Arapaho and Roosevelt National Forests
And
Pawnee National Grassland

Monitoring and Evaluation Report of the

1997 Revision of the Land and Resource Management Plan

for

Fiscal Year 2006

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Forest Certification

The 1997 Revision of the Land and Resource Management Plan (Forest Plan) provided goals and objectives to direct the future of resource management of the Forests and Grassland for the next ten to fifteen years. The Forests and Grassland have completed the ninth season of implementing plan goals and objectives. Lessons learned from these nine years of monitoring and evaluation point how to better conduct interdisciplinary resource management and monitoring and evaluation of plan implementation by Forest and Grassland personnel. Monitoring and evaluation carried out by the Monitoring and Evaluation Team has resulted in no significant problems or reasons for change to the Revised Forest Management Plan at this time.

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Introduction

Location and History:
The Arapaho and Roosevelt National Forests (ARNF) include 1.3 million acres of public land (not including the Williams Fork Area) in the Rocky Mountains and foothills of north central Colorado. Boundaries extend north to the Wyoming border and south of Mt. Evans and Interstate-70. These two National Forests include lands on both sides of the Continental Divide. Topography on the forests varies from rolling hills to snow covered mountain peaks over 14,000' in elevation.

President Theodore Roosevelt established the Arapaho National Forest on July 1, 1908. It is named after the Native American tribe that occupied the region for summer hunting. Roosevelt National Forest originally began as a part of Medicine Bow Forest Reserve, created in 1897. In 1910 this Forest was renamed Colorado National Forest. Finally, in 1932 it was renamed by President Herbert Hoover to honor President Theodore Roosevelt, the person who was the most responsible for its creation.

The Pawnee National Grassland (PNG) includes 193,000 acres of primarily short-grass prairie in two units located approximately 30 miles east of Fort Collins, Colorado. Elevations range from 4,900' on the prairie to 5,500' at the summit of the Pawnee Buttes.

The Pawnee National Grassland was transferred to the USDA Forest Service from the USDA Soil Conservation Service (SCS) in 1954. The SCS acquired this prairie during the dust bowl days of the 1930's and was charged with its rehabilitation. It was designated a National Grassland in 1960.

The Arapaho and Roosevelt National Forests and Pawnee National Grassland (ARP) are within a one-hour drive of the heavily populated Denver metropolitan area and the other heavily populated areas along the northern Front Range (Boulder, Ft. Collins, Longmont, Loveland and Greeley) and, therefore, are considered to be one of the fourteen Urban National Forests nation-wide. The landownership pattern of the ARP creates special challenges, with approximately 750,000 acres of small private parcels intermixed with federal lands.

Nine Years of Forest Plan Implementation:
The ARP is making progress in accomplishing Forest Plan objectives. Actual levels of accomplishment vary by programs due mainly to funding levels. When program budgets were low during these past nine years, staffing was reduced and projects were not implemented. The Forest Plan was optimistic in its funding predictions and, therefore, predictions for program objectives (Chapter 1, Forest Plan) was also overly optimistic. Some programs, though under-funded, have benefited from other well-funded projects. For example, the Wildlife Program is typically under-funded and wildlife habitat improvement acreage would have only increased in small increments. Yet, due to the increased funding to treat hazardous fuels, more acreage of wildlife habitat improvement has occurred than funding would have allowed.

There are many highlights since the 1997 Revised Forest Plan was approved. In 2000 the National Visitor Use Monitoring survey conducted by the Forest Service resulted in the ARP being the second most visited National Forests and Grassland in the country at 6.2 million visits. Developed recreation has been invigorated through the Capital Investment Program. Many of the ARP's campgrounds have been reconstructed to bring them up to the standard our camping visitors expect. The campground concessionaire contract is working well and management of our campgrounds is running smoothly. The Recreation Fee Demonstration program is providing more funding for our more heavily impacted recreation areas such as Mt. Evans and the Arapaho National Recreation Area. Through the fees our

visitors pay to use these areas, we are able to maintain these facilities to a higher standard and expand interpretation and education programs. The Dos Chappell Nature Center has been built adjacent to the Mt. Evans Road and provides the public more information about the surrounding fragile environment. In addition, recreation fees for managed parking at the Brainard Lake area on Boulder Ranger District help offset costs of managing the parking areas, cleaning and pumping the toilets, cleaning up and trash service for the picnic areas and some limited trail maintenance from the Mitchell Lake and Long Lake Trailheads.

Through increased public and congressional awareness, the ARP is receiving increasing funding to treat the buildup of dead trees and dense, overgrown forests. Through this hazardous fuels reduction we will better protect against the devastation of wildfires. Through "Good Neighbor" programs, our ranger district personnel are actively working with local communities, county and state governments to plan potential hazardous fuels treatment areas. In Fiscal Year 2006 (Oct 1, 2005 - September 30, 2006) the ARP treated over 16,500 acres of hazardous fuels.

The timber program was able to offer and sell almost 2,500 acres of timber. In FY 2005, over 1,700 acres of timber were harvested from the Forests from previously sold sales.

The ARP is pockmarked with abandoned mines. In 2006 important progress was made in rehabilitating abandoned mines. Several projects were completed in 2006. The Doctor Mine Removal Action was a cooperative project involving multiple Forest Service programs, other Federal agencies, a local Non-Governmental Organization (NGO), and private industry. The primary objectives of the project were a) to eliminate or reduce metals loading into the West Fork of Clear Creek and; b) the restoration of impacted wetland, riparian, and stream habitats. The Doctor Mine is located west of Berthoud Pass near Jones Pass. The Bueno/Streamside project was a cooperative removal action between the Forest Service and the U.S. Environmental Protection Agency (EPA). The site is located immediately west of Jamestown between James Creek and Little James Creek. The objectives of the project were to a) reduce the metals loading into James and Little James Creek, b) remove the threat of metals contamination of the Jamestown water supply, c) remove the threat of catastrophic failure of the Streamside tailings impoundment and potential contaminant effects on Jamestown, and d) restore impacted upland, riparian and in-stream habitats. The Minnesota Mine project was a cooperative project between the Forest Service, EPA, and the Clear Creek Watershed Foundation (Foundation). The ARP Abandoned Mine Lands program has developed a strong working relationship with the Clear Creek Watershed Foundation, a non-profit organization promoting the cleanup of orphan mining sites in the Clear Creek Watershed. The objectives of the Minnesota Mine project were to a) reduce the erosion of mill tailings into Lions Creek and b) restore upland habitats impacted by those tailings. The Minnesota Mine is located on Lion's Creek, a tributary to West Fork Clear Creek north of Empire, CO.

The Pawnee National Grassland has utilized prescribed fire to improve mountain plover habitat and reduce hazardous fuels. The Grassland has been diligently working with its range allotment permittees to improve range condition through better cattle distribution and improved grazing systems. The Grassland staff began an analysis on managing black-tailed prairie dogs on the grassland and is working with private landowners (ranchers/farmers), grazing permittees, the environmental community, and other agencies to determine how best to manage prairie dogs. The PNG is interspersed with numerous roads and "two-tracks". The district staff has been doing extensive travel management planning which has led to improving highly used roads and closing little used roads to improve wildlife and range habitat.

Noxious weeds are a problem in some areas on the ARP. To move proactively ahead in reducing this problem a Forests- and Grassland-wide noxious weed management plan was developed. Two thousand and seven (2007) acres of weeds were treated across the ARP in 2006. This accomplishment was 583 acres (41%) above the target of 1424 acres.

Many activities on the Forests and Grassland affect the soils. A forest-wide soil monitoring program is ongoing. Soil monitoring was conducted for various management activities including timber harvest, prescribed burning, range on the Grasslands, and road obliteration. Monitoring included collection of data in the preparation of environmental analyses, cumulative effects, and assessment of impacts of management activities on soils during and after project implementation. Methods and parameters were tested for different management activities and information was digitized. Soil condition transect information was collected in proposed project areas to determine pre-treatment soil condition and existing condition of project area soils. These transects will be visited after treatments and mitigation are implemented to determine compliance with Watershed Conservation Practices Handbook, Regional and Forest Plan soil condition standards and to assess effectiveness of implemented mitigations.

Not enough can be said about the hundreds of volunteers on the ARP. By hiking in the Wildernesses, raft-patrolling on the Poudre River, working on the Continental Divide trail, maintaining the 100s of miles of summer and winter trails, counting birds, working in our offices, and ad infinitum; these volunteers provide a tremendous service to the public and helped provide services that would otherwise have been eliminated due to reduced Forests and Grassland budgets. Our volunteers and partners provided approximately 64,500 hours of volunteer work in 2006. (Kristy Wumkes)

The Arapaho and Roosevelt National Forests and Pawnee National Grassland personnel are proud of the work they have done even through lean budget years. However, we all recognize that we need to do better in the areas of travel management and field presence/law enforcement.

The Forest Plan recognizes the importance of managing our road system and the Roads Analysis Process (national Forest Service direction) requires that we maintain a minimum road system that meets the public needs while considering ecologic, economic and social attributes of the road system. Increasing motorized and mechanized recreation on the ARP and minimal transportation planning and implementation dollars have increased the challenge of meeting our travel management needs We recognize that we have much work to do to meet Forest Plan expectations.

In 2003 the Chief of the Forest Service identified unmanaged recreation, and specifically OHV use, as one of the 4 threats to sustainable forest health. As a result, on November 9, 2005 the "Travel Management: Designated Routes and Areas for Motor Vehicle Use Rule" (aka Travel Rule) was finalized in the Federal Register. This rule requires the Forest Service to designate a system of roads, trails, and areas open to motor vehicle use by season and vehicle type. The public will have full review of preliminary inventory and maps. This designation is completed via a Motor Vehicle Use Map (MVUM), which will be printed annually. When printed, it is a violation of 36 CFR 261.13 and .14 to use or possess a motor vehicle anywhere not designated on the MVUM.

Several of the ranger districts on the ARP began work on their road/trail inventory in FY06. Their projected completion dates are as follows:

Sulphur	September 2007
Pawnee	December 2007
Canyon Lakes	December 2008
Boulder	December 2009
Clear Creek	December 2009

Current national prohibitions for "Use of Vehicles Off Roads" (36 CFR 261.13) prohibit any vehicle from traveling off National Forest roads: (g) "…in a manner that endangers, or is likely to endanger, any

person or property." (h) "In a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources." Until the MVUM is in place this regulation is enforced on the ARP via a Forest Closure Order.

Forest Closure Order No. 10-00-03 (signed 5-27-98 and updated 6-10-99 by Forest Supervisor, Peter Clark) prohibits "Using or possessing a motorized vehicle off numbered Forest Development roads or designated travel routes (36CFR 261.56)" and "Using a motorized vehicle on a closed Forest Development Road (36 CFR 261.54 (a)". The order also lists by Ranger District, specific roads and trails closed to motorized vehicle travel, year-round and seasonally.

Districts are implementing the above closure order, as well as working on the MVUM and planning for any needed additional closures and opportunities for motorized travel. This is an ongoing process and in 2006 included planning Mt. Margaret, Laramie River and Bobcat Ridge areas on Canyon Lakes District, the Yankee Hill area on the Clear Creek District, and the James Peak area of the Sulphur District. Implementation of travel management planning occurred on the Crimson project in the Williams Fork area of the Sulphur District.

Limited recreation management and law enforcement funding have maintained minimal Forest Service employee presence in the Forests and on the Grassland. This puts an undo burden on our few law enforcement officers who are required to cover 700,000 acres per officer and respond to over 850 incidents per year. While the public is being underserved because the ARP personnel are not "in-the-woods" to answer visitors' questions or to protect public land resources through enforcement of regulations, some progress was made in our General Forest Areas (GFA) by emphasizing efforts to provide uniformed Forest Service presence in the field during critical high-use periods, recording 2450 GFA days managed to standard (DMS) in 2006.

In 2006, the ARP recreation program:

- completed 125 interpretation and education products (brochures, signs, programs, interpretive hikes, etc.),
- completed 2451 days of GFA managed to a standard the public expects from the ARP,
- managed our recreation facilities to accommodate 974,800 people at one time,
- administered 273 recreation special use permits (events, outfitter/guides, ski areas, marinas, and recreation residences, etc.)
- managed 10 wilderness areas,
- managed one national recreation area (Arapaho National Recreation Area)
- managed one nationally designated wild and scenic river (Cache la Poudre River),
- completed Hoop Creek historic bridge (along Hwy 40-Berthoud Pass) reconstruction,
- completed Mill Peak to Fall River Saddle as part of the Continental Divide National Scenic Trail, and
- completed 376 miles of trail maintenance

The remainder of this report describes Forest Plan monitoring and evaluation. In these sections there is more in-depth information about programs and resources on the Arapaho and Roosevelt National Forests and Pawnee National Grassland.

Monitoring and Evaluation

The 1997 Revised Forest Plan describes a monitoring program to evaluate forest plan implementation, which is programmatic and designed to evaluate the conditions on the Forests and Grassland. Monitoring and evaluation are separate, sequential activities required by the National Forest Management Act (NFMA) regulations to determine how well objectives have been met and how closely management standards and guidelines have been applied. Monitoring usually includes data collection and information gathering. Evaluation is the analysis of the data and information and the results are used to determine the need for changes to the Revised Forest Plan or how it is implemented.

To guide this monitoring and evaluation process, Chapter 4 of the Revised Forest Plan lists many monitoring questions presented in two tables. Table 4.1 lists the questions, which were developed to address the legally required monitoring per NFMA. The Revised Forest Plan management emphasis goals and objectives are addressed in the questions found in Table 4.2.

Table 4.1. Minimum Legally Required Monitoring Activities.

Action, Effect or Resource to be Measured	Frequency of Measurements	Precision and Reliability*	M & E Report**
Lands are adequately restocked. 36 CFR 219.12(k)5(i)	Mix of 1st, 3rd & 5th years per FSM 2472.4	A	Annual
Lands not suited for timber production. 36 CFR 219.12(k)5(ii)	Year 10	A	Year 10
Harvest unit size. 36 CFR 219.12(k)5(iii)	Years 5 & 10	B	Years 5 & 10
Control of destructive insects and diseases. 36 CFR 219.12(k)5(iv)	Annual	B	Annual
Population trends of management indicator species in relationship to habitat changes. 36 CFR 219.19(a)(6)	Years 5 & 10	B	Years 5 & 10
Effects of off-road vehicles. 36 CFR 219.21	Annual Review, Analysis years 5 & 10	B	Years 5 & 10
Effects to lands and communities adjacent to or near the National Forest and effects to the Forest from lands managed by government entities. 36 CFR 219.7(f)	Years 5 & 10	B	Years 5 & 10

Comparison of projected & actual outputs and services. 36 CFR 219.12(k)1	Annual	A	Annual
Prescriptions and effects. 36 CFR 219.12(k)2	Years 5 & 10	B	Years 5 & 10
Comparison of estimated and actual costs. 36 CFR 219.12(k)3	Annual	A	Years 5 & 10
Effects of management practices. 36 CFR 219.11(d)	Years 5 & 10	B	Years 5 & 10

*Monitoring methods used are divided into two categories, A and B based on their relative precision and reliability:

- A – Methods are generally well accepted for modeling or measuring the resource. Methods used produce repeatable results and are often statistically valid. Reliability, precision, and accuracy are very good. The cost of conducting these measurements is higher than other methods. Methods are often quantitative.
- B – Methods or measurement tools are based on a variety of techniques. Tools include: project records, communications, on site ocular estimates and less formal measurements such as pace transects, informal visitor surveys, aerial photo interpretation, and other similar types of assessments. Reliability, accuracy, and precision are good but usually less than that of A. Methods may be more qualitative in nature bu6t they still provide valuable information on resource conditions.

**The frequency of measurement and reporting are triggered by regulation as well as anticipated intervals at which gathered data will provide meaningful information.

Below are the responses to these monitoring activities. These responses were initially developed for the 5-year Forest Plan monitoring report. For this ninth year report, the narratives and the graphs have been updated. The long number with the letters "CFR" is the citation to the Code of Federal Regulations which translates Congressional Law (in this case, NFMA) into working regulations which the Forest Service can apply to management of its lands.

Lands Are Adequately Restocked - 36 CFR 219.12(k)(5)(i)

This CFR requires a determination of compliance with the standard that lands are adequately restocked as specified in the Forest Plan. Forest Plan Standard 58, Page 19, says "When trees are harvested on suitable and available lands, the cutting units must be in such a way that there is assurance that the technology and knowledge exists to adequately restock these areas within five years of final harvest. The minimum restocking levels are defined in tables 1.9 and 1.10". Forest Plan Standard 59, Page 20, describes the initiation of the five-year determination. Forest Plan Guideline 74, Page 25, indicates, "In most circumstances, rely on or make primary use of those silviculture systems which ensure regeneration of forest stands through natural seeding and suckering". In addition, Forest Plan Guideline 75, Page 25, says to "Use artificial regeneration methods when it is unreliable to count on the natural sequence of events and/or environmental conditions to regenerate the forests within five years".

Monitoring for compliance is accomplished through surveys the first, third, and fifth years following reforestation treatment. Where natural regeneration is prescribed the first year survey can be a walk-through survey to determine that the timber harvest and/or site preparation activities have produced site

conditions conducive to adequate stocking within five years following final harvest. Third year and any subsequent surveys must be fixed plots to determine stocking levels and distribution.

Since inception of the 1997 Forest Plan the silviculture objective has been to achieve natural regeneration success on harvested acres. Surveys have been conducted as required to assure restocking on suitable and available lands receiving a final harvest treatment. For the period of FY 1998 through FY 2006, 5430 acres of natural regeneration have been certified as satisfactorily restocked and 175 acres have been planted.

Natural regeneration surveys are done the first, third and fifth years following final timber harvest. The reporting that regeneration has met the Forest Plan standard is done upon completion of either the third or fifth year survey if sufficient regeneration has occurred. Therefore, these regeneration graphs are reflecting timber harvest in these prior years. The decrease in 2001 and 2002 reflect lesser timber sale activities as early as 1996 (see Appendix B, Graph 1). The artificial regeneration graph (see Appendix B, Graph 2) shows that planting occurred only one year of the nine-year period.

For timber offered, timber stand improvement, and salvage offered see Appendix B, Graphs 3-5.

Lands Not Suited For Timber Production - 36 CFR 219.12(k)(5)(ii)

This CFR requires that lands identified as not suited for timber production are examined at least every ten years to determine if they have become suited; and that, if determined suited, such lands are returned to timber production. Since it has been only nine years since suitability for timber production was determined and since there has been no indication that suitability was inappropriately determined, this examination will be deferred until a future plan revision or review at year 10 as required.

Harvest Unit Size - 36 CFR 219.12(k)(5)(iii)

This CFR requires the maximum size limits for harvest areas are evaluated to determine whether such size limits should be continued. Forest Plan Standard 63, page 22, establishes 40 acres is the maximum allowable opening acreage for all forest types. This standard was established per 36 CFR 219.27(d)(2). There was no ecological basis for this size limitation identified in the Forest Plan or its Environmental Impact Statement (EIS). However, due to salvage of dead and dying lodgepole pine from mountain pine beetle outbreaks in Grand County, exceptions that allowed for openings greater than 40 acres have occurred.

Control Of Destructive Insects And Diseases - 36 CFR 219.12(k)(5)(iv)

This CFR requires a determination that destructive insect and disease organisms do not increase to potentially damaging levels following management activities. The most damaging insect and disease organisms currently occurring on the Forest are mountain pine beetle, *Dendroctonus ponderosa,* and dwarf mistletoe, *Arceuthobium spp.* Mountain pine beetle has reached epidemic proportions in Grand County on the Sulphur Ranger District. Various treatments of vegetation have taken place. These include timber sale contracts to thin mountain pine beetle infested and dead lodgepole pine trees; preventative spraying lodgepole pine susceptible to mountain pine beetle on 364 acres in high-value

recreation areas; and thinning of infested lodgepole pine trees on 100 acres of the Winter Park Ski Resort. Dwarf mistletoe is wide-spread throughout lodgepole pine and ponderosa pine stands on the Forest. Some removal of dwarf mistletoe infested lodgepole pine trees within timber sale contract areas has been done. However, the occurrence of both of these organisms occurs naturally in forested area and has not been shown to be a result of management activities.

Both mountain pine and spruce beetle populations and related mortality continue to increase on Canyon Lakes, Boulder and Clear Creek Ranger Districts. Areas of bark beetle infestations include; Buckeye and Tennessee Mountain, Loveland Ski Area, Berthoud Pass, and Peaceful Valley. White pine blister rust was observed for the first time on the Boulder Ranger District in 2005.

The Forest continues to experience a small isolated outbreak of *Ipps* beetle on hazardous fuels reduction projects on the Canyon Lakes Ranger District. It appeared that the cutting and piling of ponderosa pine slash led to a small buildup of the beetles which subsequently infested and killed nearby live trees.

Population Trends Of Management Indicator Species In Relationship To Habitat Changes - 36 CFR 219.19(a)(6)

This CFR requires that population trends of the management indicator species (MIS) will be monitored and relationships to habitat changes will be determined. This monitoring will be done in cooperation with State fish and wildlife agencies to the extent possible.

MIS were selected according to NFMA ensuing regulations and Forest Service (FS) policy in the 1997 Forest Plan. Species were selected to serve as meaningful indicators of population-habitat relationships in ecosystems where management activities and habitat change were likely to occur. Important management indicator communities (MICs) for fish and animals were defined for both the ARNF and the PNG. MIS for each MIC, and all state and federal threatened and endangered that may be affected by management were selected. A total of 34 MIS were selected for the entire ARP Planning unit (9 mammals, 15 birds, 7 fish and 3 amphibians). Four MIS are common to both forests and grassland, with 26 species selected for ARNF and 12 species for PNG.

While the 1997 Revised Forest Plan MIS requirements were developed according to law and policy that remain in effect today, experience and findings during Forest Plan implementation since 1997 with monitoring and evaluation has shown that the ability to monitor population trends is less than expected for certain MIS. Additionally, a process for selection of MIS was developed in June 2001 as part of the Rocky Mountain Region Plan Revision Desk Guide. Experience with implementing forest plans during the past decade, court rulings, better scientific understanding of the role of MIS, refined survey protocols and the second round of forest planning indicated that a review and possible revision of the 1997 MIS list for ARP was appropriate.

Using the Region 2 MIS selection process as a guide, a reevaluation indicated that revision of the 1997 MIS list was most appropriate to assure that all MIS were able to be monitored during the life of the Forest Plan, and were meaningful indicators of management effects to habitat condition or change (USDA Forest Service 2005). The Forest Plan was subsequently amended to remove 13 species due to inability to monitor and 5 species as not being meaningful indicators of management actions. MIS population data through 2004 were available and used in the reevaluation and a Forest Plan amendment was approved in early 2005. The amended MIS list of May 3, 2005 follows.

Amended list of MIS for ARP (2005)
(21 individual species, with one common MIS* to both AR and PNG).

	ARNF (14*)	PNG (8*)
Mammals (4*)	elk	black-tailed prairie dog
	mule deer*	mule deer*
	bighorn sheep	
Birds (10)	hairy woodpecker	ferruginous hawk
	pygmy nuthatch	burrowing owl
	golden-crowned kinglet	mountain plover
	mountain blue bird	lark bunting
	warbling vireo	
	Wilson's warbler	
Amphibians (1)	boreal toad	
Fish (6)	brook trout	plains topminnow
	brown trout	plains killifish
	greenback cutthroat trout	
	Colorado River cutthroat trout	

Population Trends of MIS for ARP

The following summarizes trends based on ARP-wide data tables in Appendix A that are updated through 2006.

Mammals (4)

1) elk
- ARNF population trend has been stable 1997-2005 with a slight decrease in 2006.
- Colorado population estimates have increased 40% from 1997-2001, and have been gradually decreasing since with a sight increase in 2006 (Table 1).

2) mule deer
- ARNF trend has varied since 1997, with population being highest in 1998 and lowest in 2006.
- PNG trend has declined yearly, dropping 29% since 2000. 2006 numbers indicate an increase
- Combined ARNF/PNG trend has been generally stable since 2000, with population being lowest in 2006.
- For Colorado, population trend was generally upward 1997-2005, increasing 19% overall. 2006 numbers are slightly decreased (Table 2).

3) bighorn sheep
- ARNF and Colorado trends have both varied and decreased slightly from 1997 to 2006 (Table 3).

4) black-tailed prairie dog

- The highest acreage in 25 years occurred in 2005, totaling 3673 acres. Three plague events occurred after the towns were surveyed in 2005, resulting in a loss of about 1/3 or a year-end total of about 2460 acres.
- Number and size of prairie dog towns best indicate population levels (Colorado Division of Wildlife 2003, Severson and Plumb 1998, Cinotta et al. 1987, Garrett et al. 1982).
- Since 1981 acres of towns have varied between 179 acres (lowest) in 1983 and 3673 acres (highest) in 2005, with reductions primarily caused by plague.
- 1994 -2005 annual increases have occurred, except for one year. 2006 indicates a decrease (Table 4).

Birds (10)

5) burrowing owl – Population trends have continued to increase on the PNG since 1999, with 2006 numbers 3.3 times higher than in 1999 (Table 5).

6) mountain plover - Dramatic drop in population beginning in 1995 on PNG and continuing through 2006 (Table 6).

7) ferruginous hawk - Long-term decline of nesting birds on PNG, but relatively stable RMBO transect bird counts with low detection rates (Tables 7a and 7b, respectively). Overall trend is downward with an average of 6.9 active nests in the period from 1996-2006. This is down from the period 1986-1995 when active nests averaged 11.2. The period of 1981-1985 produced an average of 10.4 active nests.

8) golden-crowned kinglet – Overall trend on the forest is decreased in 2001-2005. All transects with historic hits of GCKI were read in 2005 but still resulted in a continued downward trend. An increase occurred in 2006 (Table 8).

9) hairy woodpecker - Population number decreased from 1999 through 2003 for ARNF, but numbers have rebounded to their 1998 levels in 2004 - 2006 (Table 9).

10) lark bunting - Population trends on PNG appear variable but relatively stable since 1999 when survey transects were established. No transects were surveyed in 2006 (Table 10).

11) mountain bluebird – Transect survey data for ARNF indicate that mountain bluebird population trends are somewhat variable but stable. 2004-2006 numbers have increased each year (Table 11).

12) pygmy nuthatch – Transect surveys indicate a highly variable trend. Appearing stable from 1998 thru 2001, then a dramatic increase in 2002 and 2004 and a return to lower and more stable levels in 2005-6. Note that transect surveys in typical habitat (ponderosa pine) were not conducted in 2003 (Table 12).

13) warbling vireo – Transect survey counts indicate variable population trends on ARNF, with decreases from 2001 thru 2004 and a return to levels similar to 1998-1999 in 2005-2006, noting that several transects were not read in 2003 (Table 13).

14) Wilson's warbler – ARNF transect counts reveal a highly variable trend with increases from 1998-2001, drop in 2002, and a return to average yearly levels in 2003-2005. 2006 indicates an increase (Table 14).

Amphibians (1)

15) boreal toad – Despite the discovery of new breeding sites on ARNF, survey data indicate a downward trend for numbers in and near ARNF (Table 15).

Fish (6)

16) brook trout - trend appears to be stable or upward on ARNF (Table 16).

17) brown trout - trend appears to be stable on ARNF (Table 17).

18) greenback cutthroat trout - breeding populations are low but trends appear to be stable on ARNF (Table 18).

19) Colorado River cutthroat trout - breeding populations are low but trends appear to be stable on ARNF (Table 19).

20) plains topminnow - trend appear to be stable on the PNG (Table 20).

21) plains killifish - trend appear to be stable on the PNG (Table 21).

See Appendix A for Tables 1-21 of MIS population trend data.

MIS Habitat Changes

Updates to ARP basic resource inventories and databases are in progress (vegetation type and structure; roads/trails and use; present amounts and locations). These are needed to assess existing wildlife habitat conditions and changes since 1997. Once complete, determining relationships between MIS population trends and habitat changes will be possible.

It should be noted that these basic forest and grassland vegetation data are also needed to adequately manage and monitor many resources and programs within the ARP. Assuring reliable data and updates is a fundamental requirement for Forest Plan implementation. Currently, resource condition data updates are not adequate to ascertain whether expected Forest Plan outputs and effects are on track.

> Recommendation: Updating of basic resource databases should continue to be a priority in the next few years to meet Forest Plan commitments by year 10 of Forest Plan implementation.

Effects Of Off-Road Vehicles - 36 CFR 219.21(g)

This CFR requires evaluation of the potential effects of vehicle use off roads to protect land and other resources, promote public safety, and minimize conflicts with other uses of National Forest System lands.

The unauthorized use of Off-Highway Vehicles (OHVs) (a.k.a, Off-Road Vehicles) within the ARP is increasing. This increase is driven by the large population living within one hour of many parts of the Arapaho and Roosevelt National Forests and Pawnee National Grassland and this increase is also driven by the increase in the technological capabilities of OHVs and the increased marketing and sales of them.

The Forest Plan contains appropriate guidance to address this problem. Therefore, the solution to this increasing unauthorized use does not mean the Forest Plan needs to be changed. What is needed is first a social change relative to use of National Forest System lands by the public. The National Forests have long been viewed as the Nation's playground where most activities are permissible. However, in National Forest lands adjacent to large urban areas, this type of use may no longer be possible. The second need is increased funding. Unlike the need to reduce hazardous fuels, where catastrophic wildfires each year provide graphic examples of the need for hazardous fuels treatments, the adverse effects from unauthorized OHV use are more insidious. The adverse effects from this unauthorized OHV use are immeasurable on a larger scale over a time period of one, five, or even ten years. The ARP has had limited funding to deal with solutions such as increasing field presence of Forest Service personnel, completing inventories of all authorized and unauthorized roads and trails for large-scale transportation planning, and completing signing throughout the ARP to assist visitor compliance with travel regulations.

There have been other successes in OHV and other motorized recreation management. On the Pawnee National Grassland, we have been aggressively planning our grassland transportation system and have closed or decommissioned roads that were no longer needed. Many of the ranger districts on the Arapaho and Roosevelt National Forests have designated camping areas, improved signing, and installed buck and rail fences to direct the motorized recreation visitor. Many volunteer projects with jeep and ATV clubs have improved safety and rehabilitated degraded resources. Areas such as Left Hand Canyon near Boulder and Green Ridge Trail near the Poudre Canyon are examples.

There are many large and small areas that have been designated and managed for off-highway vehicles (OHV's). On the Pawnee National Grassland the Main OHV Area serves as the OHV focal point on the grassland and receives use throughout the winter when other areas are snowed-in. On Sulphur RD, there is the Stillwater OHV Trail System, which provides a variety of road and trail connector routes for a comprehensive and varied OHV experience. On the Canyon Lakes RD there are some small and several large areas with well established and managed OHV routes. These include The Roach, Cherokee Park, Chicken Park, Deadman, Crown Point, Crystal Mountain, Pole Hill, Johnny Park, and Pierson Park areas. They also have a high quality publication with maps of these areas titled "Canyon Lakes Ranger District, Roosevelt NF, OHV Routes."

Below, are some of the more visible resource effects of OHVs and motorized recreation use.

WILDLIFE:
There is more off-road use or use of unauthorized roads (identified as "ways" in the Forest Plan, basically, user-created roads) than estimated in the Forest Plan. Accordingly, this may be resulting in higher amounts of human-disturbed wildlife habitat than predicted in the Forest Plan. Closing of certain Forest Service roads and "ways" that have established use is at times unsuccessful. Gaining public support for

closing travelways is seldom successful, and some public reaction to proposals has at times been potentially violent. An average of 30% of the expected Forest Plan objective of 44 miles of closures per year (Forest Plan, p. 4) was realized from 1998-2005 that improved habitat effectiveness. However, in 2006 no closures were realized.

> Emerging issue: Due to lack of Forest Service field presence off-road vehicle use apparently continues to increase, unconstrained in many areas on the ARP.

WATERSHED AND FISHERIES:

Roads and trails continue to be primary chronic sources of sediment that degrade water quality. Increased vegetation management has the potential to contribute to this as temporary roads and trails are used to access project areas. Additional sediment from unauthorized roads and unauthorized off-road vehicle use contributes to hillslope erosion and sedimentation, impacting aquatic habitats. Areas of particular concern are those areas such as the Left Hand Canyon and Bunce School areas where concentrated use has denuded much of the area of vegetation. Projects have been and continue to be implemented in the Left Hand area to rehabilitate damaged areas. Planning for designation of a suitable trail network and identification of trails to be closed and rehabilitated has been completed and implementation is currently scheduled. Both authorized and unauthorized off-road vehicle use is expected to continue to increase, adding to watershed impacts.

Watershed improvement projects have been used to address effects of off-highway vehicle use in other areas. In 2006, 13 miles of roads were decommisioned in the Crimson project area, located in the Williams Fork drainage of the Sulphur Ranger District.

Improvements in existing road conditions and reduction in road density in some project areas have been realized, although below the levels indicated in the Forest Plan. This provides for incremental improvements in water quality and aquatic habitat. Developed off-road vehicle trail systems, such as the Stillwater OHV, area provide a template for providing a desired user experience while maintaining acceptable resource conditions.

RECREATION:

Potential effects from OHV use include soil erosion and siltation of water courses, displaced wildlife due to noise and traffic movement in the forest, wildlife habitat impacts to vegetation, soil and water, and impacts to other recreationists from noise, dust, speed, obnoxious behavior, off-road use, and collision potential with other vehicles, horse riders, mountain bikers, hikers, etc.

Much progress has been made to direct motorized use on the ARP as well as the associated dispersed camping that often occurs with the use. Toilets have been installed to address human waste issues and buck-and-rail fences were installed to confine much camping and motorized use to road, trail and hardened surfaces to prevent damage to soil, water and vegetation resources. Signing has been installed to help users know where they are and which routes to stay on as well as to impart a Tread Lightly message.

In 2003 the Chief of the Forest Service identified unmanaged recreation, and specifically OHV use, as one of the 4 threats to sustainable forest health. As a result, on November 9, 2005 the “Travel Management: Designated Routes and Areas for Motor Vehicle Use Rule” (aka Travel Rule) was finalized in the Federal Register. This rule requires the Forest Service to designate a system of roads, trails, and areas open to motor vehicle use by season and vehicle type. The public will have full review of preliminary inventory

and maps. This designation is completed via a Motor Vehicle Use Map (MVUM), which will be printed annually. When printed, it is a violation of 36 CFR 261.13 and .14 to use or possess a motor vehicle anywhere not designated on the MVUM.

Several of the ranger districts on the ARP began work on their road/trail inventory in FY06. Their projected completion dates are as follows:

Sulphur	September 2007
Pawnee	December 2007
Canyon Lakes	December 2008
Boulder	December 2009
Clear Creek	December 2009

Current national prohibitions for "Use of Vehicles Off Roads" (36 CFR 261.13) prohibit any vehicle from traveling off National Forest roads: (g) "…in a manner that endangers, or is likely to endanger, any person or property." (h) "In a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources." Until the MVUM is in place this regulation is enforced on the ARP via a Forest Closure Order.

Forest Closure Order No. 10-00-03 (signed 5-27-98 and updated 6-10-99 by Forest Supervisor, Peter Clark) prohibits "Using or possessing a motorized vehicle off numbered Forest Development roads or designated travel routes (36CFR 261.56)" and "Using a motorized vehicle on a closed Forest Development Road (36 CFR 261.54 (a)". The order also lists by Ranger District, specific roads and trails closed to motorized vehicle travel, year-round and seasonally.

Districts are implementing the above closure order, as well as working on the MVUM and planning for any needed additional closures and opportunities for motorized travel. This is an ongoing process and in 2006 included planning Mt. Margaret, Laramie River and Bobcat Ridge areas on Canyon Lakes District, the Yankee Hill area on the Clear Creek District, and the James Peak area of the Sulphur District. Implementation of travel management planning occurred on the Crimson project in the Williams Fork area of the Sulphur District.

HERITAGE RESOURCES:
Off-road vehicles present a major problem for cultural resource sites. The creation of social (not designed, engineered, or constructed by USFS) trails and roads are not subject to planning or cultural resource inventories before they are utilized and have the potential to adversely affect prehistoric and historic cultural resources. These detrimental effects are generally not reversible and are found only after they have occurred.

Effects To Lands And Communities Adjacent To Or Near The National Forest And Effects To The Forest From Lands Managed By Government Entities - 36 CFR 219.7(f)

This CFR requires that the effects of National Forest and Grassland management be considered as it affects resources and communities adjacent to or near the ARP.

The most obvious effects to communities occur during wildfire outbreaks. Over the first six years of Forest Plan implementation, the ARP was in drought conditions. These conditions led to numerous wildfires, which unfortunately consumed not only publicly owned resources but also private structures and property. To address this the Forest Service launched an effort to treat the hazardous fuels, which have built up over years of fire suppression and reduced vegetation management activities, which could have reduced the density of trees and amounts of fuel build-up. The Front Range Fuels Treatment Partnership has been in effect since 2002 and is an active partnership of public, state, local agencies and private landowners. Budgets have been increasing on the ARP to deal with these hazardous fuels, especially near the intermix lands of public/private ownership. By the end of fiscal year 2006 hazardous fuel reduction planning has been completed on almost 27,000 acres.

Insect outbreaks such as those around Lake Granby are changing the look of the forested lands from green live trees to orange or grey dead trees. Many private homes are located in or near these mountain pine beetle infested areas. The Sulphur Ranger District of the ARP is implementing projects to treat beetle-infested trees in the Grand County area. Through public involvement these homeowners and other interested publics and agencies helped to determine the best method to treat this infestation.

Recreation is the other obvious large impact on communities near or adjacent to the National Forests and Grassland. Communities reap many benefits, both economically and socially, from visitors to the ARP. However, there are also impacts to these communities when excessive or inappropriate visitor use affects these communities' quality of life (crowding, drinking water quality). The ARP has been working with these communities and private landowners to minimize impacts and maximize economic benefits.

Comparison Of Projected And Actual Outputs – 36 CFR 219.12(k)1 and Comparison Of Estimated And Actual Costs – 36 CFR 219.12(k)3

These CFRs require a quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan and a documentation of the costs associated with carrying out management prescriptions as compared to the costs estimated in the Forest Plan.

Graphs addressing this question are included in Appendix B. These graphs compare the program (e.g., hazardous fuels treatments) budget with its accomplishment for the 9-year period of 1998 to 2006. In addition, these graphs show the Forest Plan objective for this program. This allows a comparison of Forest Plan projected outputs with the actual budgets allotted to the program. In addition to these graphs a narrative for wildlife and recreation is included in this section.

WILDLIFE:
There has been a downward trend from fiscal year 1998 when 'more-than expected' acres of treated wildlife and Threatened, Endangered or Sensitive species (TES) habitat were accomplished, to fiscal year 2006 when 'near-expected' acres were accomplished relative to budget levels. The following describes aspects that comprise the habitat treatment acres.

- Improved habitat due to hazardous fuels management has been substantial, making up about half of the acreage accomplishments. Hazardous fuels treatments can be largely beneficial and Forest Plan habitat objectives can be met faster than expected if wildlife/botany objectives are adequately designed into hazardous fuels treatments. The ARNF has anticipated the increased fuel treatment program well and has correspondingly increased biology/botany staff to assure favorable outcomes for wildlife.

- Old growth of all conifer types has been largely retained over the past 9 years, even with recent wildfires. Development of more, future low-elevation old growth is being best assured by reduction of forest fuels in hazardous fuels treatment areas along the Front Range and by acquisition of low-elevation lands by the Forest Service in the Evergreen, Colorado area. Implementation is beginning which will allow us to achieve the Forest Plan objective of treating about 7000 acres per year. More low-elevation old growth (ponderosa pine (PP) and Douglas-fir (DF)) is being found than was known at the time of the Forest Plan revision (1997). Newer aerial photos (taken since insect epidemics) are providing a more complete and reliable inventory of the locations of PP and DF old growth. Pre-project surveys to field truth many PP/DF old growth sites are confirming recent photo interpretation findings. An entire inventory along the Front Range was completed in FY03 to assure that locations are known, and to allow for planning and implementation according to Forest Plan direction. The recent inventory located additional sites that were previously undetected, but also ascertained that PP/DF old growth still remains the most limited type of old-growth forest within the ARNF.
- TES habitat improvements have mostly achieved the expected 3 (minimum number of) annual projects per year.
- Expectations of riparian restoration, structural improvements and habitat protection have not been fully realized due to limited funding and other priority habitat treatments.
- Aspen regeneration and reduced conifer encroachment in openings have mostly been realized as expected through design of fuels/timber management projects.

RECREATION:
Comparisons of projected vs. actual outputs show Forest Plan objective estimates are high and actual accomplishments are low for:

- Reconstructing or rehabilitating dispersed camping areas.
- Providing new designated wilderness campsites (no actual target)
- Constructing new dispersed-use campsites

This discrepancy in output vs. accomplishment vs. budget availability indicates that these Forest Plan listed objectives are not all-inclusive of the full scope of the recreation program and in fact, represent just a minor portion of the work involved.

- Recreation Special Uses, Heritage, Interpretation and VIS, Landscape/Scenery Mgt., and Accessibility programs are also subsets of the overall recreation program as are Developed Recreation, Wilderness and General Forest Areas.
- Maintenance activities were not recognized as high importance (no objectives) but new construction, reconstruction, and rehabilitation were. However, funds for new construction are very limited. A lot of the work of the Recreation program involves maintenance, yet it has no Forest Plan connection for tracking these accomplishments.
- Public contact for information, education, prevention and enforcement purposes is very important and a desired workload.
- Interpretation and education functions are also important but not part of our Forest Plan monitoring system.
- Volunteer coordination is a function that results in some kind of recognized reportable activity but is rarely viewed as an activity unto itself, yet much of our dollars and efforts are spent working with volunteers.

- The allotted budget for the Recreation program is below predictions shown in the Forest Plan. The program is being funded at less than one half of the Forest Plan projections. Yet, the ARP is the second most heavily visited National Forests/Grassland in the Nation.

Despite these challenges, the ARP Recreation Program accomplished the following in FY2006:

- 974,800 People at One Time (PAOT's) for developed recreation sites,
- 2,451 Days Managed (DMS) for General Forest Area management,
- 376 Miles of Trail maintained ,
- 273 Recreation Special Use Permits managed,
- 125 Interpretive and Educational Products completed to standard,
- 52 Heritage Resources managed,
- managed 10 wilderness areas,
- managed one national recreation area (Arapaho National Recreation Area),
- managed one wild and scenic river (Poudre River W&SR),
- completed Hoop Creek historic bridge (along Hwy 40-Berthoud Pass) reconstruction,
- completed Mill Peak to Fall River Saddle as part of the Continental Divide National Scenic Trail,
- completed Dowdy Lake Campground (Red Feather Lakes area) reconstruction,
- initiated Recreation Site Facility Master Plan process (completion target for 2007), and
- opened the Dos Chappell Nature Center off the Mt. Evans Road.

Prescriptions and Effects – 36 CFR 219.12(k)2 and Effects of Management Practices - 36 CFR 219.11(d)

These CFRs require evaluation of prescriptions and effects and management practices and require reporting of any significant changes in land productivity.

TRANSPORTATION SYSTEM:
Some of the Forestwide goals and objectives have been met and others are not being met on an annual basis. See page 8 of the Forest Plan. Human Uses Objectives 6 and 9 need to be reevaluated for their continued appropriateness considering National trends and new transportation system management philosophies. Yearly budget allocation, competing priorities for the ARP as well as the long public process to bring polarized users into grudging agreement substantially lengthens the planning process.

Effectively closing roads is a problem. Many closures are illegally reopened or detoured around to obtain access. These point to a need for greater field and law enforcement presence.

WATERSHED:

Effects of management – Watershed conservation practices found in the 1997 Revised Forest Plan standards and guidelines have largely been effective in protecting water and riparian. In 2005 the regional Watershed Conservation Practices Handbook was updated for clarity and increased utility. Monitoring of the previous conservation practices has indicated protection or improvement of resource conditions for a variety of projects. Where conservation measures were found to be ineffective, it was typically because they were incorrectly or not applied, or because activities occurred during implementation that were not foreseen during project planning, so that appropriate conservation measures were not prescribed.

LANDS:
Fuels funding has supplemented the boundary budget to enable some accomplishment to meet Forest Plan objectives for conflict free boundaries. In addition, the Forest Surveyor is moving ahead the landline program. The district lands staffs have decreased the special use authorization backlog, though a backlog still exists. The ARP has been emphasizing obtaining legal access across private lands.

RECREATION:
Hazardous fuels reduction projects and wildfires can open up forest stands and facilitate motorized vehicle access to areas previously inaccessible due to the dense nature of the pre-burned or pre-thinned forest stands. When appropriate, travel management effects from thinning and other fuels reduction prescriptions need to be fully considered in the environmental analysis for hazardous fuels reduction projects. Recreation/ transportation monitoring after completing hazardous fuels reduction projects or wildfires is necessary to ensure that the effects from increased access caused by the opening of forest stands are mitigated.

AIR:
The long-term synoptic lake sampling program is in its twelth year and this data is being used to assess air quality impacts in Wilderness Areas. The Forest Service Regional Office in PSD permit reviews also used this data.

All necessary permits related to prescribed fire and emissions were submitted and approved by EPA and the State of Colorado and generally all conditions of the permits were met.

TIMBER:
Soil quality monitoring transects on timber sales have indicated that conventional harvesting and site preparation techniques may cause detrimental soil compaction exceeding 15% of any land unit (Forest Plan Standard #19, p. 14). Additional monitoring data should be collected to determine the significance of this finding. Review the application and applicability of the 15% standard to assure that it is appropriate. Recommendations should be developed to avoid and/or mitigate detrimental soil compaction.

HERITAGE RESOURCES:
The overriding goal of the Heritage Resources program is to identify, evaluate, preserve, protect and enhance heritage resources. The 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 such as evaluation and monitoring is funded by the benefiting resource program. For example if archaeological surveys are done for a proposed timber sale, it is the timber program that funds the surveys. Other compliance work includes input into fuels reduction and timber sale analyses, range allotment management plans, road construction activities, etc

There are no goals, objectives, standards or guidelines for the heritage resource. Much of what guides the work done in this area is guided by law. However, laws do not cover all aspects of the heritage resource program and it is left up to the individual line officer to decide what work will be done.
There is no funding for project monitoring, thus, it has not been determined how well mitigation direction is being followed as stated in the project NEPA documents.

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Table 4.2 Forest Plan Monitoring Questions for Priority Management Emphasis and Stakeholder/Public Involvement.

The following questions are displayed in Table 4.2 (Forest Plan, pages 394-396). These questions address priority management emphasis, goals and objectives in Chapter 1 of the Forest Plan. As described in Chapter 1, page 3 of the Forest Plan the ARP has an overall mission to achieve over time; **Forest-wide management implementation must balance the demands of people's vastly different resource-use values with maintaining ecosystem health.** To focus the ARP management towards meeting this mission the Forest Plan identified three management emphasis areas: 1) biological diversity, ecosystem health and sustainability; 2) human use; and 3) land use and ownership. The following questions fall into one of these three areas.

Biological Diversity, Ecosystem Health, Sustainability

General: Successional - Structural Stages	Have the Forests and Grassland made progress toward assuring adequate representation of the full range of successional or structural stages of community types across the forest and grassland landscapes? How has the representation of successional stages been accomplished? (Biodiversity; General - Objective #12)

On the ARNF, increases have occurred in early forest successional stages from management treatments and natural events (primarily wildfire) in young- to mature-forests as planned. The ARP emphasis on hazardous fuels treatment is making this possible for the most part. The increase of early stages has occurred while old growth forests were generally retained Forest-wide.

Old growth of all conifer types has been largely retained over the past 9 years, even with recent wildfires. Development of more, future low-elevation old growth is being best assured by reduction of forest fuels in fuels treatment areas along the Front Range and by acquisition of low-elevation lands by the Forest Service in the Evergreen, Colorado area. Implementation is beginning which will allow us to achieve the Forest Plan objective of treating about 7000 acres per year. More low-elevation old growth (ponderosa pine (PP) and Douglas-fir (DF)) is being found than was known at the time of the Forest Plan revision (1997). Newer aerial photos (taken since insect epidemics) are providing a more complete and reliable inventory of the locations of PP and DF old growth. Pre-project surveys to field truth many PP/DF old growth sites are confirming recent photo interpretation findings. An entire inventory along the Front Range was completed in FY03 to assure that locations are known, and to allow for planning and implementation according to Forest Plan direction. The inventory located additional sites that were previously undetected, but also ascertained that PP/DF old growth still remains the most limited type of old-growth forest within the ARNF.

A quantified comparison of forest structural stages from 1997 to present is not available since updates to Forest resource data are not yet complete.

On the PNG increases have occurred in grassland mid-structure grasses especially due to several wet seasons. A revised grazing management plan for the west side of the Grassland will best assure both short-grass and mid-grass stages. The short-grass structural stage is adequate for nesting mountain plover (a previously proposed threatened species that was recently withdrawn from proposed listing), and the mid-grass structural stage is necessary for nesting lark buntings (a regionally declining species).

General: Ecological Processes & Human Influences	Has progress been made toward improving Forest and Grassland wildlife habitat and watershed condition through modification of system roads, trails and ways? How has this been accomplished? (Biodiversity; General - Objective #1)

WATERSHED CONDITION:
While roads continue to be one of the major sources of sedimentation and cause other impacts to streams and riparian ecosystems on the Forest, some progress has been made in reducing these impacts. Nearly all roads affect soil and watershed processes by providing continuously bare ground that serves as a source of erosion and by providing compacted areas that produce and concentrate surface runoff, and so, a reduction in roaded area tends to benefit soil, water and aquatic resources. Roads that have the greatest impact to watershed resources are those that are located immediately adjacent to or in stream channels. Consequently, the greatest benefit is from the obliteration or relocation of those roads. In addition to other roads decommissioned during the current planning period, approximately 13 miles of old timber sale roads were obliterated in the Crimson project area of the Sulphur Ranger District and 1.5 miles on the Canyon Lakes Ranger District. It should be noted that hundreds of miles of roads adversely impacting watersheds remain and that while the Forest has annually decommissioned roads, it has been unsuccessful in reaching the objective of decommissioning approximately 44 miles of road per year stated in the Forest Plan.

WILDLIFE HABITAT:
Some progress has been made toward improving wildlife habitat through modification of system roads, trails and ways. However, the progress made is less than full implementation of the Forest Plan. There is more off-road use or use of unauthorized roads (identified as "ways" in the Forest Plan, basically, user-created roads) than estimated in the Forest Plan. Accordingly, this may be resulting in higher amounts of human-disturbed wildlife habitat than predicted in the Forest Plan. Closing of certain Forest Service roads and "ways" that have established use is at times unsuccessful. Gaining public support for closing travelways is seldom successful. Numbers of unauthorized routes appears to be increasing every year. An average of 30% of the expected Forest Plan objective of 44 miles of closures per year (Forest Plan, p. 4) is being realized that improve habitat effectiveness.

> Emerging issue: Due to lack of Forest Service field presence, unconstrained off-road vehicle use is increasing in many areas on the ARP.

General: Old Growth	Have old-growth quantity and quality been maintained and have management activities assured adequate/sufficient old growth for the future? How has this been accomplished? (Biodiversity; General - Objective #2) (36 CFR219.)

Old growth forest quantity and quality have been maintained, and adequate/sufficient old growth is assured in the future. In 2002 the ARP acquired approximately 2700 acres in the Evergreen, Colorado area from the City of Golden (Beaver Brook acquisition). This land serves as an important wildlife refuge and as one of the last remaining intact low-elevation, forested ecosystems along the Front Range of Colorado offers a high potential to develop into low-elevation old growth.

Recommendation: Awareness and application of Forest Plan old growth direction should continue to be a primary objective in any forest treatment project, during both planning and implementation.

General: Threatened Endangered and Sensitive Species	Have habitat-improvement projects resulted in protection, restoration and enhancement of habitat for threatened, endangered and sensitive species? What management practices have been most effective? (Biodiversity; General - Objective #3)

See Appendix B, Graph 6, Terrestrial Habitat Improvement

Habitat improvement projects have generally protected, restored and enhanced habitat for TES species. Examples of projects that have 'made the most difference' in both protection and enhancement are: installation of barriers and removal of non-native trout from cutthroat streams (Sulphur Ranger District); prescribed burning to benefit mountain plover nesting (Pawnee National Grassland); and travel access management to protect the plover, native cutthroat trout, boreal toads, nesting raptors and numerous other TES species across the PNG and ARNF. Advances have been made in recognizing and managing for rare plants in all management activities since the 1997 Forest Plan revision, but deliberate projects for improved rare plant habitats have been few to-date.

TES projects by nature are often site-specific, limited in extent, but very important to small populations or few individuals. Work and progress in this area often goes unnoticed by all but the biologists and botanists on the ARP since it is not widespread or showy. As previously noted, annual accomplishments have been at the minimum level expected (3 projects per year).

Recommendation: Given the high emphasis for biological diversity committed to in the Forest Plan, increased effort in this area is appropriate. Opportunities include working with partners; restoring riparian areas; translocation of native cutthroat into currently unoccupied streams; expansion of current cutthroat habitat by removal of non-native trout; habitat restoration and maintenance for amphibians, raptors and rare plants; and more intensive access management (see off-road and travel management discussions) in TES habitat.

Air, Soil, and Water: Air Quality Related Values	Is progress being made to move air quality related values from at-risk to a maintenance or higher level of protection? How were related values protected and improved? (Biodiversity; Air, Soil & Water – Objective. #4) (CFR 219.23 e)

The Air Quality Related Values (AQRVs) identified in the FEIS of the Forest Plan are: soil, flora, fauna, water quality, and visibility. Forest personnel have not taken any direct action to improve air quality related values. In general, the forest is a recipient of pollution from adjacent areas. With the exception of prescribed burning, forest activities do not produce large amounts of pollution.

To maintain existing air quality, Forest and Grassland personnel continued to work closely with the Colorado Air Pollution Control Division to meet all applicable state and federal air quality requirements related to smoke emitted during prescribed burning projects in 2006.

Progress continues to be made in evaluating baseline conditions for some air quality related values (AQRV's) of forest resources as well as developing ways to evaluate trends in condition for AQRV's. Control of the Forest's emissions in connection with fuels management activities has been implemented in compliance with the State of Colorado.

Monitoring air quality related values has focused on measuring lake water chemistry in the Class 1 Rawah Wilderness, Indian Peaks Wilderness and the nearby Colorado State Forest land. A total of eight lakes were sampled twice in 2006. Lake sampling was completed with the assistance of Bob Musselman and other staff of the Rocky Mountain Research Station (RMRS). Currently, the RMRS is compiling this data for future analysis and publication.

Currently, lake water quality data is being used to help assess baseline levels as well as trends in lake chemistry on the forest and how they reflect impacts from off-forest air pollution.

The ARP continued to work with Regional Office staff and adjacent land managers such as Rocky Mountain National Park to evaluate impacts from increases in ambient ozone concentrations and other pollution and to recommend mitigations to minimize those impacts. Baseline information on high elevation lake water quality, visibility data and other sources of air quality information continued to be used by the Regional Office to provide comment and review of Permits for Significant Deterioration (PSD).

Air, Soil, and Water: Forest Emission Budget	Has progress been made on developing a Forest and Grassland emission budget? How was the Forest emission budget developed? (Biodiversity; Air, Soil & Water - Obj. #5)

ARP personnel continue to model and estimate smoke emissions. Methods, including the use of the SASEM model, include measurements; smoke analysis, and impacts assessments for individual prescribed fire projects. These data are currently tracked (since 1997) and recorded in project files and annual spreadsheets and have also been compiled as part of the State of Colorado Smoke Permit process. Progress has not been made to develop an emissions budget for the Forest because the primary source of emissions of concern is smoke from prescribed burning. The Forest complies with regulation through the State air quality permitting process. Emission of other air pollutants generated by forest activities are well below National Ambient Air Quality Standards and development of an emission budget is not warranted.

Recommendation: This objective is unnecessary as described above and should be eliminated.

Air, Soil, and Water: Functional Watersheds	Has the Forest made progress toward moving sixth-level watersheds from at-risk or non-functional to functional? Which watersheds were improved and how was this accomplished? (Biodiversity; Air, Soil & Water - Objective #7)

Incremental progress continues to be made through watershed improvement projects, facilities improvement projects ("10% fund" projects), and through changes in grazing management. One sixth-

level watershed (North Lone Pine) has been improved in condition enough to change its condition class from non-functional to functional-at-risk.

Recommendation: No change to the objective is recommended. Focus implementation on identifying and completing sufficient watershed improvement within priority watersheds so that improvement in watershed condition can be demonstrated. Priority watersheds, and watershed improvement needs within the watersheds, have been identified for all Ranger Districts on the Forest, and prioritization will be completed for the Pawnee National Grassland by the end of 2007.

Though not directly part of this question, an objective to improve channel stability is listed in the Forest Plan. Improving channel stability is a key component to improving the watershed condition. Some progress has been made towards some channel stability. See Appendix B, Graph 7, Improve Stream Channel Stability.

Air, Soil, and Water: Ecological Land Units	Has the Forest made progress toward moving Ecological Landtype Units from at-risk to a maintenance or higher functioning level? How was this accomplished? (Biodiversity; Air, Soil, & Water - Objective #6) (CFR 219.23 e)

The mapping unit is not the scale where a determination of function is appropriate. This determination generally occurs at the activity area scale during project planning. Forest staffs are working on evaluation of soil conditions and improvement of the implementation of water and soil conservation practices during project activities at this scale.

Recommendations:

- This objective needs to be re-evaluated in the context of the updated Watershed Conservation Practices Handbook and changed to better address the issues of soil productivity, hydrologic function and watershed health described there.

Air, Soil, and Water: Stream Flows	Has the Forest made progress toward obtaining (through negotiation, trade or purchase) stream flows to sustain aquatic life and maintain stream processes on up to 5 reaches of stream channels? What were the most effective and cost efficient methods? (Biodiversity; Air, Soil & Water - Objective #8)

The Forest has minimally achieved this objective through the completion of an easement with the City of Boulder for the Lakewood pipeline in 2002 as described in previous monitoring reports. No facilities that have required streamflow protection have been authorized or re-authorized since 2002. See Appendix B, Graph 8, Obtain Stream Flows to Maintain Stream Processes.

Air, Soil, and Water: Non- Point Source Pollution	Has the Forest made progress toward reducing non-point source pollution in Class II and III watersheds and in streams, which are not fully supporting State-designated uses? How has this been accomplished? (Biodiversity; Air, Soil & Water - Obj. #10)

Progress has been made through the implementation of watershed improvement projects, road decommissioning, and abandoned mine reclamation, although the pace has been more moderate than the 49-160 acres annually listed in the Forest Plan objectives. Annual accomplishment in 2006 was 25 acres. Determining the effectiveness of improving State-listed streams is more problematic. The State lists stream segments that are not fully supporting State-designated uses on a list that is referred to as the 303(d) list. When the Plan revision was completed, there were 12 stream segments on the Forest that appeared on the list. On the most recent list, the 2006 303(d) list, only 6 stream segments that occur on the Forest are listed. However, the change is mostly an effect of a change in the State's listing criteria. See Appendix B, Graph 9, Non-point Source Pollution Treated.

Various abandoned mine reclamation projects were completed in 2006. The Doctor Mine, located west of Berthoud Pass near Jones Pass, had two primary objectives, which were a) to eliminate or reduce metals loading into the West Fork of Clear Creek and b) the restoration of impacted wetland, riparian, and stream habitats. The Bueno Mill and Streamside Tailings project had three primary objectives, which were to a) reduce the metals loading into James and Little James Creek, b) remove the threat of metals contamination of the Jamestown water supply, c) remove the threat of catastrophic failure of the Streamside Tailings impoundment and potential contaminant effects on Jamestown, and d) restore impacted upland, riparian and in-stream habitats. The site is located immediately west of Jamestown between James Creek and Little James Creek.

Roads are a significant source of non-point source pollution on the Forest and road decommissioning is an effective means of treatment. Trends in accomplishment of road decommissioning are shown under the "Travel Management" section, later in this document.

Vegetation: High Fire Hazard	Has the Forest made progress toward reducing the number of high fire hazard, high value, and high and moderate risk acres? How was this accomplished? What was the most effective method? (Biodiversity; Vegetation - Objective #11)

The objective is to reduce the number of high risk/high value, and high and moderate risk acres by 2,000 to 7,000 forested acres annually using mechanical and prescribed fire treatments. The Graph 10, High Hazard Fuels Treated, in Appendix B shows the annual accomplishment of acres treated meeting this objective.

The annual average accomplishment for the nine years of the Forest Plan is almost 4000 acres/year and falls within the Forest Plan stated objective . Planned accomplishments were higher for most fiscal years but were not achieved due to a variety of reasons in some years. Most notable were not having suitable weather and fuel conditions to execute prescribed burns in 2003, a moratorium on prescribed burning during a portion of FY 2000, and the commitment of personnel to fire suppression assignments.

Accomplishment of this objective increased in 2006 and is expected to increase slightly during 2007 due to the emphasis of the National Fire Plan and the Front Range Fuels Treatment Partnership.

Human Uses

Wilderness	Is the Forest making progress toward providing designated wilderness campsites where resource impacts from users are evident? (Human Uses - Objective 2)

The Forest hasn't added designated wilderness campsites since they were established in the Indian Peaks Wilderness Area in the mid-1980's, and in the Comanche Peak Wilderness Area in 1996.

Developed Recreation	Has the Forest made progress toward providing a mix of facility reconstruction, expansion, and, when possible, new developments consistent with future use projections? Has this been done to assure quality developed recreational opportunities? (Human Uses, Developed Recreation - Objective #4)

Progress has been made. Within the past 9 years, the following campgrounds were reconstructed: Ansel Watrous, Narrows, West Lake, Sunset (new), Willow Creek, and Stillwater. Dowdy Lake Campground reconstruction project was surveyed, designed and contract-obligated in FY2005. Many other individual campsites were brought into standard for disabled accessibility and several developed campsites were reconstructed using Granger-Thye collections. Many other items were replaced, repaired, or installed such as water and electric lines, new pumps and chlorinator facilities, new picnic tables and fire rings. New tent pad areas were delineated with timbered borders and trails in a few developed campgrounds were hardened

The annual ARP toilet replacement contract has contributed to at least sixteen new toilets across the Forest. With the past few years the Sunset Boat Ramp and parking facility were reconstructed and the boat ramp was extended twice and a sailboat "gin" pole was installed at the Stillwater Boat Ramp. A new kiosk was installed on Mt. Evans and the Dos Chappell Interpretive Nature Center building was constructed and opened at the Mt. Goliath Natural Area along the Mt. Evans Scenic Byway. The ARP initiated the Recreation Site Facility Master Planning process with a targeted completion date of 2007.

Within the past several years, West Branch, Rawah, and Lower Maxwell Falls Trailheads were rebuilt. A bridge replacement was installed at Buffalo Creek. The Waldrop Trail bridge in the Brainard Lake Area above Boulder was reconstructed. A new 4x4 trail bridge on Trail Creek Trail, a new bridge on Sunken Bridges Trail, and a new bridge on the Bakerville-Loveland Trail were installed. Twenty-four miles of new Continental Divide Trail, one mile of new trail on the Grays and Torreys Peaks trail were constructed and a re-route work on the Chicago Lakes Trail was completed (FY2005 project). Over the past few years, roadside recreation/travel management kiosks were installed at Stillwater East, Stillwater West, North Supply, Cabin Creek, Young's Gulch and Herman Gulch.

The total Recreation Budget for the ARP in FY2006 was $2,509,300. Subtracting cost pool, R2 Rec. Director adjustments and OWCP/Unemployment expenses left the Recreation Program with $2,273,500 to program among Recreation staff at one Forest Supervisor's Office and 5 Ranger Districts, and across 6 primary recreation program elements of: Develop Sites, General Forest Areas, Trails, Interpretation/Education and VIS, Wilderness, Special Uses/Ski Area Mgt., and Heritage Operations.

Dispersed Recreation	Has the Forest made progress toward reconstructing or rehabilitating impacted dispersed areas and sites, providing new designated dispersed campsites consistent with future use projections? How has this been accomplished? (Human Uses, Dispersed Recreation - Objective #1, #3)

Progress has been made in dispersed recreation sites over the past few years. The Manhattan Road, Long Draw and Lost Lake areas (in the Canyon Lakes Ranger District) have designated-dispersed campsites. Toilets have been installed in the Stillwater backcountry dispersed camping area and at many trailheads across the Forest to concentrate and reduce human waste issues in these areas.

Restrictions have been established to prohibit shooting and/or overnight use in the Buckhorn Area of the Canyon Lakes Ranger District; Left Hand Canyon, Lefthand OHV Area, and South Saint Vrain Canyon of the Boulder Ranger District; and the Mt. Evans Road corridor, Barbour Forks area (in FY2005) and the Fourth of July Road corridor on the Clear Creek Ranger District.

Several annual Lefthand Canyon cleanups have been instituted to remove debris and rehabilitate this heavily impacted dispersed area. There have also been shoreline cleanup projects at Lake Granby and Shadow Mountain Reservoir. Buck-and-rail fences were installed around several dispersed campsites in the Stillwater area of the Sulphur Ranger District to prevent campers and OHVers from traveling beyond the designated dispersed campsite boundary.

In addition, in2005 the Boulder Ranger District completed the Brainard Lake Recreation Management Plan and the EA for Brainard Lake Recreation Projects. Implementation design began in 2006.

Visitor Satisfaction	Have the Forest and Grassland made progress toward providing satisfactory recreational experiences to visitors? (Human Uses, Visitor Satisfaction - Objective # 5)

The ARP strives to provide satisfying recreation experiences to our visitors. The Mt. Evans Recreation Area has provided the public with a substantially enhanced recreation experience. The additional funding enabled by the standard amenity recreation fees via the newly passed Federal Lands Recreation Enhancement Act of 2004 (REA) has provided for toilets cleaned to high standards and at high frequencies; interpretive programs and Forest Service interpreters to lead them; roving patrols to provide visitors with information, comfort, safety and security; new and improved signage; a new interpretive and nature center at Mt. Goliath; and other facilities maintained to better standards.

Within the Arapaho National Recreation Area standard amenity fees have provided increased service patrols; interpretive day events for first and fifth graders; boat safety patrols on Lake Granby and Shadow Mountain Lake; cleaned and maintained toilets and trash service in the ANRA picnic areas; and law enforcement patrol in the ANRA for enhanced visitor safety and security. The Christmas Tree special recreation permits at Clear Creek, Sulphur, and Canyon Lakes Ranger Districts provides for substantial information and educational opportunities, technical assistance, safety and security, and overall interaction and good will with the public.

More and better interpretive signs and information has increased visitor satisfaction. New signs on Guanella Pass Scenic Byway and three interpretive signs at the Lake Granby Overlook of the Colorado River Headwaters Scenic Byway were constructed within the past few years. At the Clear Creek Ranger District's Visitor center a new interpretive kiosk was recently built. New wildlife mounts and natural wood furniture for the Sulphur Ranger District visitor center have enhanced the visitor's experience. The

Boulder Ranger District Visitor Center has also seen improvement with additional available maps, furniture and information racks. A substantial visitor center was designed and is being constructed for the Supervisor's Office/Canyon Lakes Ranger District's new office building.

Hundreds of recreation special-use permits are issued to providers who serve the public and provide recreation experiences via outfitter/guides, marinas, ski areas, boat docks, recreation events, recreation residences, and many others. Also, the Forest Campground Concession Permit provides for concession-managed developed campground (and some picnic areas) operations, maintenance, host staffing, and interpretive programs.

Roads and trails, signs, information bulletin boards, toilets at trailheads, facilities, dispersed camping areas, day use areas, historic and prehistoric sites, paleontological sites and other areas are maintained on the ARP for enhanced public recreation experiences.

The ARP also provides random interpretive programs in the field and sessions at schools, visitor contacts at district VIS centers and in the field and interpretive signage for our kiosks and bulletin boards. In addition, the ARP has invested in upgrading and hiring visitor services positions to increase service to the public.

Finally, the National Visitor Use Monitoring survey estimates approximately 6.2 million annual visits to the ARP, and relatively few complaints occur each year. The overall estimate is that the ARP is meeting and probably far exceeding our 70% satisfactory recreation experience objective in the Forest Plan.

Travel Management	Have priorities been established and implemented for managing travel to best meet future travel and access needs of Forest users? How has this been accomplished? (Human Uses, Travel Management - Objectives #6, #7, #8, #9, #10, #11)

The Forest Plan recognized the importance of managing travel and transportation planning on the ARP. It is the implementation of this, which has been difficult especially due to tight budgets, competing priorities, personnel downsizing, as well as the long public process to obtain informed consent among polarized users. See Appendix B, Graph 11, Road Decommissioning, Graph 12, Road Maintenance, Graph 13, Road Construction, and Graph 14, Road Reconstruction, for a summary of ARP accomplishments.

WATERSHED

Roads and trails are major contributors to watershed and riparian impacts on the Forest. Others have noted that travel management planning, while an ongoing effort has proceeded at a pace that has lead to only the partial attainment of Forest Plan objectives. There needs to be a continuing emphasis on interdisciplinary participation in travel management planning so that resource concerns are addressed while access needs are being met.

RECREATION:
On November 9, 2005 the "Travel Management: Designated Routes and Areas for Motor Vehicle Use Rule" (aka Travel Rule) was finalized in the Federal Register. This rule requires the Forest Service to designate a system of roads, trails, and areas open to motor vehicle use by season and vehicle type. The public will have full review of preliminary inventory and maps. This designation is completed via a

Motor Vehicle Use Map (MVUM), which will be printed annually. When printed, it is a violation of 36 CFR 261.13 and .14 to use or possess a motor vehicle anywhere not designated on the MVUM.

All the ranger districts on the ARP began work on their road/trail inventory in FY06. Their projected completion dates are as follows:

Sulphur	September 2007
Pawnee	December 2007
Canyon Lakes	December 2008
Boulder	December 2009
Clear Creek	December 2009

As stated above, national prohibitions for "Use of Vehicles Off Roads" (36 CFR 261.13) prohibit any vehicle from traveling off National Forest roads: (g) "…in a manner that endangers, or is likely to endanger, any person or property." (h) "In a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources." Until the MVUM is in place this regulation is enforced on the ARP via a Forest Closure Order.

Forest Closure Order No. 10-00-03 (signed 5-27-98 and updated 6-10-99 by Forest Supervisor, Peter Clark) prohibits "Using or possessing a motorized vehicle off numbered Forest Development roads or designated travel routes (36CFR 261.56)" and "Using a motorized vehicle on a closed Forest Development Road (36 CFR 261.54 (a)". The order also lists by Ranger District, specific roads and trails closed to motorized vehicle travel, year-round and seasonally.

Districts are implementing the above closure order, as well as working on the MVUM and planning for any needed additional closures and opportunities for motorized travel. This is an ongoing process and in 2006 included planning Mt. Margaret, Laramie River and Bobcat Ridge areas on Canyon Lakes Ranger District and the James Peak area of the Sulphur District. Implementation of travel management planning occurred on the Crimson project in the Williams Fork area of the Sulphur District.

TRANSPORTATION:
Travel management consists of three components: transportation planning in support of increased users and uses, implementation of projects resulting from transportation planning; on-going maintenance and monitoring of the decisions made on the transportation system.

Planning: All districts on the ARP have ongoing travel management planning projects. In some instances, it has occurred in conjunction with planning for other projects or during landscape analysis. On the Boulder and Sulphur Ranger Districts and the Pawnee National Grassland, specific travel management plans have been developed for portions of the units. Travel management is very controversial in the surrounding communities. The public involvement process is complex and time-consuming. For that reason, there has been a reluctance to include travel management planning with planning for targeted projects such as hazardous fuels reduction. The ARP has been unable to make the financial or time commitment to a regular, unified travel management program. The majority of the effort has been placed on inclusion of travel management in large project planning efforts, however, with the completion of planning in 2005 for the Left Hand area on the Boulder Ranger District a smaller scale travel management project was accomplished.

In January of 2001, new legal requirements for travel/transportation planning for roads were adopted. The new requirements called for a scientific-based transportation planning process. The Forest Service

developed a national process called *Roads Analysis: Informing Decisions About Managing the National Forest Transportation System*. The new system provides scientific-based recommendations to land managers for management of the roaded transportation system. Decisions involving new or changes to the National Forest road system are required to be "informed" by a Roads Analysis Process (RAP). In FY 2003, the Forests and Grassland completed a RAP for all of the maintenance level 3, 4, and 5 roads on the inventory. This RAP document will serve as an umbrella document for future roads analyses at the area, watershed or project level for our remaining road system.

In 2005 the Travel Rule was issued which required the designation of roads, trails, and open areas to motor vehicle use by vehicle class and time of year. This rule provided for a national framework to complete the designation while allowing for local decisions. The ARP has established a 5-year timetable to complete the initial publication of the motor vehicle use map. A major portion of the work will be to establish the baseline transportation systems of roads, trails, and open areas. Most Districts have various travel management plans completed at the projects level and these decisions will form the baseline of the development and implementation of the Travel Rule.

Implementation: Implementation of projects occurs when transportation decisions are made in the planning stage and are funded through capital investment, timber purchaser or other programs. As defined by the ARP, the implementation phase is implementation of recent travel management decisions and not the annual or routine activities necessary to maintain previous decisions or actions. Typical projects include OHV trail designations, authorized and unauthorized road decommissioning, road restrictions and closures, and implementation of road construction or reconstruction in other projects whose objective is not directly related to travel/transportation management. These projects include road work in timber sales, roadside erosion control, moving of roads out of drainage bottoms and roadwork included as part of other capital investment projects.

Road closures are covered under multiple activities which include the soils program, wildlife program, fuels vegetation program, and the travel management program. The accomplishment and funding of these closures has varied each year based on the various program objectives. Most of the reason for not meeting a higher outcome is in the requirements of the RAP process, complexity/controversy involved in the public involvement, and the general decrease in funding across most program areas. In particular the roads program has seen a reduction in road maintenance funding for 5 of the past 6 years. Despite these challenges the ARP remains committed to the decommissioning of unnecessary authorized and unauthorized routes.

Average implementation of road reconstruction has been at the base level. This is primarily due to most timber roads and fuels projects utilizing existing roads with very little need for reconstruction. The fuels program access needs changed with the varying treatment methods being utilized. Little road reconstruction is necessary for fuel treatment such as piling and burning or chipping. In general the timber program provides road reconstruction at the base level while the fuels vegetation program needs are provided by increased efforts in road maintenance activities.

The ARP has not met Forest Plan objectives for new open system road construction. National emphasis has not been for new road construction, but is toward maintaining and/or improving the existing road system. This is not necessarily a negative indication of Forest Plan implementation. It appears to be an indicator of the ARP following national directions and policies. The need for new, permanently open roads appears to be less than anticipated by the Plan. More data is needed before recommendations can be made for changes to this particular objective.

O*n-going Maintenance and Monitoring:* Ongoing maintenance includes the recurring work such as system road and trail maintenance, sign maintenance, managing seasonal gate closures, installing information boards and signs, reinforcing existing closures and obliteration of parallel roads and resource damage. An inordinate amount of time was spent on decommissioning previously decommissioned (closed or obliterated) roads. This work involved replacing damaged gates, fences, boulders and signs. Inventorying and performing road deferred maintenance surveys of all Maintenance Level 3 to 5 continues and is accomplished on a reoccurring five year cycle. The ARP personnel doing the on-going management activities are continually monitoring, evaluating and prioritizing the work for following years. The ARP has not met the Forest Plan objectives for maintaining system roads.

WILDLIFE:
Converting 'ways' to system roads and trails as well as reconstructing, constructing, developing and maintaining system travel-ways have important implications to ARP-wide habitat effectiveness objectives. RAP efforts have appropriately incorporated wildlife/botany resource input, although the ARP has little room to change the type of roads considered to-date by RAP. This is because the ARP-wide RAP in accordance with national policy only analyzed the two-wheel drive roads (maintenance level 3, 4, and 5), which are the main transportation system for the ARP. It is the four-wheel drive roads (maintenance level 2) and unauthorized (user-created) routes, which poses the problems for wildlife. Similar wildlife/botany resource input is most needed in the more specific project- or watershed-scale RAPs dealing with these four-wheel drive roads and unauthorized routes. The implementation of management of most system road and 'ways' has not fully met Forest Plan direction relating to expected wildlife habitat improvements.

Land Uses and Ownership

Boundary Mgt., Access and Land Ownership Adjustments	Has the Forest made progress toward improving boundary management, access, and land ownership adjustments to protect and enhance Forest and Grassland resources and to increase management efficiencies? Which approaches have been effective? (Land Uses & Ownership, Boundary Mgt., etc. - Objective #1, #2)

Identification of boundary lines has averaged almost 28 miles per year in the nine years being reported. With the increased population and the demands for recreation, the ARP is experiencing dramatic increases in use which causes increasing problems of trespass, encroachment and loss of access by the public. However, the boundary line program emphasis has shifted to support the hazardous fuels reduction program. Boundary location work is now performed by a mix of service contracts, force account and through agreements with the Bureau of Land Management. The ARP program is managed by a Forest land surveyor who accomplished 49 miles of boundary line identified while maintaining 15 miles in 2006. This exceeds the maximum Forest Plan objective for identifying boundary line by 20% and maintaining boundary line by 230%. See Appendix B, Graph 15, NFS Boundary Maintained, and Graph 16, NFS Boundary Identified.

Land adjustments are multi-year projects in most cases. In order to complete Forest Plan targeted cases in any one fiscal year; casework must be started on approximately twice the number of cases in preceding years. Cases can be dropped or frequently changed because of changing land values, indecision, delays in finalizing the environmental analysis (NEPA), changed proposals, and the changing economic climate. Progress has been made toward Forest Plan Objectives in all areas except reduction of encroachments. With the emphasis to the fuels reduction program, funding to process complex encroachments is not

available. However, easy to resolve encroachments, such as fences, are being removed in conjunction with the fuels projects. See Appendix B, Graph 17, Encroachment Cases Processed.

Case Backlog for SUPs, ROW Grants and Land Ownership Adjustments	Have the Forest and Grassland made progress toward improving customer services to reduce the number of backlogged cases for special-use permits, rights-of-way grants, and landownership adjustments? How has this been accomplished? (Land Uses & Ownership, Special Use Permits (SUPs), Right-of-way (ROW) Grants & Landownership Adjustments - Objective #2)

Minimal progress has been made to reduce the special uses backlog. The ARP Leadership Team has recognized this shortfall; however, because of the emphasis in fuels reduction the budget has been adjusted to support boundary management. Therefore, a minimal amount of funding is available to process special uses. See Appendix B, Graph 18, Backlogged Special Use Permit Processed, Graph 19, Right-of-Way Cases, and Graph 20, NFS Lands Consolidated.

Accomplishments in land ownership adjustments made in Fiscal Year 2006 included:

- Diehl land exchange.
- City of Golden donation
- Babikin

Permit Review, Cost Recovery	Have the Forest and Grassland made progress toward working with potential permittees to insure that benefiting parties assume the costs of permit review and administration? How has this been accomplished? (Land Uses & Ownership, Permit Review - Goal #2)

Cost recovery was implemented towards the end of the fiscal year. When applicable, new special use cases will have a collection of funds to cover certain costs to the government from the proponent. The Forest has recognized the value of collection agreements and has a special projects manager position to help utilize this tool more effectively.

Public Involvement	How and to what extent have the public and stakeholders been involved in assisting implementation, monitoring and evaluation of the Forest Plan.

In recreation, stakeholders have primarily been involved in the implementation of trail maintenance, noxious weed removal, and information and education work across the Forest. Many volunteer groups contact visitors, patrol wildernesses and summer/winter trails, restore watersheds, improve stream habitat, and record specific data for monitoring purposes.

All the Ranger Districts have extensive public involvement such as presentations to schools, outreach (scoping) during project planning, coordination of volunteer projects and so on.

Emerging Issues	Have changes in agency management activities resulted in unforseen issues that the ARNF and PNG need to address? How were needed changes determined and what recommendations or solutions did the public [or ARP personnel] offer?

RECREATION

Ongoing or Emerging Issues

- The "300 foot rule" currently allows motorized use 300 feet off any designated Forest Road for dispersed camping and other recreational purposes. Some forest visitors have been extending unauthorized roads beyond the 300-foot limit causing a cumulative creation of new unauthorized roads where none were planned. This has created sanitation and erosion problems, and also creates confusion resulting in users not knowing where the travel route legally ends. In addition, enforcement is currently based on adequate road and trail signing in the field and has not proven effective to stop motorized incursions into the forest because signs are easily damaged or entirely removed.
- Renewed emphasis in inventory and data management (INFRA database) of Developed Recreation Sites, Trails, Wilderness Areas and General Forest Areas, as well as real property inventories for all Recreation Facility assets has created a higher than expected workload and cost to the agency, both in terms of dollars and opportunity cost of not doing other necessary work.
- Prior to December 8, 2004, the Recreation Fee Demo (RFD) program brought some positive effects to the public but it also created some negative issues. Now with the Federal Lands Recreation Enhancement Act of 2004 (REA), a small but very vocal segment of the public has used the program as a poster child for protesting fees, government management authority over public lands, taxes, and general fairness issues.
- The Forest Service commitments made through Memorandum of Understanding (MOU) with groups like the Continental Divide Trail Alliance and the Colorado Fourteeners Initiative can establish partner expectations for funding, planning, and project implementation that the Forest or Districts may or may not be capable of upholding. Certain negotiation aspects are outside local control and we are faced with timing issues, funding issues and issues of other higher priority work which often conflict with partner expectations.
- Costs of providing safe drinking water that meets State standards and regulations are rising sharply. Microscopic Particulate Analysis testing for all water systems is now on a 3- year cycle and costs between $1,500 - $2,000 each test. Some campgrounds and picnic areas do not collect enough revenue to offset these costs.
- Carrying capacity for specified recreation areas that are undergoing planning processes are needed to help plan for existing and future human use.
- Recreation use in the urban front country is increasing rapidly, as are the corresponding impacts and conflicts between users. Urban front country areas need to be assessed for their capacity to provide specified recreational experiences and not to provide others. This assessment should then lead to management changes on the ground in the future.
- Epidemic conditions of the mountain pine beetle have created very dire conditions in many of our developed site campgrounds and picnic areas.

Recommendations

- The "300 foot rule" stated on the Forest Map has been incorporated into the 2005 Travel Rule, however, the ARP needs to do site-specific decisions in areas of concentrated dispersed use.

- Capacity issues, in some areas, need to be addressed.
- Travel management planning and decision-making needs to occur as the ARP is doing the Motorized Vehicle Use Map for lands in its jurisdiction.
- Additional Wilderness management elements need to be attained as well as additional Wilderness areas managed to standard.
- Special-use permits need to be administered to minimum standards, and more need to be administered fully.
- INFRA databases for Wilderness, Developed Recreation and Trails should be fully populated and operating at a functional level. INFRA for General Forest Areas will most likely be in some phase of implementation.
- More "field presence" is needed to educate the public and enforce regulations. The Forest Service "field presence" personnel should have training to be certified as Forest Protection Officers.
- James Peak Wilderness issues and obligations need to be met.
- Consider converting some small campgrounds and day-use areas to dry-sites (no developed water system) as circumstances allow.
- Plan to address carrying capacity as part of management planning and/or environmental analysis for recreation areas undergoing some kind of existing planning process or potential planning based on need or demand.
- Assess ARP urban front country areas for their capacity to provide specified recreational experiences and determine what experiences are better provided in other locations on the Forest or on other lands.
- We need to increase protection measures for existing stands of healthy trees in our developed sites and begin vegetation management planning for eventual stand vegetation replacement and in some cases, catastrophic vegetation loss replacement.

TRAVEL MANAGEMENT

Ongoing or Emerging Issues

- 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 due to higher planning costs and having to "re-close" previously closed roads and trails. The increasing cost of planning is diverting funding from on-the-ground transportation system improvement, maintenance and decommissioning.
- Many new travel routes are being established through "social" use and illegal travel activities. In some instances, users are constructing trails and then coming to the forest and asking that the forest add the new trails to our "system" and demanding that we maintain the trails. Many times, these requests are the first we know of the "new" facilities. Some liability issues could be associated with these new, illegal facilities.
- The Forest Service has declared itself a public road agency and is taking steps to identify previous non-public roads as public. The Public Forest Service Road program will have a significant affect on the management of the Forest and Grassland road transportation system.
- Upkeep of transportation system inventory information, including needed, planned and accomplished annual and deferred maintenance will require more time and effort. National deferred maintenance protocols require inventory and deferred maintenance surveys be performed on 20% of all inventoried roads each year (100% in 5 years). The cost of surveys and data management will take funding from on-the-ground maintenance activities.

- The Forest Service published the Travel Rule in November, 2005. This rule directs that OHVs will be allowed only on designated OHV routes (roads or trails) on all National Forest lands.

Recommendations

- Continue to make the requirement of the Travel Rule a Forest priority.
- Continue to follow the Roads Analysis Process for travel management recommendations.
- Continue to improve relationships with volunteer groups and aggressively seek out challenge cost share projects.
- Continue to sign roads and trails for the types of uses allowed.
- For roads that are decommissioned, an explanation of why this was necessary should be clearly displayed in the field to help deter future trespass.
- Minimize illegal use through expanded law enforcement and field presence. There is 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.
- Work with the public and adjacent landowners to inform them of Arapaho and Roosevelt National Forests and Pawnee National Grassland travel regulations.
- Establish a method to more adequately plan and track accomplishments and utilization of funds allocated for "ongoing" activities.
- The Forest and Grassland should make a commitment to transportation planning and facilitate its completion. On a forest wide basis, prioritize the areas where the forest will address travel management in association with landscape analysis or on broad project areas. Incorporate travel management planning and the RAP process with other area or project level assessments and analyses for best efficiency. Proceed with planning and implementation based on those priorities.
- Evaluate Human Uses Goals #6 for applicability to present National Policy and the transportation needs of the Forest and Grassland. National policy leans more toward decommissioning unauthorized roads than converting them to authorized roads. Decisions should be based on sound RAP procedures.
- Evaluate Human Use Goal #9 for applicability to present National Policy and the transportation needs of the Forest and Grassland. National Policy leans more toward reconstructing and maintaining our existing transportation system. Most of the areas of the Forest and Grassland in need of open road access already have that access. Decisions should be based on sound RAP procedures.
- Revise Objective output measures to match those of Road Accomplishment Report and INFRA so reportable objective accomplishments and annual accomplishments are measuring the same thing. This will also make monitoring and evaluation reporting easier.

WILDFIRE/HAZARDOUS FUELS TREATMENT

Ongoing and Emerging Issues

- There are many management issues related to the interweaving of public land and private property. This public land/private property intermixing is commonly known as the Wildland-Urban Interface (WUI). One of the most public issues is the danger of wildfires. Since 2000 four of the largest wildfires for recorded ARP wildfire history have occurred. The sizes of these fires can be related to the severe drought and the increased build-up of dead, woody material (hazardous fuels) in the forested ecosystems. The high losses of personnel property is due to the

increasing inroads into these forested environments by private landowners and mountain communities.

Recommendations

- Congress has recognized this problem through increased funding and the ARP's hazardous fuels treatment program has expanded with the objective of reducing hazardous fuels; in the WUI, around domestic water supplies and watersheds, and to protect threatened and endangered wildlife/plant species. The ARP should continue all efforts to work with our neighbors (private property owners and public agencies) towards achieving reductions of hazardous fuels. Emphasis on the National Forest Plan and the Front Range Fuels Treatment Partnership should continue.

WATERSHED

Ongoing and Emerging Issues

- Meeting the needs for instream flows on streams in the Forest continues to be an issue. Increased interest in additional water development in response to the continuing drought has the potential to push this issue to the forefront. There continues to be tension concerning State and Federal authorities with regard to water development on Forest lands. In 2005, the Forest completed a plan amendment to change two standards and one guideline related to streamflow as directed by a discretionary review by the of Agriculture Deputy Under Secretary for Natural Resources and Environment.
- Off-highway vehicle use, including mountain bikes, continues to increase. Unauthorized travel is a continuing source of watershed damage that continues to grow. Recreational use of designated roads and trails increases the controversy of travel management and can limit our ability to decommission and obliterate roads and trails for resource protection and recovery.
- The anticipated continuing increase in land area treated to reduce fuels could lead to cumulative watershed impacts. The cumulative impact could increase as treated areas are retreated in the future to maintain acceptable fuels profiles.

Recommendations

- Continue to seek innovative methods of providing for municipal and agricultural water supply while fulfilling our responsibility to provide for streamflow for Forest uses.
- Additional research is needed to provide tools to better quantify instream flow needs.
- Explore ways to provide for desirable OHV recreational experiences while protecting resources. Determine whether developed OHV trail systems such as the Stillwater OHV area have applicability elsewhere on the Forest.
- Explore methods for better analyzing, disclosing and mitigating the cumulative watershed impacts of landscape scale vegetation management, and for comparing the risks of no treatment alternatives with regard to wildfire with the impacts of fuels treatment.

SOILS

Ongoing or Emerging Issues

- Detrimental soil compaction exists in some proposed project areas before treatment implementation and is likely associated with past harvesting activities (old skid trails, landings), non-system roads, and dispersed recreation. New disturbances need to be mitigated to meet

activity area standards.

- Operations on finer-textured and wet soils are resulting in compaction; operations need to be discontinued when soils are wet. A wet weather operations field guide was developed 3 years ago for Forest Sale Administrator use to determine when equipment operations can result in soil damage. Consider using designated skid trails in certain soil types.
- It is recommended that decompaction and revegetation of landings, skid trails and ash piles be implemented during operations before timber sale contract close out.
- Monitoring indicates that a winged subsoiler is more effective at decompacting landings, skid trails, and obliterating roads on the Forest than conventional ripping. However, conventional ripping can decompact shallow compaction on shallow, rocky soils.
- Winter burning of small hand piles appears to have minimal effects on soil conditions but increases footprint (increases the amount of severely burned activity area); large piles have variably severe effects- footprint minimized. Light-severely burned burn piles have invasive weeds present.
- Using feller processors operating over slash and masticators minimize soil compaction.
- Harvest activities using skidders with non-designated trails are resulting in excessive detrimental soil impacts on whole tree harvesting units; Forest Plan activity area standards are not being met in some project areas.
- Harvest and site prep activities using feller-bunchers with non-designated skid trails and dozers for machine trampling and site prep might be resulting in excessive detrimental soil impacts on fine textured soils. Forest Plan activity area standards are not being met in some project areas.
- Some design criteria and mitigations included in some Environmental Assessment Decision Notices and in some cases, Timber Sale Contracts are not being implemented.
- Chipping and masticating activities are creating heavy fuel loadings in some activity areas with unknown long-term ecological consequences.

Recommendations

- Continue to develop a more measurable goal for soil quality and at-risk soils.
- Continue to use/develop standard protocols for soil quality monitoring. Begin to work with regional office personnel if necessary to ensure protocols, standards and measures used are acceptable and applicable.
- Continue to work with marking crews, silviculturists, and engineers to educate them about soil/water resource issues and solutions.
- Ongoing research projects of Rocky Mountain Research Station personnel and other forests/institutions need to be applied, and possibly incorporated, with ongoing monitoring of management activities on the forest.

AIR

Ongoing or Emerging Issues

- Ambient ozone concentrations during the summers of 2003 and 2004 were exceedingly high at Rocky Mountain National Park and could potentially be affecting human well-being and ecosystems on the Arapaho-Roosevelt National Forest.
- Nitrogen deposition due to off-forest, anthropogenic emissions might be detrimentally affecting higher elevation ecosystems.

- Increased smoke emissions from prescribed and wildfire could affect sensitive receptors and Class 1 areas on and off the Forest.

Recommendations

- Continue funding AQRV sampling program and possibly modify sampling protocols to achieve a more cost-effective methodology.
- Continue to work with the Forest Service Regional, Washington Office, and RMRS air specialists and other agencies (i.e. Rocky Mountain National Park) to change management or modify emission sources off-forest, if necessary to protect Wilderness, Class I areas, and human health on the Forest.
- Continue to work with NRIS Air Module Developers to incorporate data needs for smoke and emissions tracking in addition to migrating existing water quality data sets.
- Implement ozone monitoring as recommended by the Regional Office in 2007.

WILDLIFE/BOTANY

Old Growth Ongoing or Emerging Issues

- Knowledge and use of Forest Plan old growth direction during the past 9 years had been lacking in some project planning and implementation. Some planning/implementation teams had not sought direction in the Forest Plan, or followed basic planning steps in proper sequence.

Old Growth Recommendation

- This issue was corrected by informing the planning teams of the problem. However, it remains necessary that awareness and application of Forest Plan old growth direction should be a primary objective in any forest treatment projects, during both planning and implementation.

Databases Ongoing or Emerging Issues

- Basic inventory data are needed to adequately manage and monitor almost all resources within the ARP. Assuring reliable data and updates is necessary for Forest Plan implementation. Currently, resource condition data updates are not adequate to ascertain whether expected Forest Plan outputs and effects are on track. Forestland and grassland structural stages and roads/trails databases (as well as other databases) are not totally reflecting existing condition, which makes quantifiable comparisons of habitat effects on wildlife difficult (if not impossible) to determine.

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Databases Recommendation

- Updating of basic resource databases should be a priority in the next few years to meet Forest Plan commitments by year 10. For example, once databases updates are complete, the mandatory comparisons of MIS population trends with habitat conditions will be possible.

Biological Diversity Ongoing or Emerging Issues

- Opportunities, including working with partners, restoring riparian areas, and improving/increasing access management in TES habitat have not been fully implemented.

Biological Diversity Recommendation

- Given the high emphasis for biological diversity committed to in the Forest Plan, increased effort in this area should occur.

Travel Management Ongoing or Emerging Issues

- Unconstrained off-road vehicle use is increasing in different areas of the ARP.

Travel Management Recommendation

- Increase emphasis on travel management planning and implementation, which will enable better management/protection of wildlife and TES. This includes updating roads/trails databases and enabling the public to better assist as stewards of the land by having a well-planned, well-signed and well-managed travel system.

LAW ENFORCEMENT/FIELD PRESENCE

Ongoing or Emerging Issues

- Funding allows one law enforcement officer for every 700,000 acres. On average each officer covers 850 incidents per year. Many more incidents are occurring that are going unrecorded and are not prosecuted due to lack of adequate coverage.
- In the past when out in the field, Forest Service personnel would greatly supplement the law enforcement staff by monitoring regulations, talking to the public, and reporting incidents. Due to a reduction in workforce, office requirements, and a lack of Forest Protection Officer training, this important monitoring is occurring at much reduced levels. For example there is limited ability to enforce travel management direction across the ARP due to the lack of field presence (seasonal and permanent employees).
- In an era of tight budgets and personnel downsizing, there is an increased dependence on volunteers to meet program needs. While these people do an excellent job, they lack the authority to enforce regulations. Another example is contracting with a concessionaire to manage Forest Service campgrounds rather than Forest Service employees interacting with campers.

Recommendations

- Minimize illegal use through expanded law enforcement and field presence. There is a need for follow-up on the districts where the transportation system is being actively signed. The “closed unless designated open: regulation should be actively enforced.
- When out in the field Forest Service personnel need to reestablish their law enforcement responsibilities attitude such as talking to the public and recording incidents. Currently the fire organization has the person-power and can be an excellent resource for field presence by enforcing forest regulations as well as fire regulations. Taking Forest Protection Officer training and carrying an incident book in their gear can accomplish this.
- There needs to be adequate funding and personnel to accomplish the lands related part of conflict free boundaries with regards to trespass, encroachment, small tracts, rights-of-way, and land exchange.

LANDS

Ongoing or Emerging Issues

- Funding issues continue to be a factor in meeting Forest Plan objectives for the Lands Program.
- Two road access litigation cases were filed in FY2005 year. Both cases were dismissed in fy2006; however, one dismissal required to expedite the processing of the access. Access across National Forest System land to private land will continue to be an issue.
- The implementation of cost recovery regulations will take time to get everyone familiar with the process and efficient in the new procedures. Cost recovery is the assessment and collection of administrative fees from applicants and holders to pay for administrative costs incurred by the Forest Service in processing an application and monitoring a special use for compliance with the terms and conditions of an authorization. The fees collected will be retained at the forest level. The regulations are in place and the ARP **must** implement cost recovery in FY2007.
- With the increased population, the demands for recreation and quality of life, the Forests and Grassland are experiencing increasing problems of trespass, encroachment, and loss of access by the Public. Increased requests for access to private land and use of NFS land are also associated with the demands.
- The easy cases for acquisition, exchange and STA have been completed. Casework is becoming more complex and time consuming.
- Performance measures are being developed that will more accurately describe accomplishments in program areas. Forest Plan objectives and the S-Tables may have to be revised to reflect these new national performance indicators.

Recommendations

- Surveying and location of boundary lines is only a part of the solution, there needs to be adequate funding and personnel to accomplish the lands related part of conflict free boundaries with regards to trespass, encroachment, small tracts, rights-of-way and land exchange.
- Emphasis on processing ANILCA access cases to avoid litigation cases.
- Revise the outputs in Table 1.6 for *NFS Lands Without Adequate Access* to something that can be more easily measured without extensive GIS analysis.
- The S-Tables need to be updated to reflect BFES and MAR outputs so measurements of progress can be coordinated with national reporting requirements.
- Discrepancies between Forset Plan objectives and outputs in S-Tables need to be resolved.
- Boundary Management - The S-Table should show base as 30.0 miles of new, 3.0 miles maintenance; Experienced as 40.0 miles of new, 8.0 miles maintenance and Full as 50.0 miles of new and 10.0 miles of maintenance.
- Review the proposed outputs in Forest Plan objectives and S-Tables to ensure that the proposed outputs recognize the complexity of land ownership on the front range, particularly BRD, CLRD, CCRD and PNG.
- Continue to emphasize elimination of the special use and STA backlogs. The Forest is not on track to reach the elimination of backlog by 2007.
- Use the new 36 CFR 251 regulations and cost recovery to eliminate inappropriate proposals.
- Use the Lands Program Priorities to help establish a program of work for the district and supervisor offices.

MINERALS

Ongoing or Emerging Issues

- Energy continues to be a National priority. Short timelines to process oil and gas leasing nominations and applications for permit to drill may be a challenge if interest increases on the Grasslands.
- The Forest Service is requiring Mineral Administrator Certification for the locatable and leasable minerals. The certification requires training and approval by the Washington Office. This will require the Forest to change its administration of the minerals program.

Recommendations

- Mineral Administrator Certification: Have the Lands and Minerals Supervisor's Office and District Staffs discuss who should be certified and make a recommendation to the Engineering, Lands and Minerals Group Leader to implement.

HERITAGE RESOURCES

Ongoing or Emerging Issues:

- An important issue related to our heritage compliance continues to be the implementing regulations for the NHPA, 36 CFR Part 800. These 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 these regulations, they have already changed the way that we do business. Generally, they are much more rigorous than the old regulations, and require extensive documentation showing potential appellants that we have followed the process to the best of our ability. One of the more evident changes is the requirement to consult with Certified Local Governments (CLGs) on our compliance projects. This has required the addition of a third compliance report (NEPA Specialist report, 106 Compliance Report and a modified NEPA Specialist report for the CLG). More Governmental entities are becoming CLGs, at this time CLGs associated with the Forest include the cities of Boulder, Central City, Fort Collins, Georgetown, Idaho Springs, and Boulder County. Because Boulder County is a CLG all projects on the Boulder Ranger District must have additional consultation with the Boulder County Historic Preservation Advisory Board that is very labor intensive and requires additional Heritage staff time. As more counties become CLGs the workload for the heritage staff will increase for the entire Forest.
- Off-road vehicles present a major problem for cultural resource sites. The creation of social off-road trails and roads are not subjected to planning or cultural resource inventories before they utilized and have the potential to adversely significant prehistoric and historic cultural resources. These detrimental effects are generally not reversible and are found only after they have occurred.
- There are no goals, objectives, standards or guidelines for the heritage resource. Law dictates much of what guides the work done in this area. However, laws do not cover all aspects of the heritage resource program and it is left up to the individual line officer to decide what work will be done.
- Funding for project monitoring has not focused on heritage resources, thus, it has not been determined how well mitigation direction is being followed as stated in the project NEPA documents.

- Isolated Cabins, Hazardous Mine Safety Closures and Non-Recreation Special Use projects are emerging as the type of project with unavoidable adverse effects to historic properties. These types of projects are generally small in size so avoiding the effects by moving project boundaries is not possible. The Forest trend is to have more unavoidable adverse effects that require mitigation. This is an emerging issue due to the implementing regulations for the NHPA, 36 CFR Part 800. These regulations greatly expand the Forest's requirements to seek out and involve interested parties and the public during project planning and analysis. While we are still working to interpret the regulations, they have already changed the way that we do business. Generally, they are much more rigorous than the old regulations, and require extensive documentation and public comment. Isolated Cabins, Hazardous Mine Safety Closures and Non-Recreation Special Uses typically do not require as extensive public comment in NEPA analysis as do some of our larger projects. However, as the public becomes more aware of the changes to Section 106, the Forest will need to expend more effort in engaging the public in these projects for compliance with Section 106 of the NHPA.
- The Forest has made progress in maintaining baseline heritage data. However the accuracy of some of the legacy data continues to be a nagging problem that hampers the efficient execution of compliance work. In order to help establish accurate baseline heritage data, and to more effectively and efficiently accomplish our compliance obligations, we have been working to verify all Forest and Grassland heritage data for heritage site and survey information into GIS layers.

Recommendations

- Compliance work is currently being accomplished on *most* projects in a timely and legal fashion. The heritage staff should be fully integrated into the NEPA process on large projects, and on smaller projects should be involved early in the planning stages.
- Continue to seek out new and effective ways (e.g., Challenge Cost Share Agreements, university partnerships, volunteers, grants) to fund heritage resource program activities in an era of flat and declining budgets.
- Provide adequate project funding to do full implementation monitoring.
- Continue to enter data into the GIS Heritage Layers and INFRA Heritage Database.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Ongoing or Emerging Issues

- Mitigation measures are being better developed in an interdisciplinary fashion than first reported in 2003. However, this is not always the case and leads to project implementation difficulties due to conflicts between these mitigation measures.
- Mapping needs and database management (GIS) is proving to be a roadblock in moving planning projects through the NEPA process and then to implementation.
- Implementation does not always follow the NEPA decision.
- Travel management decisions are lagging compared to its emphasis in the Forest Plan. Some of the possible reasons for this may be lack of funding, other priorities, and the difficulty of decisions with polarized publics.

Recommendations

- Interdisciplinary Teams (IDTs) should have a meeting to discuss mitigations each team member has developed to have a truly interdisciplinary process. This meeting should lead to one unified list of mitigations per alternative.

- Some of the GIS roadblock is being relieved by the placement of GIS specialists on most of the Ranger Districts. However, technology transfer (training) is lacking, which would improve understanding and utilization of the ARP corporate databases to all project planning specialists and land managers.
- Project interdisciplinary team members should review project sites during project implementation to ensure mitigation measures are carried out. This will also require mitigation funding be included in the project implementation.
- Consider developing transportation planning team(s) similar to fuels planning teams.

FOREST PLANNING

Recommendations

Complete Forest Plan Amendments

- Incorporate the Williams Fork Area into the Forest Plan

LIST OF PREPARERS

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LIST OF ACRONYMS

ADA: Americans with Disabilities Act
ANRA: Arapaho National Recreation Area
ARNF: Arapaho and Roosevelt National Forests
ARP: Arapaho and Roosevelt National Forests and Pawnee National Grassland
ATV: All terrain vehicle
BFES: Budget Formulation and Execution System
BLM: Bureau of Land Management
BRD: Boulder Ranger District
CCRD: Clear Creek Ranger District
CDOT: Colorado Department of Transportation
CDOW: Colorado Division of Wildlife
CFR: Code of Federal Regulations
CLG: Certified Local Government
CLRD: Canyon Lakes Ranger District
CNHP: Colorado Natural Heritage Program
CO: Colorado
DMS: Days Managed to Standard
EA: Environmental Assessment
EIS: Environmental Impact Statement
FP: Forest Plan
FPO: Forest Protection Officer
GFA: General Forest Area
GIS: Geographic Information System
IDT: Interdisciplinary Team
KV: Knutson-Vandenberg
MAR: Management Attainment Report
MIS: Management Indicator Species
MOU: Memorandum of Understanding
NEPA: National Environmental Policy Act
NFMA: National Forest Management Act
NFP: National Fire Plan
NGO: Non-Governmental Organization
NRIS: National Resource Information System
OHV: Off-highway Vehicle
PNG: Pawnee National Grassland
RAP: Roads Analysis Process
RFD: Recreation Fee Demo
RMBO: Rocky Mountain Bird Observatory
SIA: Special Interest Area
STA: Small Tracts Act
TES: Threatened, Endangered, Sensitive Wildlife or Plant Species
VIS: Visitor Information Services