 1999. The location was the Poudre River canyon. The purpose was to develop open communication and sharing of information among stakeholders regarding safe drinking water and resource management practices that affect water quality. There were over 30 participants. Participants were from Federal, State, and local entities; conservation organizations, water districts, and universities; and members of the general public. The outcome of this field trip was to set the framework for stakeholder involvement in subsequent source water assessment studies.

**f. Summary Evaluation - Public Involvement:** The Forest has been developing a stakeholder process to foster involvement in information sharing and partnership building. Partnership activities have included monitoring wilderness use and trail maintenance, 4wd maintenance and mitigation of resource damage, field trips to share information among stakeholders, and identify emerging issues. The Forest is following through on a survey to generate inputs from the public regarding their understanding and acceptance of plan implementation/management practices and identification of emerging issues.

#### **D. Effectiveness of Standards and Guidelines (S&G), Goals & Objectives**

The Forest has had two seasons to implement management actions under the direction of the Forest Plan. While 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) where possible. 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 99 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 F (Examples of Effectiveness of Standards and Guidelines for 1999 Projects Implemented per the Forest Plan).

### **1. Ensure Sustainable Ecosystems:**

a. Narrows Campground Reconstruction – S&G were incorporated into project design and implementation. A sediment fence to protect the Cache la Poudre River was installed and largely effective. Fence maintenance was needed to control impacts of summer thunderstorms.

b. Barrens 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. Temporary road reroute effects may have outweighed original road location prompting the need for the Forest to work more closely with contactors and operators.

c. Crosier Mountain Prescribed Burn – While S&G were incorporated into the prescribed fire project design, a post-burn severe thunderstorm led to soil erosion and productivity problems. Based on this review, additional project mitigation actions were developed. They have been applied to prescribed burns implemented since the Crosier Mountain Burn.

d. Hamilton Creek Colorado River Cutthroat Fish Barrier Program - S&G followed were less effective in the short-term but most effective for long-term TES habitat protection. There was insufficient contract administration (budget & staff constraints) resulting in some short-term mitigation not being completed. Repair of a concrete structure was made in the fall of 1999.

e. Air Visibility – Air quality Monitoring for Prescribed Fires - S&G were incorporated in burn permits. The Forest needs to develop a way to model and evaluate smoldering times to assure compliance with S&G. Conducted particulate monitoring with a Dataram on Rx burns to help establish a benchmark for use of Rx fire as an intermix tool.

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

a. 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.

b. Control and Inventory of Noxious Weeds, Implementation of Noxious Weed Management Plan – S&G were incorporated into planning, project design.

### **3. Ensure Organizational Effectiveness:**

a. 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.

## **E. Summary Evaluation and Conclusions**

### **1. 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.

### **2. Forest Programs:**

Reasonable progress has been made in year two to implement priority plan management objectives as well as maintaining ongoing management activities. While this progress demonstrates that the Forest is generally on track to meet objectives for the life of Forest Plan, budget limitations and changes in Forest priorities have resulted in ~~not fully~~ mixed results in achieving some plan objectives. The key points that surfaced in many of the program areas were:

- Virtually all programs have been moving positively towards accomplishing objectives. Factors that affect accomplishing objectives (budget limitations, changing Forest priorities, National priorities, and emerging issues) will require "internal" solutions (with shared inputs from stakeholders where appropriate).
- If there continues to be budget limitations and rapidly emerging issues, the Forests and Grassland may have to consider revising (scaling down) the levels of proposed accomplishment identified in plan management objectives and estimated outputs in the Supplemental Table.

### **3. Public Involvement:**

Forests and Grassland staff are working with volunteers and stakeholders to the extent ARNF/PNG personnel, time and resources allow. The volunteers and stakeholders have made major contributions, both in terms of time and assisting in accomplishing some day to day management activities and Forest Plan objectives. Through stakeholder participation on field trips, work shops and informal discussions, the Forest has received valuable inputs on emerging issues and management practices. The Forest needs to continue working with volunteers and stakeholders as staffing, resources and time permits.

### **4. Effectiveness of Standards and Guidelines, Goals & Objectives:**

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 evaluating the effectiveness of S&G's following plan implementation. The M&E IDT is collecting data to be able to address priority monitoring questions.

**IV. MONITORING & EVALUATION PROGRAM**

**A. Status of Previous Year's Recommendations**

Given that the Revised Forest Plan was approved two years ago there were a limited number of recommendations to achieve Forest Plan goals and objectives. These are summarized in the following table.

**Table 14. A summary of recommendations from the FY 1998 Monitoring and Evaluation Report and ARNF-PNG response to these recommendations.**

<b>FY 1998 Recommendation</b>	<b>Status of Recommendation</b>
<ul style="list-style-type: none"> <li>• Continue to support the Regional effort to encourage the leveling of the national budget.</li> </ul>	<ul style="list-style-type: none"> <li>• The Region has continued its effort to address this problem</li> </ul>
<ul style="list-style-type: none"> <li>• Continue to evaluate potential outside funding sources and take advantage of partnerships and volunteer opportunities to offset reductions in government funding.</li> </ul>	<ul style="list-style-type: none"> <li>• The Mt Evans Fee Demo has been initiated.</li> <li>• The Arapaho National Recreation Area Fee Demo has been approved as work to begin in FY 2000.</li> <li>• Based upon a source water assessment field trip with key water stakeholders, the potential exists for partnerships.</li> <li>• Volunteers have contributed 48.2 person years towards accomplishing Forest Plan Objectives.</li> </ul>
<ul style="list-style-type: none"> <li>• Take a cautious approach to approving new recreation special use permits until the Limits of Acceptable Change (LAC) process is finalized.</li> </ul>	<ul style="list-style-type: none"> <li>• Meaningful measures and deferred maintenance have taken priority over LAC. These activities have been providing detailed condition and financial data for managing recreation use and facilities.</li> <li>• The ARNF-PNG is continuing to take a cautious approach to approving recreation special use permits using best available information.</li> </ul>
<ul style="list-style-type: none"> <li>• Continue the monitoring and evaluation direction established for FY 1999 through the FY 2000 Annual M&amp;E Operational Plan to validate accomplishment of plan objectives, effectiveness of management practices, effectiveness of</li> </ul>	<ul style="list-style-type: none"> <li>• MIS baseline data was established.</li> <li>• A process for monitoring and evaluation trends was developed.</li> <li>• Wildlife habitat inventory was continued.</li> <li>• Successional stage assessment was updated and refined through the</li> </ul>

standards and guidelines, and identification of emerging issues.	Integrated Resource Inventory work. <ul style="list-style-type: none"> <li>• Soil and air quality monitoring were continued.</li> <li>• M&amp;E fieldwork reviewed prescribed (Rx) burns (Crosier and Winiger Ridge), and travel mgt. issues on the Sulphur R.D.</li> </ul>
<ul style="list-style-type: none"> <li>• Follow through on recently approved stakeholder involvement process to maintain a positive outreach to communities, the public.</li> </ul>	<ul style="list-style-type: none"> <li>• Ranger Districts involved stakeholders in reviewing district projects.</li> <li>• Stakeholders actively participated in the following: the source water assessment field trip and discussed partnership opportunities; travel management review for the Sulphur Ranger District; and discussions about the effects of smoke and changes in air quality to citizen health resulting from Rx burns.</li> </ul>

The status of the FY 1998 report recommendations is that they are “work in progress” and intended to improve the Forest Plan, Unit Operations, and needed Monitoring and Evaluation information. There has been a concerted effort to improve interdisciplinary involvement between and among Forest units in implementing the Forest Plan. Better monitoring of recreation use forestwide has been partially addressed through the planning associated with the National Recreation Survey. The Forest has been exploring creative funding options including the use of on-the-ground volunteers to offset budget constraints. The M&E IDT has initiated discussions to insure needed information about the accomplishment of Forest Plan objectives and effectiveness of management practices is collected. M&E projects outlined in the FY 1998 Annual Report have all been initiated and are in the process of securing relevant information to better address issues associated with TES, wildlife habitat trends, watershed assessment, and soil and air monitoring. The information from these projects provide the baseline information for several M&E activities that need to be accomplished in FY 2000 and FY 2001.

### **B. FY 2000 Monitoring & Evaluation Activities**

**1. Proposed Plan Amendments, Technical Corrections Leading to Revisions** - Items under consideration for **amendments** are the Williams Fork Area, the Scenery Management System, the National Roadless Initiative, the Regional Threatened, Endangered and Sensitive species issue (lynx and boreal toad), and species viability of MIS/TES species. Work this year will focus on top priorities that are the lynx, boreal toad, The Williams Fork Area, Black Hills appeal issues, and the Roadless Initiative. Items under consideration for **technical corrections** are the Supplemental Tables, annual Forest Plan objectives, and monitoring to “come in line” GPRA goal and objective reporting requirements. Many of these items have been on hold. The ability of the Forests and Grassland to give active consideration to these items will depend on available budget and staff.

**2. Additional Monitoring Needs (Annual M&E Operational Plan)** – The FY 2000 monitoring and evaluation activities described below demonstrate the commitment the Forest 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 2000 Annual Operational Plan (AOP) will be used to develop the monitoring and evaluation report for FY 2000 plus be the basis for the FY2001 AOP to insure monitoring needs are met. The specific techniques and protocols for FY 2000 monitoring activities are found in project work plans. The following FY 2000 activities were developed in conjunction with the annual budget and the work planning process and approved by the Leadership Team.

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

- Colorado River Cutthroat Trout - Conduct status and trend monitoring in various tributaries to the Colorado River. Habitat and population inventory is conducted by establishing methods to contribute to species recovery and NFMA MIS monitoring requirements. Total planned costs are \$57,000.
- Management Indicator Species Population Trends – This is a multi-year project designed to assure that 36CFR219.(a)(6) is met. Steps include 1) establishment of MIS baseline, 2) develop a process for monitoring and evaluating population trends, 3) monitor population trends, and 4) do the same (steps 1-3) for certain fine-scale habitats that we don't have data on. In FY00, we will test steps 1 and 2 and emphasize steps 3 and 4. Total planned costs are \$18,000.
- Monitor MIS on the Pawnee Grassland – Project is designed to monitor prairie dogs, burrowing owls, leopard frogs, brown thrasher and mule deer. It includes survey development, data management, and reporting. Project is accomplished in cooperation with the Colorado Division of Wildlife, the National
- Air Monitoring – Continue high elevation lake water quality sampling in cooperation with the Pike & San Isabel National Forest and Rocky Mountain Forest & Range Experiment Station. Continue smoke monitoring for prescribed fires in cooperation with Rocky Mountain Park. Total planned costs are \$10,000.
- Watershed Assessment – Identify high priority watersheds for outyear rehabilitation utilizing district input and Forest Plan watershed assessment. Inventory water pollution sources within priority watersheds and identify rehabilitation projects. This work is being funded outside of NFIM in FY 2000.
- Soil Monitoring – Not funded in FY 2000.
- Successional Stage Assessment – This has been combined into ongoing Integrated Resource Inventory for vegetation, land types and soils, and water and hydrology.

#### **b. Provide multiple benefits for people within the capabilities of ecosystems**

- Recreational User Survey – This is a national project that surveys users leaving the national forest to determine the quality of their experience. It is a one year survey starting in January 2000. Total planned costs are \$110,000 to \$180,000.

- Limits of Acceptable Change and Carrying Capacity study. Further work has been postponed until other recreation priorities are accomplished or more funding becomes available.

**c. Ensure Organizational Effectiveness**

- Plan maintenance – Plan amendments on TES species will continue. Supporting the regional viability analysis will also continue. The Williams Fork amendment is the next highest priority and will be worked on if funding is available.
- Monitoring and Evaluation Team – Covers the salary for the Forest Plan Monitoring and Evaluation Team members. Work activities include collection of information, assessment of information collected, preparation of reports or activity reviews, and field trips with stakeholders. Total planned costs are \$98,000.
- Other M&E activities – Includes activities to monitor site specific projects such as timber sales, grazing activities, wildlife habitat improvement projects, and prescribed burning, etc. It establishes the basis for improved interdisciplinary involvement in project planning, monitoring and evaluation. The level and intensity of the activities will vary with staffing, the budget and other forest priorities. Total costs are tied to salary for planning and implementing projects to meet Forest Plan objectives.

**d. Summary:**

FY 2001 Annual Operational Plan will be an extension of the FY 2000 AOP. Given that the Forest Plan has only been available and used for two field seasons 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 2000 and projected into FY 2001 reflect priority activities identified in the Revised Forest Plan needing more complete information. These activities are also consistent with concerns that stakeholders have shared with the Forest through the stakeholder process.

**C. Recommended Research**

Priority research needs include:

- Develop methodology to evaluate smoke output from smoldering fires.
- Maintain studies on the long term so that both MIS and TES species changes can be related to habitat characteristics.

**V. APPENDICES**

**A. List of Preparers:**

Howard Sargent

Forest Planner

Deb Jensen	Planner
Howard Alden	Recreation Planner
Karen Roth	Interdisciplinary Planner
Mike Foley	Fire/Veg. Mgmt. Officer
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
Pat Hessenflow	Range Conservationist
Maryanne Kurtinaitis	Lands Forester
Rick Dustin	Recreation
Jeff Overturf	Heritage Resources

**B. 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.

**C. Disclosure of Report:**

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

**Appendix D. Crosswalk of Regional Office Goals (GPRA), Objectives and Measures with 1997 Revised LRMP Goals.**

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 Ecological Integrity	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 E. Legally Required Monitoring Activity Accomplishments for FY 1999.**

<b>R.O. Goal Category</b>	<b>Legally required Activity (action, effect or resource)</b>	<b>Freq. of Measurement After Plan</b>	<b>Minimum Reporting Freq.</b>	<b>Comments/ Related Accomplishments</b>
<b>Ensure Sustainable Ecosystems</b>				
	Lands are adequately restocked. 36 CFR 219.12(k)5(i)	1st, 3rd, and 5th years Following Final Harvest	Years 3 & 5	In FY99 1,164 acres were certified as naturally regenerated and 175 acres were planted.
	Lands not suited for timber production. 36 CFR 219.12(k)5(ii)	Year 10	Year 10	None identified in FY 99. 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 99. Since FP implementation, clearcut unit sizes have averaged 12.9 acres and ranged in size from 2.3 to 37.0 acres.
	Control of destructive insects and diseases. 36 CFR 219.12(k)5(iv)	Annually	Annually	There was no indication during FY99 that management activities have increased insect and disease populations to potentially damaging levels. However, mountain pine beetle populations are increasing naturally in ponderosa pine along the Front Range and in lodgepole pine in Grand County.
	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 99 we mostly established the process and baseline for making comparisons and the methodology for monitoring trends of each MIS. In FY 2000 we will begin to gather data.
<b>Provide Multiple Benefits for People</b>				
	Effects of off-road vehicles.	Annual	Years 5 & 10	Through an interim directive from the Forest

	36 CFR 219.21	Analysis years 5 & 10		Service Washington Office, all road decisions will soon be using the <u>Roads Analysis: Informing Decisions About Managing the National Forest Transportation System</u> document. This document features a new science-based road analysis process to better identify the minimum road system needed to meet forest plan goals and standards; emphasizing maintenance and restoration of needed roads; scheduling the decommissioning of unneeded roads; and more carefully considering proposals to build new roads. Since this Road Analysis process is structured to compliment Forest Plans and NEPA, 36 CFR 219.21 (g) will be evaluated.
<b>Ensure Organizational Effectiveness</b>				
	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", 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 Appendix C. 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 Appendix D. 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 99 Budget allocation and actual cost info. See S Table.
	Effects of management practices.	Years 5 & 10	Years 5 & 10	36 CFR 219.11(d) directs Forests to include in each plan requirements for monitoring and evaluation to

	36 CFR 219.11(d)			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.
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**Appendix F. Examples of Effectiveness of Standards and Guidelines, FY 99 Projects Implemented Per the Forest Plan.**

<b>FY 99 Project Examples by R.O. Goal Category</b>	<b>Project Status</b>	<b>Incorporated S&amp;G Into Project Design</b>	<b>Were S&amp;G Effective in Project Implementation</b>	<b>Comments Including Recommended Changes</b>
<b>Ensure Sustainable Ecosystems</b>				
<b>a. Barrens Timber Sale.</b>	Complete	Yes, part of project planning & implementation.	Yes, as designed.	* Riparian buffers implemented as intended and effective. Temporary road reroute to protect wetland area was implemented as intended, but net impacts from additional road template may have outweighed impacts that would have occurred if existing template had been used. Work more closely to balance road impacts on other projects.
<b>b. Narrows Campground Reconstruction</b>	Complete	Yes.	95% or greater success.	* Sediment fence to protect Cache la Poudre River was installed and largely effective. Small areas of fence needed maintenance during construction to control impacts of summer thunderstorms.
<b>c. Como Creek Culvert Project Revegetation Efforts</b>	Ongoing	Yes, part of project planning & implementation.	Partially after one year.	* Revegetation with willows for fish cover 50% successful. Revegetation with upland trees and shrubs for visual quality was not successful; due to harshness of site, plants died. Reseeding to control

<b>FY 99 Project Examples by R.O. Goal Category</b>	<b>Project Status</b>	<b>Incorporated S&amp;G Into Project Design</b>	<b>Were S&amp;G Effective in Project Implementation</b>	<b>Comments Including Recommended Changes</b>
				erosion was successful, but only 75% successful at preventing establishment of noxious weeds. Follow up revegetation is underway.
<b>d. Little Vasquez Culvert Improvements</b>	Complete	Project designed to address FP standard to provide fish passage.	Yes, as designed.	* Initial results look encouraging, culverts will need to be monitored at higher flows to see whether fish passage occurs.
<b>e. Table Mountain Timber Sale</b>	Project Layout	Yes	Yes if implemented as designed.	Timber standards and guidelines were considered in project design and preparation.
<b>f. Control and Inventory of Noxious Weeds</b>	On going	Yes	Fair	Need to implement weed management strategy and weed inventory plans.
<b>g. Implementation of Noxious Weed Management Plan</b>	On Going	Yes – By project design.	Good	Need to insure integration of plan into all resource project planning and implementation.
<b>h. Crosier Mountain Prescribed Burn</b>	Complete	Yes	Partially	The fire guideline was accomplished through project implementation but secondary effects from a post-burn severe thunderstorm led to noncompliance of soil erosion and productivity S&G". These possible secondary effects need to be considered in future Rx burn project designs.
<b>i. Camp Bethel Boreal Toad Habitat Improvement</b>	Complete	Yes – via project design & implementation.	Good to excellent based upon site inspection	In the last phase of CDW/CDOT/FS partnership. Results will be most apparent by June/July 2000.

FY 99 Project Examples by R.O. Goal Category	Project Status	Incorporated S&G Into Project Design	Were S&G Effective in Project Implementation	Comments Including Recommended Changes
<b>j. Herman Gulch Wetland Mitigation</b>	Incomplete	Yes, in part	No, not yet.	Better quality control of work; requirements not ful-filled. Project not yet acceptable.
<b>k. TRI State Powerline</b>	In Use Complete W/O Avian Mitigation	Yes, in part	No – required avian mitigation not in place	Permits requirements not ful-filled. Need improved way to work with consultants and contractors.
<b>l. Hamilton Creek Colorado River Cutthroat Fish Barrier Program.</b>	Complete	Yes	See 1998 report.	* Monitoring indicated that repair of concrete structure was needed; repairs were made in fall 1999.
<b>m. Music Mountain Timber Sale</b>	Ongoing	Yes	Yes, if implemented as designed.	* Activities within 300 feet of TES stream were included in initial design, although standard for protection was included in analysis. Field work is underway to modify activity boundaries to comply with Standard 8.