

**ARAPAHO AND ROOSEVELT NATIONAL FOREST
AND PAWNEE NATIONAL GRASSLAND
FISCAL YEAR 1997 ANNUAL MONITORING AND EVALUATION REPORT**

CERTIFICATION:

The 1984 Arapaho Roosevelt National Forest and Pawnee National Grassland Land and Resource Management Plan has been revised to incorporate needed changes identified in the Five Year Monitoring and Evaluation Report, the Analysis of the Management Situation, and the Revised Draft Plan and Environmental Impact Statement. The revised Final Plan and Record of Decision were approved November 19, 1997. Given that the revised Final Plan has just been approved, there is no need for change to the Revised Forest Management Plan and FEIS at this time.

/s/ Peter L. Clark
Forest Supervisor

INTRODUCTION:

This report describes the monitoring and evaluation work completed during FY 1997. The staff on the Arapaho Roosevelt National Forest and Pawnee National Grassland (ARNF-PNG) completed the Final Revised Land and Resource Management Plan and Environmental Impact Statement in late 1997. Most of the monitoring and evaluation efforts for strategic planning were directed at holding briefings, open houses, and meetings; evaluating and responding to public comments in order to finalize the draft Plan and EIS.

A second purpose of this report is to provide the information needed from the ARNF-PNG so Regional Office staff members can complete the State of the Region Report. The Monitoring Results section of this report is organized by the seven items requested in the Region 2 State of the Region Report.

1. Achieving social, economic and ecological forest plan objectives.
2. Progressing toward desired future conditions.
3. Meeting legal requirements.
4. Evaluating the currency of the Forest Plan.
5. Evaluating emerging issues and important social and resource trends.
6. Using monitoring and evaluation conducted in cooperation with partners.
7. Dealing with barriers to effective monitoring and evaluation.

MONITORING RESULTS:

The response to the following seven items is a combination of our regular program of work guided by the 1984 plan and our work to revise that plan. The Forest and Grassland

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had a heavy work load in 1997 due to the program of work, revising the forest plan, several special projects and downsizing the workforce.

The 1984 Forest Plan was considered insufficient to provide the long term direction needed for Forest and Grassland management. The ARNF-PNG has been working to complete a new Forest Plan since 1990. The final Revised Forest Plan was completed and released in late 1997. The monitoring and evaluation efforts the ARNF-PNG staff have taken were related to finalizing the Revised Plan. Prior to finalizing the Revised Forest Plan and EIS, steps were taken to inform people that the draft was available by conducting briefings for national, state, and local elected officials or their representatives, holding open houses at several locations around the Forest and Grassland, and several mailings. We wanted to insure that people knew the documents were available and had information on the most effective way to comment.

We received approximately 1,500 letters with comments about the direction in the Forest Plan and the analysis in the EIS. Almost half of the letters were from people concerned about a proposed standard to leash dogs in wilderness. The remainder of the letters dealt with a wide variety of issues. The topics most frequently mentioned were travel management and many aspects of biological diversity and forest health. Other letters also raised concerns about the clarity of management direction; instream flows, water quality and water yield; land allocations near private property and subdivisions; timber land suitability and allowable sale quantity; recreation; and others.

Although the staff has put a lot of effort to completing the Forest Plan Revision, the regular program of work for the ARNF-PNG was also a priority using the 1984 Plan. Major tasks included work on:

- The Lakewood Pipeline environmental analysis,
- Filling the timber program "pipeline",
- Recreation facility construction, reconstruction to minimize human impacts on resources (Dutch George CG, Stillwater CG, acquiring Kelly Dahl ROW),
- Approximately 3,000 acres of prescribed burning was completed for wildlife habitat improvement and hazardous fuel reduction,
- Reclamation of a 5 acre oil spill on Clear Creek R.D.,
- Completion of ELU mapping for Forest Lands,
- Updating of grassland soils - 100,00 acres,
- Tristate Powerline EIS.

Many of our accomplishments were submitted as part of the FY 1997 Management Attainment Reporting (MAR).

1. Achieving social, economic and ecological forest plan objectives.

Response:

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Social - Currently the ARNF has approximately 30,000 residents living inside the Forest boundary. In an average year, about 500 new homes are constructed on private land inside the ARNF boundary. Most of these residents are retired or are commuters who maintain jobs in the urban population centers but want to live in the mountains. Areas, outside the commuting distance to urban jobs, such as the Sulphur District or Laramie River Valley are more dependent on commodities (such as wood, domestic grazing, minerals) and recreation users. The Pawnee Grasslands will continue to support a ranching lifestyle of the isolated ranches located within the PNG boundary. Generally, individuals, groups, small communities, and visitors view or use the Forests and Grassland from an amenity standpoint.

Economic -The ARNF-PNG has met or exceeded Plan objectives in recreation based economies. Demand for motorized recreation vehicle use continues to outpace the 1984 Plan projections and growth in motorized use has been faster than the rate of population growth. This growing demand adds increased urgency to make decisions about the locations and extent of motorized and non-motorized recreation opportunities. The 1984 Plan and implementing programs provide for continuing existing outfitter-guide operations. As recreation demand continues to grow, some limits are needed to assure the quality of recreation opportunities. The Forest continues to maintain its scenic backdrop for millions of Front Range residents and travelers each year. The ARNF-PNG is the closest large public land area available for dispersed recreation to the Front Range population. This dispersed recreation supports hundreds of small businesses (restaurants, lodging facilities, private campgrounds, etc.) in communities like Redfeather, Rustic, Poudre Park, Glen Haven, Allens Park, Jamestown, Nederland, Eldora, Idaho Springs, Georgetown, Winter Park, Grand Lake and Estes Park.

The ARNF is far below the 1984 Plan objective for timber volume and acreage treated; averaging only about 25 percent of the objective for the last 12 years. The grazing objectives, supporting local ranching communities and lifestyles, have been met. Growth along the Front Range continues to convert agricultural lands to residential developments. Water from the National Forest that use to irrigate this farmland is converted to domestic and municipal water supplies. This places added expectations on the Forest to provide high quality water from nearly every watershed.

While there is not a direct correlation between state/national and Forest/Grassland related employment and population, the Forests and Grassland do contribute to local and regional economies. Examples are:

- Approximately 90 percent of sawtimber cut from the ARNF is processed in Wyoming mills, 10 percent in Larimer county.
- The ARNF has 44 grazing permittees and the PNG has 104 resulting in the majority of range income and employment coming from the PNG,

- In terms of ARNF and PNG expenditures and administration , the number of employees is approximately 352 with an income of \$13.2 million. Agency expenditures include office supplies, gasoline, equipment, and service contracts in the local area,
- Most recent breakout of revenues generated by program areas are Recreation 67%, Range - 4%, Land Uses - 3%, Minerals - 18%, and Timber 8%,
- Most recent payments to counties (25% of revenues) totaled \$705,000 and Payment in Lieu of Taxes (PILT) totaled \$1,784,000.

Ecologic - The 1984 Plan contains limited ecologic objectives. Most objectives focused on products being produced. The Revised Forest Plan and Environmental Impact Assessment provide a set of goals and objectives that include ecological objectives sensitive to both forest health and a sustained flow of goods and services.

2. Progressing toward desired future conditions.

Response: Goals in the 1984 plan focused on products being produced with limited attention to desired future conditions. Less than 20 percent of the Plan objective for regeneration of Forest stands through timber harvest is being met. The 1984 plan standard for 5 percent old growth is not being met in ponderosa pine/Douglas-fir forest types.

Some of the major ecologic needs of the Forest and Grassland are:

- Old growth is about 12 percent (107,500 acres) of major forest types. Two thirds of this acreage is spruce-fir, one third is lodgepole pine and one percent is Douglas-fir and ponderosa pine. The very low amount of ponderosa pine and Douglas-fir old growth is below the desired condition.
- Interior forest conditions are estimated to exist on 17 percent of the Forest and are near or below the desired condition on the east side of the Forest where most residential intermix exists and on the north end where most timber management has occurred. (Geographic areas range from 0 to 42 percent)
- Effective habitat conditions are estimated to exist on 68 percent of the Forest (geographic area range from 38 to 95 percent effective)
- Fire suppression has eliminated the natural thinning processes essential to the low elevation ponderosa pine, Douglas-fir, and lodgepole pine forests especially on the eastern edge of the Forest.
- Progress is being made on restoring aquatic habitats by working with special use permit holders on in-stream flow needs. Project work plans are being developed to

begin the major work needed in travel management to provide more motorized opportunities and to protect ecologic and resource values. The Forest is gearing up for a larger

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forest health and fuels management program to restore the ecologically sustainable forest conditions placed at risk due to years of fire suppression.

3. Meeting legal requirements (for example threatened and endangered species monitoring or air quality monitoring).

Response: Forest and Grassland staff members worked on the following projects to meet legal requirements.

- Biological Assessment and Biological Evaluation (according to requirements for management indicator species, FS sensitive species and federally listed or proposed species) on special use permits for water use, the Lakewood Pipeline, grazing AMP's.
- Air monitoring in cooperation with the Rocky Mountain Forest Experiment Station, Rocky Mountain National Park and the Colorado State Forest Service.
- Heritage resource evaluation and reporting.
- Starting our integrated resource inventory (IRI) center to begin a system of collecting and organizing our information about ecosystems. This is the foundation on which we can build additional information linkages and a data warehouse for use in future decisions.

On the east side of the Forest, maintenance of species viability is more critical and more difficult due to more human occupation of the landscape. Some think it is impossible to maintain population viability in such heavily urbanized residential areas and that Federal lands should be exchanged or put up for disposal to eliminate this responsibility. Others think that the remaining habitat becomes even more critical to maintain future population viability and that a Federal ownership responsibility is essential.

The National Forest Management Act regulations at 36CFR 219 establish monitoring requirements in several areas. These are discussed in the attached Appendix A. Each requirement has a different frequency of measurement, precision, and reliability of measurement (see Chapter 4 of the Forest Plan, p.393).

4. Evaluating the currency of the Forest Plan (for example, still valid, needs amendment - significant or non-significant, need revision, or policy changes are required to improve implementation.

Response: The 1984 Plan is not current and not valid. A large portion of the ARNF-PNG's staff were devoted to revising the Plan. All public and internal monitoring for the last seven years has indicated the need to improve our understanding of Forest and Grassland ecosystems and develop a clear picture of where we are headed. The revised

plan is designed to correct most but not all the needs where the 1984 Plan is not current and valid. Several items that need to be changed have been deferred until the revised plan is approved. These items will be scheduled when the plan revision is completed.

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The ARNF-PNG believes it is critical to change our view of Plan revision as a process and a document which is an all-encompassing, decadal event. Our preferred view is a real-time planning process where action is taken as needs arise. This requires continual amendment rather than deferring action or decisions to one gigantic plan revision. The real-time process also maintains better continuity with our stakeholders and partners rather than focusing on the intermittent, high-intensity, lengthy process required during a typical plan revision.

5. Evaluating emerging issues and important social and resource trends, and designing a monitoring and evaluation program to address these trends.

Response: One emerging issue is the need for a better understanding of forest and grassland ecosystems. Getting on top of forest health issues by reintroducing natural processes or replacing these processes with comparable management activities is key. This requires better inventories and better information systems to be used when making decisions.

Issues which continue to grow are:

- Residential intermix fire and fuels situation on most of the eastern edge of the Forest.
- The shifting emphasis on public lands, especially in the heavy intermixed, residential areas, so wildlife habitat and open space values are recognized in addition to the commodity and recreation values.
- The growing importance of the water originating from forest watersheds for domestic and municipal water supplies in addition to the historic use for agricultural irrigation. This shift often brings with it changes in delivery systems and timing as summer season irrigation use shifts to year-round use.
- The increase in Colorado Front Range growth that is contributing to decreases in air quality values. Activities in surrounding state that may contribute to air quality concerns.

6. Using monitoring and evaluation conducted in cooperation with partners such as research, state and private forestry, non-governmental organizations, universities, or the public sector.

Response: The Forest is involved in several Regional efforts to better manage our local forest and grassland ecosystems. Colorado Rockies Regional Cooperative has been meeting for several years to improve the information sharing and research in north central Colorado. In addition, there have been individual cooperative efforts on air quality monitoring with Rocky Mountain National Park, Rocky Mountain Experiment Station, the Bureau of Land Management, and Boulder County and Larimer County.

During this last year, the Forest conducted a series of stakeholder meetings on travel management; forest health and timber management; and fire, fuels and forest health. The

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travel management meeting brought motorized and nonmotorized interests together to discuss the needs and the opportunities for both to benefit. Meetings on the amount and location of suited timberlands brought together the timber industry interests with the environmental groups to determine where common ground may exist in maintaining ecosystem diversity and in providing usable wood fiber products. The forest health, fire, and fuels groups involved federal, state and local government officials working with local mountain community volunteer fire departments to determine the best method of maintaining the forests which attracted most residents to the area, while providing a safer more defensible wildland fire condition.

7. Dealing with barriers to effective monitoring and evaluation (such as insufficient budgets; loss of personnel, short-term pressures hampering long-term commitment; or inadequate tools, technology, or methods).

Response: Currently our broad level approach to monitoring and evaluation is outpacing our ability to do something about the needs we identify. Two types of adjustments could be made to this strategy. One would be to reduce time spent on monitoring until we catch up with corrective action. The second would be to do more monitoring and evaluation which is focused on isolating and prioritizing the most critical needs to focus our attention and energy.

EVALUATIONS AND CONCLUSIONS:

Determination and Findings:

Based on public comments and an internal review of Forest and Grassland programs, several areas of concern were noted. We received written comments on the draft plan plus held several stakeholder meetings and open houses and had a variety of other contacts with the public; local, state, and other government officials; and many interest groups. The input from these sources suggested that we need to deal effectively with the issues of biological diversity, forest health, travel management and recreation, wildfire suppression and fuels management, timber harvest levels, and water yield and instream flows. The internal review of our programs indicated needs in these same areas plus the need to place additional priority on land use authorizations and special use permits, watershed health, landscape level assessments, air quality monitoring, and wildlife and threatened and endangered species habitat.

The need to deal with these issues has being handled through our work in completing the Revised Forest Plan. Chapter One of the Revised Forest Plan has more clearly described our goals and objectives, identified our priorities, and ensured that objectives are implementable and measureable. Most of the needs identified by the public and the staff

were incorporated into Chapter One as goals or objectives and are now the focus for the Forest and Grassland.

Summary of Progress on Previous Year's Action Items

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A monitoring and evaluation report was prepared in the previous year. The approval and release of the Final Revised Plan and EIS factored in public input we received through the comments, the stakeholder and other meetings we had, and our other contacts in the regular course of work. This has provided the opportunity to assess how well we are doing. The response to comments that were prepared as part of the Revised Plan plus the changes being made to the plan and EIS are what we have accomplished. These are reflected in the Final Revised Plan.

Recommendation for Further Monitoring Needs

We have two major priorities for monitoring during fiscal year 1998.

- Develop support for implementing the Revised Plan due in 1998.
- Implement a monitoring process that supports our concept of "real-time" planning.

We are working with the public and key stakeholders early to assess the support for the priorities in the revised plan and are continuing to developing the cooperative relationships and partnerships to implement it. These efforts should give us a jump start on implementation and begin our efforts to identify emerging issues so we can take actions to keep the plan current.

We have developed a monitoring and evaluation process that will support "real-time" planning as a followup to the completed revised plan but have not had the opportunity to begin using it. With the approval of the Final Revised Plan we are refining the process so we can start its implementation. Some key components to this process are identifying emerging issues, and addressing the key monitoring questions.

Research Needs Identified

No research needs have been identified at this time.

ENCLOSURES AND APPENDICES

No enclosures are included but the process records for the Final Forest Plan and EIS are the documentation for this report. This information is stored in the planning records for the Forest Plan Revision.

Appendix A - Mandated Legal Requirements

Lands are adequately restocked (36CFR 219.12(k)5(i))

Harvested areas must contain at least a minimum number of trees as specified in the Forest Plan on pages 19-20 in Standards 58-60. Surveys are used to determine whether harvested areas meet these requirements. The results of the surveys are shown in the following table.

Table xx: Fiscal Year 1997 Reforestation Status ¹

Fiscal Year Harvested	Revised Final Harvest Acres	Adequately Stocked		Not Adequately Stocked	
		Acres	Percentage	Acres	Percentage
1988	614	611	99.5	3	0.5
1989	568	568	100	0	0
1990	568	560	99	8	1
1991	574	430	75	144 ²	25
1992	436	321	74	115 ³	26

¹ from Table 22: Status of Reforestation after Final Harvest, ARNF, December 21, 1997

² 93 acres should be certified in fiscal year 1998

³ 115 acres should be certified in fiscal year 1998

For the areas harvested in 1991, additional activities are planned to insure adequate restocking. Other than the areas harvested in 1991, this table indicates that on the ARNF adequate restocking is almost always obtained using prescribed treatments. Therefore, no changes to the Forest Plan standards or changes to harvest practices are needed at this time.

Lands not suited for timber production (36CFR 219.12(k)5(ii))

Lands not suited for timber production are scheduled to be evaluated unit-wide after the tenth year of the plan. The Revised Forest Plan, approved in November 1997, contained 188,906 acres of lands suitable for timber production. There have been no changes to the suitable timber land base since the Revised Forest Plan was approved. The tenth year review and evaluation is currently scheduled for fiscal year 2008.

Harvest unit size (36CFR 219.12(k)5(iii))

The maximum size limits are to be evaluated to determine whether these size limits should change in the fifth and tenth year of the plan. This evaluation was done as part of the Supplement to the Final Environmental Impact Statement (FEIS) for the Rocky Mountain Regional Guide, completed in May 1992. The size limits for openings created by even-aged management were limited to forty acres, regardless of type, with some exceptions. These exceptions are contained in the Record of Decision for the Supplement to the Regional Guide.

The Revised Forest Plan for the ARNF-PNG also limits opening size to forty acres and this requirement is Standard 63 on page 22. There are currently no indications that this standard needs changing. Formal evaluation is scheduled in fiscal year 2003 and fiscal year 2008.

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Control of destructive insects and diseases (36CFR 219.12(k)5(iv)

The level of destructive insects and disease organisms following management activities is monitored to ensure that populations do not increase to damaging levels. An increase in mountain pine beetle populations is being observed in the vicinity of the ANRA on the Sulphur R.D. and in the vicinity of the Sevenmile Creek drainage and Redfeather Lakes area on the Canyon Lakes District. It is expected that populations will increase to damaging levels in the areas identified.

Population trends of management indicator species in relationship to habitat changes (36CFR 219.19(a)(6))

The most comprehensive analysis of habitat for management indicator species (MIS) was presented in the Revised Forest Plan. While the Revised Forest Plan has a different set of MIS from the 1984 Forest Plan (some are common to both plans), the habitats evaluated are the same. Habitat analysis and evaluation (amount, arrangement, condition) is pertinent to both old and new Forest Plan MIS. In terms of MIS population trends, data was used from other sources (Fish & Wildlife Service, Colorado Division of Wildlife, other groups/organizations) to see if estimated numbers and trends were substantially different from past norms. No apparent changes in MIS populations due to habitat changes were discovered.

Effects of off-road vehicles (36CFR 219.21)

29.3 miles of non system ways that contributed to water and soil degradation were obliterated in FY 97. Due to the weakness in Travel Management direction in 1984 Forest Plan, most of FY 97 was spent analyzing travel on the Forest and Grassland, and determining direction and extent of proposed changes to the existing transportation system. This effort has resulted in an aggressive travel management program including road and trail signing, and the basis for local area travel management analysis for FY 98 and beyond.

Effects to lands and communities adjacent to or near the National Forest and effects to the Forest from lands managed by by government entities (36CFR 219.7(f))

The Forests and Grasslands are doing SASEM runs to consider smoke impacts on National Park Service lands and communities near prescribed burns. Other activities to better measure effects include developing a lake chemistry plan (that includes State Forest lands), and monitoring the soil mapping with Rocky Mountain National Park and surrounding National Forest lands.

Comparison of projected and actual outputs (36CFR 219.12(k)1)

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Based upon final input to the FY 97 MAR Report, 82 of 99 MAR targets were met or exceeded. Of the 17 remaining MAR targets only 5 items were significantly lower than the identified target. These were riverine valley inventory, timber volume offered, land exchanges processed, wildlife habitat restoration and energy acres processed.

Prescriptions and effects (36CFR 219.12(k)2)

The Forests and Grassland Monitoring and Evaluation IDT has been working on an effective process to better measure prescription and effects. The point of departure, basis for establishing the process is Chapter 4 of the Revised Forest Plan.

Comparison of estimated and actual costs (36CFR 219.12(k)3)

The Forests and Grassland have expended 99.2% of their allocated budget in accomplishing MAR targets, administering the Forests and Grasslands programs.

Effects of management practices (36CFR 219.11(d))

The Forests and Grassland Monitoring and Evaluation IDT has been working on an effective process to better measure the effects of management practices. The point of departure, basis for establishing and refining the process is Chapter 4 of the Revised Forest Plan.