

# LAND AND RESOURCE MANAGEMENT PLAN

## MONITORING REPORT Fiscal Year 2004



### **Pike & San Isabel National Forests Cimarron and Comanche National Grasslands**

This Monitoring Report reviews actions taken to implement the Land and Resource Management Plan (Plan) for the Pike and San Isabel National Forests, Cimarron and Comanche National Grasslands since its approval through September 2004. Chapter IV of the Plan, which was approved in September 1984, lists the monitoring requirements. This report discloses the monitoring that has been conducted.

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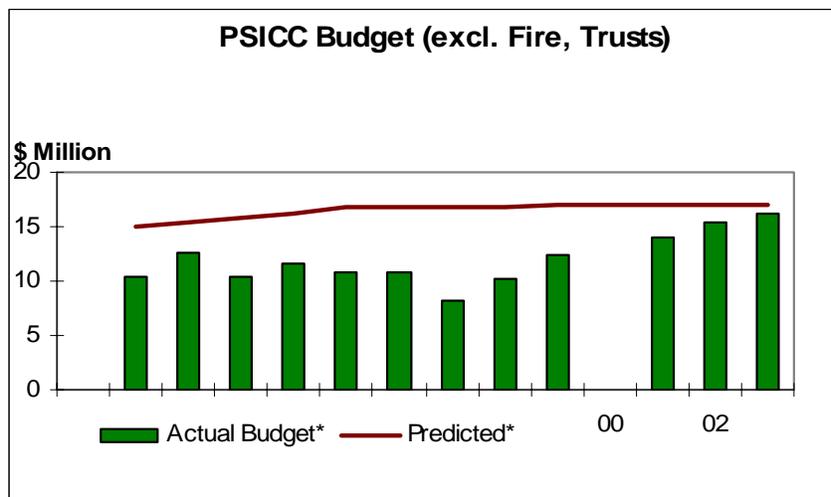
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## INTRODUCTION

The Pike and San Isabel National Forests (Forests) and the Cimarron and Comanche National Grasslands (Grasslands) (collectively referred to as the PSICC) include 2.8 million acres of public lands. These four units are located in central and southeastern Colorado and in southwestern Kansas. Management of the PSICC is very complex because it spans a variety of ecosystems, social, and economic settings, and must be integrated with the needs of two state governments and 17 counties.

The PSICC Land and Resource Management Plan (Plan) focuses on resource needs and the desires of the diverse publics being served. Predicted rates of accomplishment corresponded with the needs identified in 1984, the time the Plan was written. As is apparent in many of the following sections, implementation has not kept pace with predicted rates. Figure 1 compares predicted budgets with funds actually received for operations and construction. Clearly, the predictions made in 1984 have not matched actual budgets. Note that the figures represented in the Figure 1 do not include fire and trust fund dollars, because these funds are extremely variable and are outside of the constrained budget for the PSICC.



**Figure 1. PSICC Budget**

The PSICC has compensated for fluctuating budgets by forming partnerships with others who are interested in public land management. Within available fund allocations, the goals stated in the Plan are being pursued, though not all objectives are being achieved at the expected rate.

**Terminology** - The figures and tables report may use following terms and acronyms.

<b>Term</b>	<b>Meaning</b>
Objective:	Plan objective
Prediction:	As predicted in the Final Environmental Impact Statement (FEIS) for the Plan
AUM:	Animal unit month, describes grazing outputs (1 AUM = 1 cow for 1 month)
FY02:	The federal Fiscal Year (FY) for 2002 was from October 1, 2001 through September 30, 2002
MRVD:	Thousand recreation visitor-days, describes visitor use (1 visitor day = 12 hours)
MPAOT:	Thousand persons at one time (PAOTs), describes the capacity of campgrounds and other developed recreation sites (1 campsite = 5 PAOTs)
MMBF:	Million board-feet, used to describe timber program outputs (1 board foot = an area that is 1 foot long x 1 foot wide x 1 inch thick)

**Data Gaps** – Some figures and tables in this report may seem to be missing expected outputs. These data gaps are caused by changes in reporting procedures, which make compiling data for this report difficult. Also, the FY00 budget structure was updated in FY01 – combining, creating, or eliminating certain funds. Only the budget structure changes that occurred in FY01 are shown in Table 1.

**Table 1. FY2000 to FY2001 Program Name Changes**

<b>FY2000 Fund</b>	<b>FY2000 Program Name</b>	<b>FY2001 Fund</b>	<b>FY2001 Program Name</b>
N/A	N/A	SPIA	Forest Resources Information and Analysis
NFRM NFWM NFHR	Recreation Management Wilderness Management Heritage Resource Management	NFRW	Recreation/Heritage/Wilderness
NFWL NFIF NFAF NFTE	Wildlife Habitat Management Inland Fisheries Habitat Mgmt Anadr. Fisheries Habitat Mgmt TE&S Species Habitat Mgmt	NFWF	Wildlife and Fisheries Habitat Management
NFTM	Timber Sales Management	NFTM	Forest Products
NFRV NFFV NFSO NFSI	Rangeland Vegetation Mgmt Forestland Vegetation Mgmt Soil, Water, Air Operations Watershed Improvements	NFVW	Vegetation and Watershed Management

<b>FY2000 Fund</b>	<b>FY2000 Program Name</b>	<b>FY2001 Fund</b>	<b>FY2001 Program Name</b>
NFLA NFLL	Real Estate Management Land Line Location	NFLM	Landownership Management
PACF PACF PACF PACF PAMF PAMF PAMF PAMF	Recreation Facility Construction Research Facility Construction FA&O Facility Construction Facility Const/Reconst Subtotal Recreation Facility Maintenance Research Facility Maintenance FA&O Facility Maintenance Facility Maintenance	CMFC	Facilities Capital Improvements and Maintenance
PARD PAMR	Road Construction Road Maintenance	CMRD	Roads Capital Improvements and Maintenance
PATC PAMT	Trail Construction Trail Maintenance	CMTL	Trails Capital Improvements and Maintenance

## PHYSICAL COMPONENTS

### Soils and Water Resources

The soils and water resources program provides the technical information necessary to ensure these resources are sustainable as identified in the National Forest Management Act (NFMA). Management decisions made to implement actions under the Plan are done so by considering soils and water resources data and other technical information. Program monitoring is divided into three major functions:

- 1) Soils inventory
- 2) Soil and watershed improvement
- 3) Soil and water quality

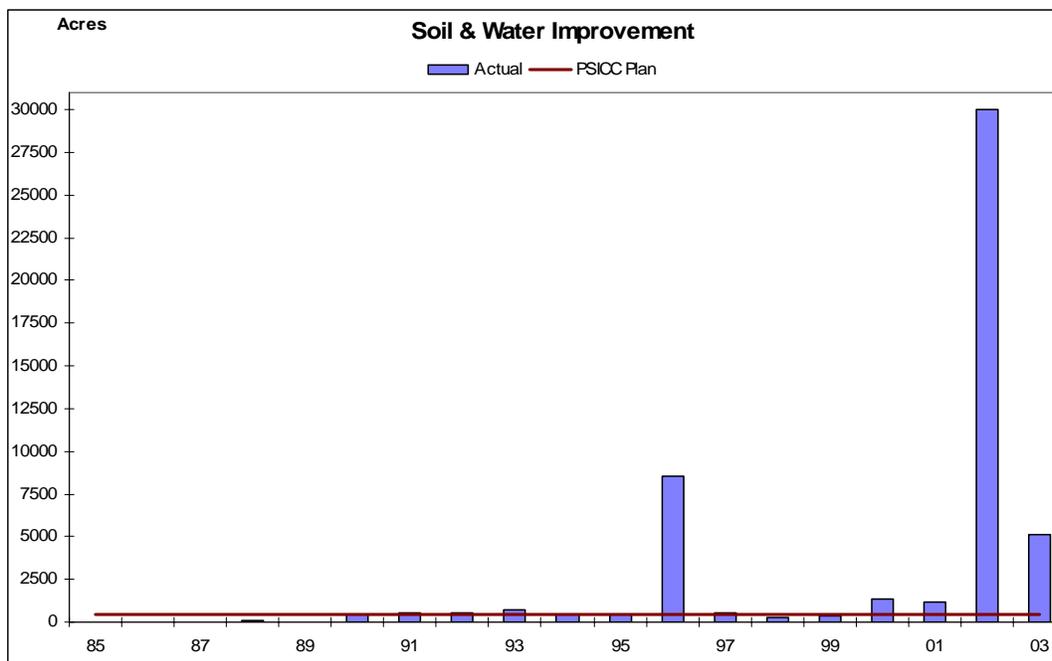
**Soils Inventory** – Conducting soils inventories is a prerequisite to land management planning and implementation. Collecting baseline data is a fundamental requirement supporting resource management mandates identified in NFMA. Modern soils inventories use an integrated approach to describe and map biotic and abiotic features: geology, landforms, climate, vegetation, and soils. Soil surveys in eight major areas<sup>1</sup> on the PSICC have been conducted in cooperation with other Federal and State agencies. Each survey area differs in the quality of mapping, available interpretations, and status. Two areas (Pike National Forest - eastern portion, and Morton County) have current published surveys. The mapping, draft manuscripts, and interpretations have been completed for the remaining survey areas.

<sup>1</sup> Pike National Forest, Eastern Part; Wet Mountains and Spanish Peaks; Northern San Isabel and Western Pike National Forests; Sangre de Cristo; Morton County, Baca County, Otero County and Las Animas County.

**Soil and Watershed Improvement Program** – The future use of Federal lands depends on the protection and maintenance of soils and water resources. Improving watershed conditions is important for maintaining long-term ecosystem health at local and landscape levels. The program goals are to identify watershed condition (see Watershed Assessments, below), prescribe and implement land treatments, and in some cases to modify management to:

- Protect life and property.
- Protect and improve water quality consistent with the Clean Water Act.
- Reduce or minimize erosion and sediment damage.
- Improve species habitat.
- Increase long-term soil productivity.
- Ensure long-term health and sustainability of watersheds given the variety of demands on the land.

Plan direction includes improving 440 treated or 1,200 affected acres per year. Figure 2 shows treated acres from 1985 to the present. The PSICC has implemented over 400 soil and water improvement projects since Plan implementation, totaling more than 35,000 acres of treated or improved lands, excluding areas rehabilitated following wildfire (see Burned Area Rehabilitation, below).



**Figure 2. Soil and Water Improvement**

Over the past 17 years, soil and watershed improvement projects have focused on watersheds and stream systems that exceed Federal and State water quality thresholds and standards for sedimentation. Although the PSICC is making progress in restoring degraded watersheds, much work remains to be done.

**Watershed Assessments** – Watershed assessments are developed so that we can be more responsive to watershed improvement needs and landscape health issues across the PSICC. Watershed assessments allow identification of status, trend and interrelationships of and between resource conditions. This work sets the stage for determining and prioritizing watershed improvement projects and other management opportunities giving consideration to desired future conditions and cumulative effects. On the San Isabel, the Wet Mountain assessment on San Carlos Ranger District has been completed; the Tennessee-Arkansas assessment on Leadville Ranger District is underway.

**Burned Area Rehabilitation** – Since 1996, six wildfires have been approved for Burned Area Emergency Rehabilitation (BAER) funding (Buffalo Creek, Big Turkey, Hi Meadow, Snaking, Schoonover, and Hayman). This has been in addition to the projected Plan level of watershed improvement projects. More than 34,000 acres have been rehabilitated using techniques that include scarification, revegetation and seeding, overland flow reduction, and sediment transport reduction treatments using straw wattles, log erosion barriers and directional felling. The Hayman Fire (137,000 acres) and the Buffalo Creek Fire (12,000 acres) were the two largest burns in recent years. Major flood events accelerating erosion have occurred within the perimeters of these fires. Runoff from these flood events caused increased sediment levels to drainages within and downstream of the burn areas, contributing to watershed degradation. The watersheds affected either have been (Buffalo Creek) or will be (Hayman) monitored for two to five years to determine if additional treatments are needed to further reduce potential losses in downstream water quality.

**Soil and Water Quality Monitoring** – Monitoring soils and water quality provides information about the effects of management decisions and subsequent actions involving soils and water. State and Federal regulations, Plan Standards and Guidelines, and the Inland West Watershed Assessment (completed in 2000) give long-term objectives and monitoring guidelines used to measure changes in soils and watersheds. Intensive sediment and flow data have been collected on three streams to determine sediment-flow relationships within three hydrographic regions on the PSICC. Monitoring of the 60+ Colorado Monitoring and Evaluation listed streams, and the 303d listed streams on the PSICC are ongoing. A TMDL for the Upper South Platte River was prepared in FY02; the TMDL for Trout Creek is pending (scheduled for completion during FY04). All monitoring data is entered into the corporate soils and water databases maintained by the PSICC.

**Soil Quality Standards** - The PSICC uses the standards established for Forest Service Region 2. These provide threshold values to document major reductions in soil productivity potential. These values act as early warning signs to indicate when further alteration of soil properties would extensively change or impair soil productivity. Past soils monitoring tied to project implementation has involved visual assessments of contract provisions and project mitigation designed to reduce the degradation of soils and water resources. These projects include or involve timber and salvage sales, roads, trails and facility construction and maintenance, and recreation-related activities. More detailed and quantitative soils monitoring is being conducted. Specifically, soil compaction related to livestock grazing and erosion related to BAER treatments

and OHV use is monitored. In the future, both qualitative project monitoring and more detailed studies of specific management uses and issues on the PSICC will be conducted.

### **Water Rights**

A goal of the PSICC is to maintain current water rights, to protect and maintain channel stability and capacity on streams, and to accomplish any proposed increase in water use or resource activity. This includes reviewing the monthly water court resumes in Water Division 1 (South Platte Basin) and Water Division 2 (Arkansas Basin) and filing Statements of Opposition to any of the filings that may potentially harm the rights held by the Forest Service. The review also enables the PSICC to learn of individuals seeking water rights on the Forests or Grasslands that may not hold a special-use permit for the use. Rather than filing a Statement of Opposition, the PSICC would send a letter to the applicant informing them of the special-use permitting procedures.

In 2003, the PSICC continued to work on augmentation requirements for Lake Isabel and Manitou Lake. The State of Colorado is requiring the PSICC to augment for water lost due to evaporation on both lakes. Engineering firms have been hired, their recommendations have been reviewed, and changes and corrections are being made before each augmentation plan is filed with the Court.

The PSICC is also currently working on getting special-use permits issued for North Fork, Boss and O'Haver reservoirs on the Salida District.

In 1979, the PSICC filed for reserved rights in Water Division 2 (Case No. 79CW176). This case is coming to closure with final negotiations still in progress.

### **Air Resources**

In response to requirements in the Clean Air Act, in 1994 the PSICC initiated a long-term monitoring program to develop baseline data for evaluating air quality-related values in Wilderness Areas. High-elevation lake chemistry is being monitored annually at various locations in the Mount Evans and Sangre de Cristo Wilderness Areas. Those data collected will be used for evaluating current relationships between air quality and wilderness values, and for reviewing any proposed projects involving major air emissions that may affect the PSICC's airsheds. Several years of data are needed to derive solid conclusions. All prescribed fires are managed to comply with Federal and State Air Quality regulations.

### **Mineral Resources**

**Energy Minerals** – Cimarron and Comanche National Grasslands support the majority of the oil and gas leasing, exploration, development, and production activities on the PSICC. However, there has been renewed leasing interest along the Front Range of the Pike National Forest and in the Spanish Peaks area of the San Isabel National Forest. The Pikes Peak District now has areas under lease along the Rampart Range northwest of Colorado Springs and has a complete Application for Permit to Drill (APD) from Dyad Corporation. The San Carlos District has a request from industry to put an area southwest of the town of La Veta, Colorado up for leasing. Extensive seismic and other geophysical and geochemical exploration has taken place over the years in the Rampart Range and Wet Mountains.

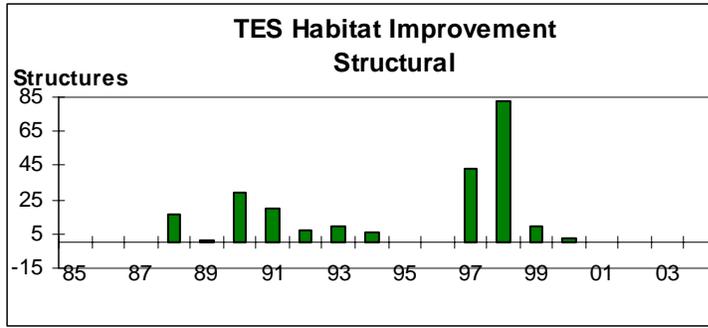
**Locatable Minerals** – The South Park District of the Pike National Forest supports the majority of mining and exploration activities; some mining take place in the Leadville and Salida Districts of the San Isabel National Forest. The majority of the small commercial operations mine amazonite and smokey quartz crystals, with some gold placer mining taking place on the Leadville District. No major or moderate exploration, development, or production operations have taken place. Recreational mining activities such as panning, dredging, and rock hounding are on a slight increase. Over the past year efforts (including criminal litigation in two cases) have been taken to bring several unauthorized operations on the South Park District into compliance with regulation and policy.

## **BIOLOGICAL COMPONENTS**

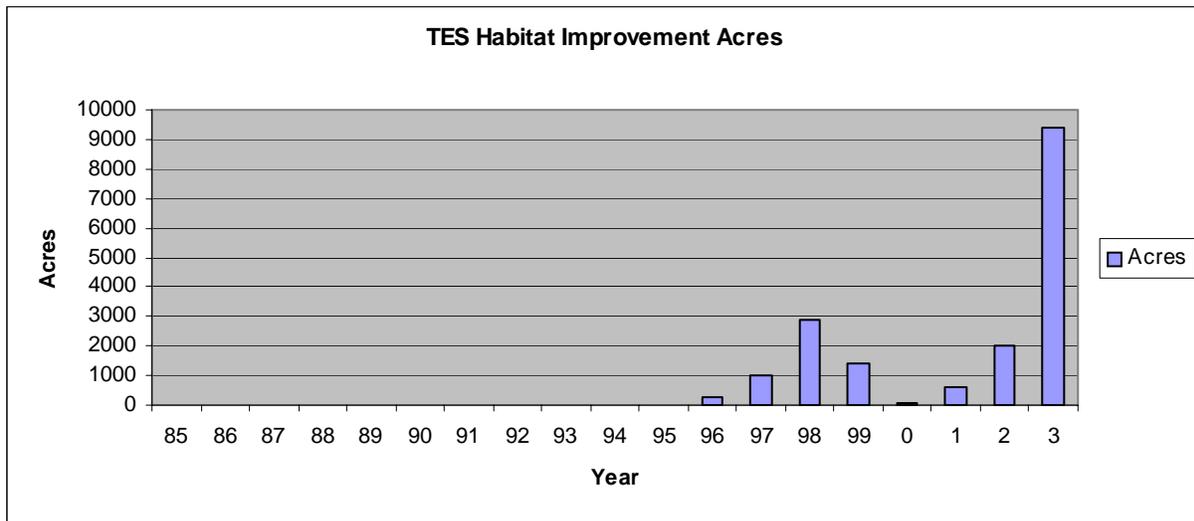
### **Wildlife, Fisheries and Rare Plant Resources**

**Accomplishment of Interagency Objectives** – PSICC personnel meet regularly with the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (CDOW), Kansas Department of Wildlife and Parks (KDWP), and various other partners regarding wildlife objectives and opportunities for projects that will help achieve shared objectives. Topics have focused on lesser prairie chickens, big game, and trout with the state agencies, grazing management with the BLM, and Threatened & Endangered (T&E) species with the USFWS. CDOW's Habitat Partnership Program (HPP) includes representatives from CDOW, the Forest Service, BLM, private landowners, and hunters with the aim of addressing big game animal damage issues on private lands intermixed with state and federal ownerships. There are also two Antelope Conflict Resolution committees in southeastern Colorado, where state grazing allotments and the Comanche National Grassland coexist with private agricultural interests. The PSICC has established partnerships with state universities and species advocacy groups such as Trout Unlimited, Ducks Unlimited, the Rocky Mountain Elk Foundation, and the National Wild Turkey Federation for research and habitat enhancement projects.

**Threatened, Endangered and Sensitive (TES) Species** – Emphasis continues to focus on completing inventories to establish baseline species population and distribution information. Habitat improvement has primarily involved work necessary to support the reintroduction of the greenback cutthroat trout. Prescribed burning has been used to restore ecosystem structure and composition for both Forest and Grassland TES species. Partnerships are an important part of achieving these accomplishments. Because of the importance of TES species, the goals of the Plan are to maintain and enhance the various habitats required to support these species, with increased emphasis on protecting biological diversity. Figures 3 and 4 show changes in the number of TES habitat improvement structures and the acres of improved TES habitat from 1985 through 2003.



**Figure 3. TES Habitat Improvement Structures**



**Figure 4. TES Habitat Improvement Acres**

**Management Indicator Species (MIS)** - An internal review of MIS trends was conducted in March 2002. This review indicated the difficulty implementing the MIS concept to assess the effects to species from anthropogenic Forest and Grassland management activities. This is largely due to the wide-ranging nature of animals and their ability to populate areas both within and outside of Forest Service boundaries. Further complicating the situation is the intermingled or checkerboard land ownership patterns associated with these public lands. Under these circumstances, conducting monitoring studies to assess population trends often requires permission to access private inholdings, which may not be possible to obtain. This limits monitoring to public lands, which prevents the collection of data needed for MIS. The review concludes that wide-ranging species need to be monitored at the scale appropriate for their population.

Table 2 summarizes population and habitat trend for MIS associated with PSICC-managed lands can be found in Table 2. The column labeled “Usefulness as MIS” shows the results of the assessment conducted during the MIS review of each species’ usefulness as a management indicator of Forest and/or Grassland authorized activities.

**Table 2. Management Indicator Species (MIS) Review (Ryke and Wagner, March 2002)**

<b>PSICC Unit</b>	<b>Population Trend</b>	<b>Habitat Trend on PSICC</b>	<b>Usefulness as MIS</b>
<b>Comanche National Grassland</b>			
Antelope	Upward	Stable	Poor
Bewick's wren	Stable	Stable	Poor
Black-tailed jackrabbit	Cyclic, Downward	Stable	Poor
Black-tailed prairie dog	Upward	Stable	Poor
Bobcat	Downward	Stable	Poor
Burrowing owl	Downward, Stable	Downward	Fair
Cassin's sparrow	Stable, Downward	Downward	Fair
Cliff swallow	Upward	Stable	Poor
Ferruginous hawk	Stable	Stable	Fair
Great horned owl	Stable	Stable	Poor
Lesser prairie chicken	Cyclic, Downward	Stable	Fair
Lewis' woodpecker	Downward	Downward	Fair
Long-billed curlew	Downward	Stable	Fair
Mule deer	Upward	Stable	Poor
Northern oriole*	Stable	Downward	Poor
Scaled quail	Cyclic, Downward	Stable	Poor
Turkey	Upward	Downward	Poor
<b>Cimarron National Grassland</b>			
Black-tailed prairie dog	Upward	Stable	Poor
Bobwhite	Cyclic	Stable	Poor
Burrowing owl	Upward	Stable	Fair
Cassin's sparrow	Cyclic	Downward	Fair
Lesser prairie chicken	Cyclic, Downward	Downward	Fair
McCown's longspur	No Data	Stable	Poor
Mississippi kite	Downward	Stable	Poor
Mourning dove	Cyclic	Stable	Poor
Mule deer	Stable	Stable	Poor
Northern oriole*	Stable	Downward	Fair
Red-headed woodpecker	Stable	Downward	Fair
Scaled quail	Cyclic, Downward	Stable	Poor
Turkey	Cyclic	Downward	Poor
White-tailed deer	Stable	Stable	Poor
<b>Pike &amp; San Isabel National Forests</b>			
Abert's squirrel	Stable, Upward	Downward	Fair
Beaver	Stable	Downward	Poor
Bighorn sheep	Stable	Stable	Poor
Black-throated gray warbler	Upward	Stable	Poor
Brook trout	Downward	Stable	Fair
Elk	Upward	Stable	Poor
Greenback cutthroat trout	Stable	Stable	Fair
Green-tailed Towhee	Stable	Stable	Poor
Lewis' woodpecker	Downward	Downward	Fair
Mallard	Upward	Stable	Poor
Mountain bluebird	Upward	Downward	Poor

PSICC Unit	Population Trend	Habitat Trend on PSICC	Usefulness as MIS
Mule deer	Upward	Downward	Poor
Northern three-toed woodpecker	Downward	Downward	Fair
Peregrine falcon	Upward	Stable	Fair
Pine marten	Stable, Upward	Stable	Poor
Turkey	Stable, Upward	Stable	Poor
Virginia's warbler	No Data	Stable	Poor
Water pipit	No Data	Stable	Poor
Wilson's warbler	Stable	Downward	Fair
Yellow-bellied sapsucker	Stable	Downward	Fair

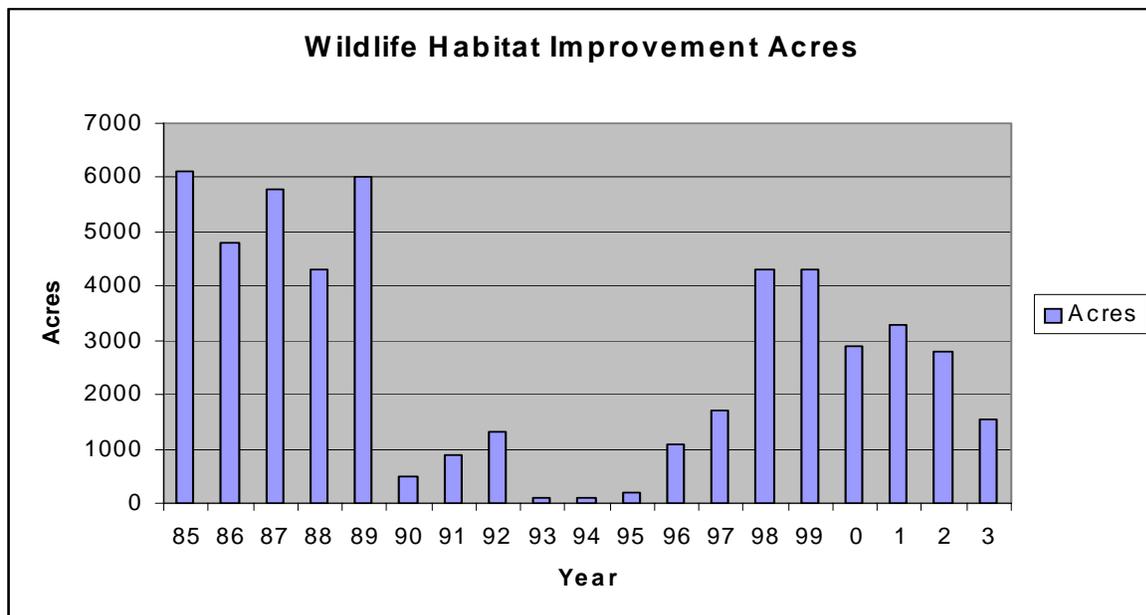
\*Northern oriole was rated as Fair in terms of a MIS for the Cimarron due to large blocks of contiguous habitat represented along the riparian corridor of the Cimarron River. On the Comanche, the scattered populations occurring in marginally suitable habitat, making population trend studies difficult, rates this species as a poor MIS.

The two key conclusions of the MIS review conducted in 2002 were:

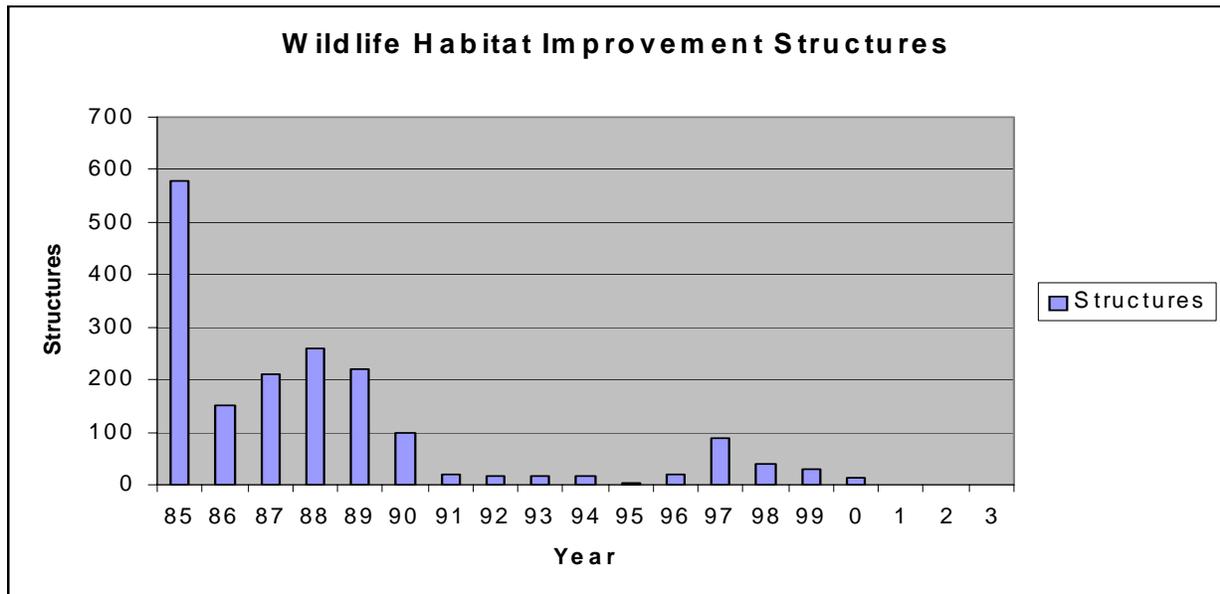
- 1) Monitoring population trend at the appropriate scale is not efficient or feasible.
- 2) There are very few MIS species where population trend changes can be related back to a cause-and-effect relationship of Forest and/or Grassland management.

The complete MIS review is on file at the PSICC Supervisor's Office in Pueblo, Colorado.

**Habitat Modification and Improvement** – The annual number of wildlife habitat improvement acres and structures has remained relatively stable. Additional resources have increased the effectiveness of biotic inventories and habitat assessment capabilities. However, because the way improvements are tracked and funds allocated have changed several times over the last few years, direct comparisons between years is difficult to assess. Figures 5 and 6 illustrate the approximate accomplishments from 1985 to 2003.



**Figure 5. Wildlife Habitat Improvement, in Acres**

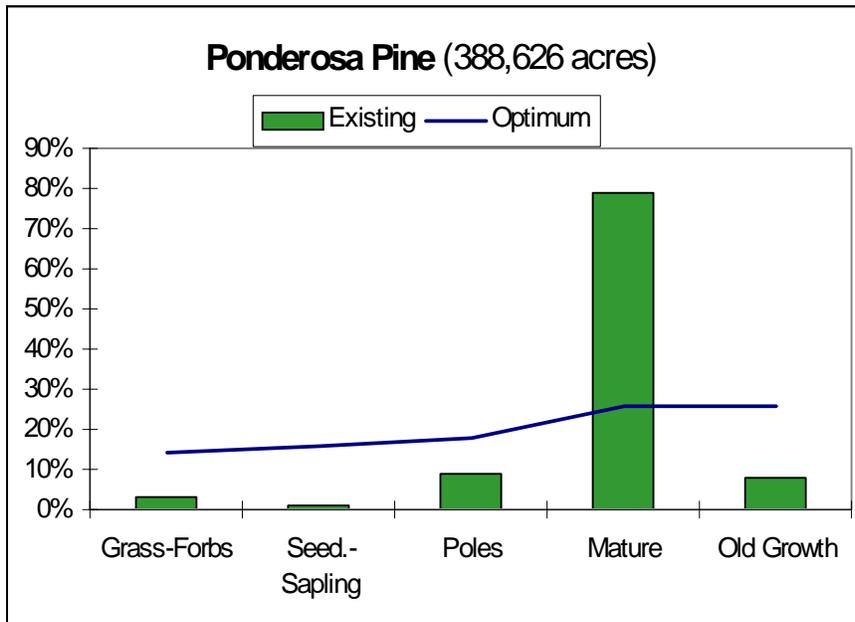


**Figure 6. Wildlife Habitat Improvement Structures**

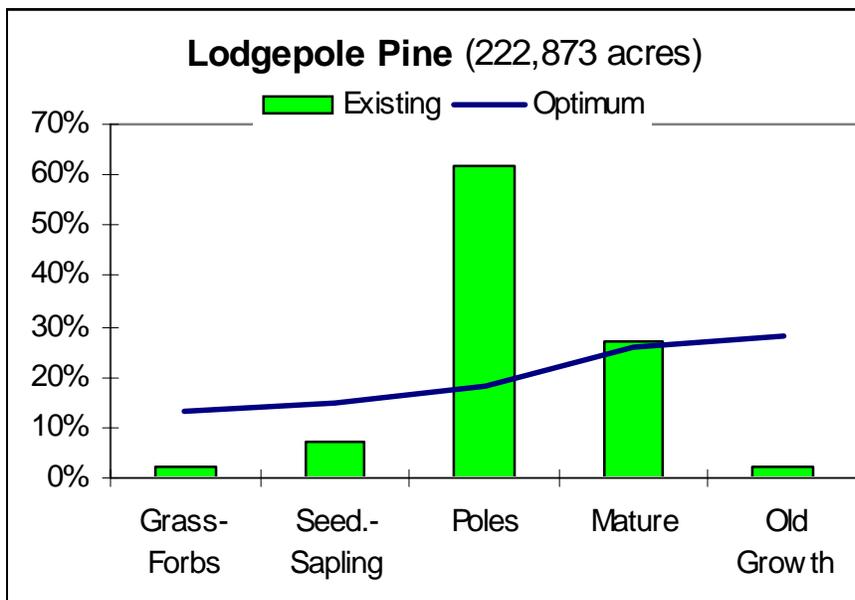
New information will support better project designs in the future. External partners are now an important source of funding for projects. More partnership funding is available than PSICC funds can match and make use of.

**Habitat Diversity – Forested Vegetation**

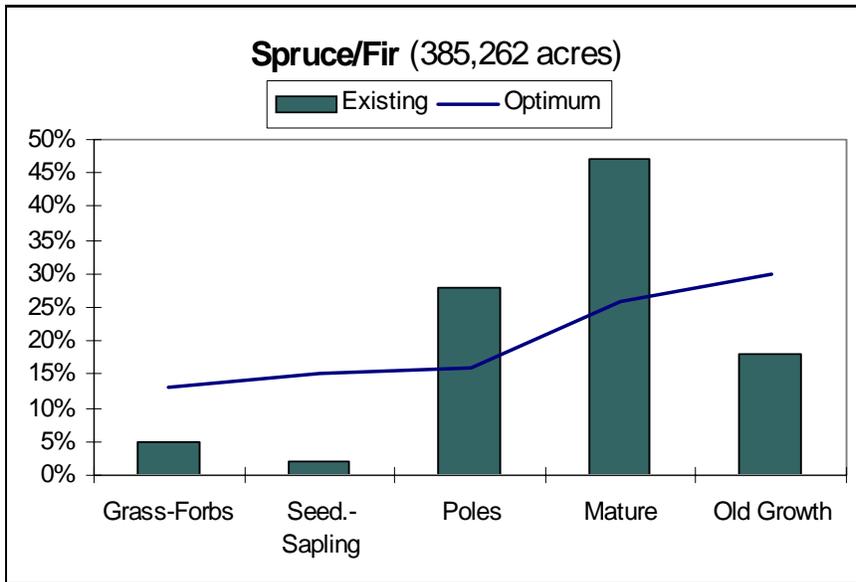
**Wildlife Habitat Diversity** – Analyses made during the development of the Plan compared existing tree species age-class diversity on Forest Service lands with a theoretical mix that would support desirable native wildlife species. The results for PSICC’s major forest cover types are shown in Figure 7 through Figure 11 (ponderosa pine, lodgepole pine, spruce/fir, Douglas-fir, and aspen).



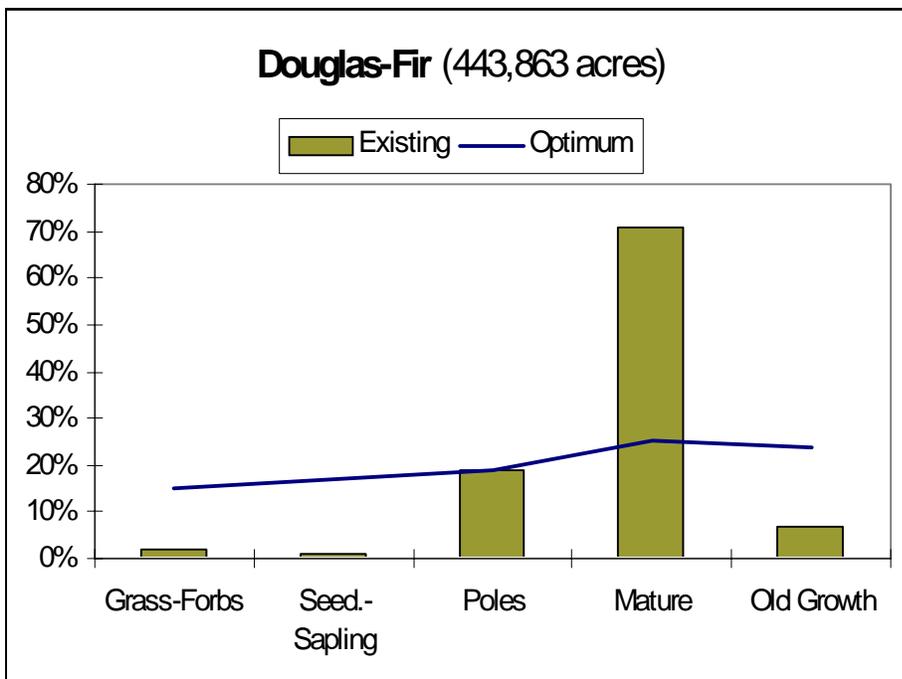
**Figure 7. Ponderosa Pine**



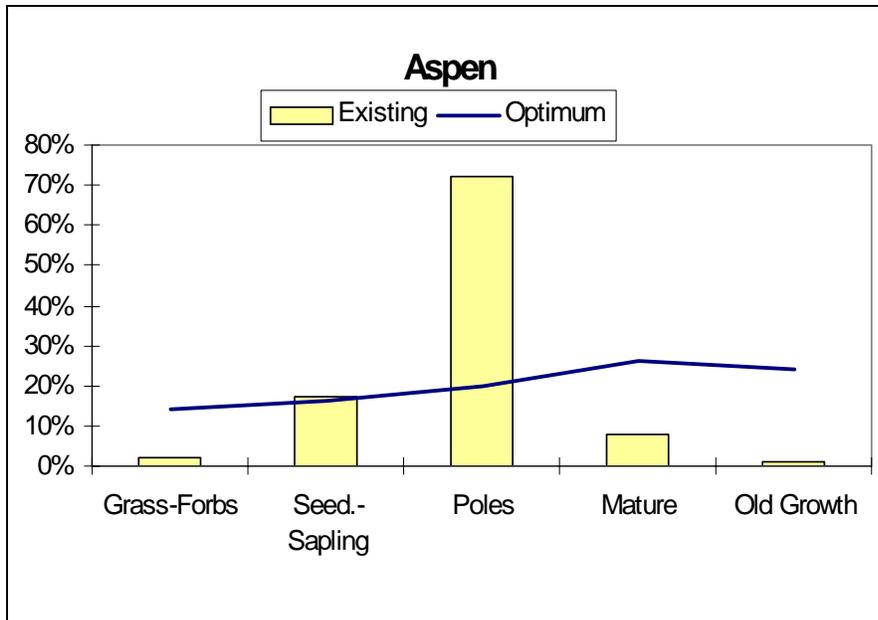
**Figure 8. Lodgepole Pine**



**Figure 9. Spruce/Fir**



**Figure 10. Douglas-Fir**



**Figure 11. Aspen**

The conclusion drawn in 1984 was that an imbalance of the major forest cover types existed, and that relatively young forest stands and old growth were under-represented. Consequently, one goal of the Plan was to focus forest management in over-represented structural stages and produce a landscape with a more balanced mix of habitat characteristics.

However, forest structure vegetation management has been focused on hazardous fuel reductions, especially in urban interface areas. Wildfires have been the primary cause of changes to forest structure types during the past decade.

### **Habitat Diversity – Grasslands Vegetation**

The Grasslands are in the Great Plains Physiographic Province. High winds, common in spring and early summer, combined with plowing and overgrazing contributed to the Dust Bowl soil erosion in the 1930s. These winds are still considered a threat today, particularly when accompanied by drought, high temperatures, and the absence of cover vegetation.

**Cimarron National Grassland (Cimarron)** – Spanning nearly 108,500 acres in southwestern Kansas, the Cimarron is characterized by a riparian and two prairie ecosystems.

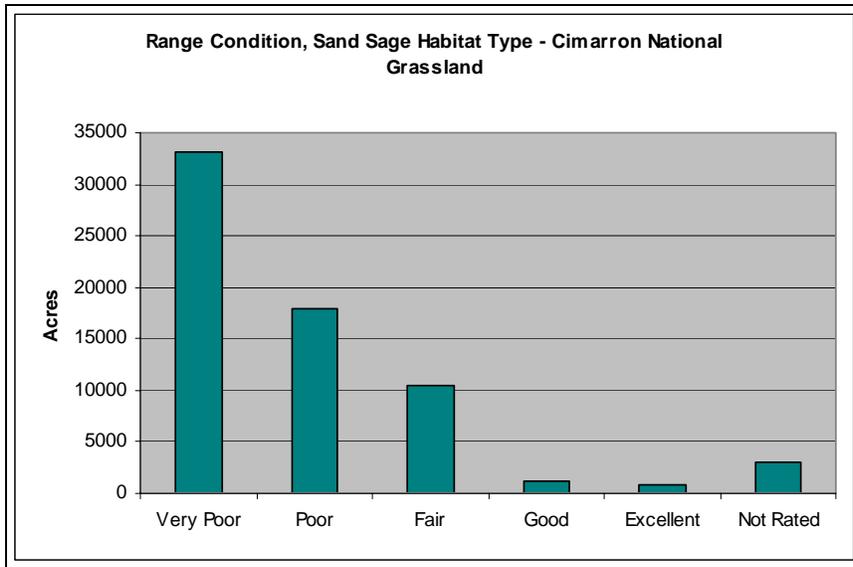
**Riparian** - The most productive, yet smallest of the three ecosystems (10%) is found within the Cimarron River watershed on deep, well-drained soils. Over the past 100 years, riparian areas in this watershed have been altered by agricultural practices, oil and gas operations, and urban development. These activities have impacted the soils, hydrology, and vegetation found within the watershed. Although this ecosystem is the most productive of the three, the spread of tamarisk (salt-cedar), a non-native invasive species, puts the riparian corridors at risk.

**Sandsage Prairie** - The largest (60%) and least productive ecosystem on the Cimarron. Today, the very sandy and highly erosive soils of the sandsage prairie can support minimal perennial species. This absence of plant cover is attributed to prolonged periods of drought compounded

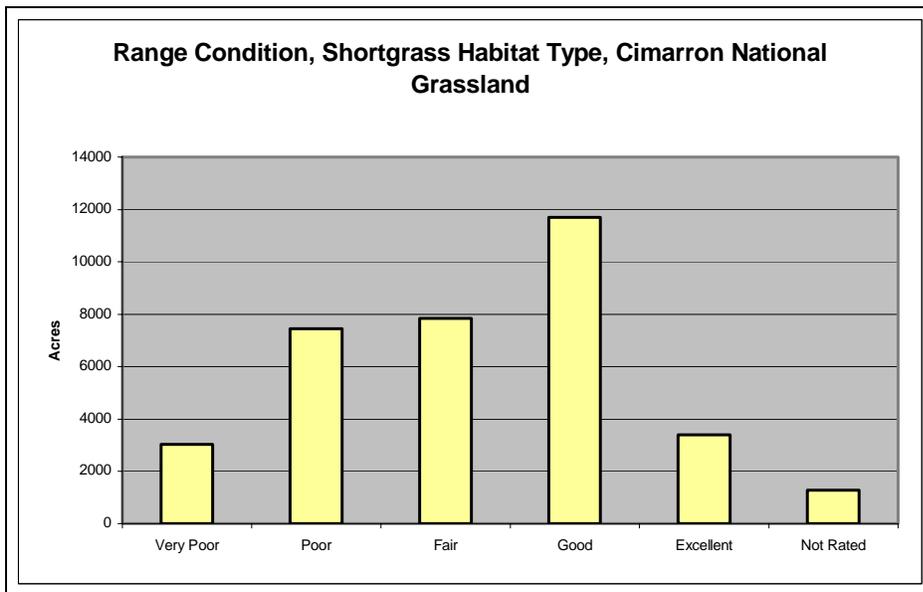
by the effects of the Dust Bowl. Sandsage eradication projects conducted in the early 1980s further affected the soil stability and native plant communities of this ecosystem.

Shortgrass Prairie – The second largest (30%) and second most productive ecosystem on the Cimarron. Shortgrass prairie supports a mix of warm and cool season perennial grasses.

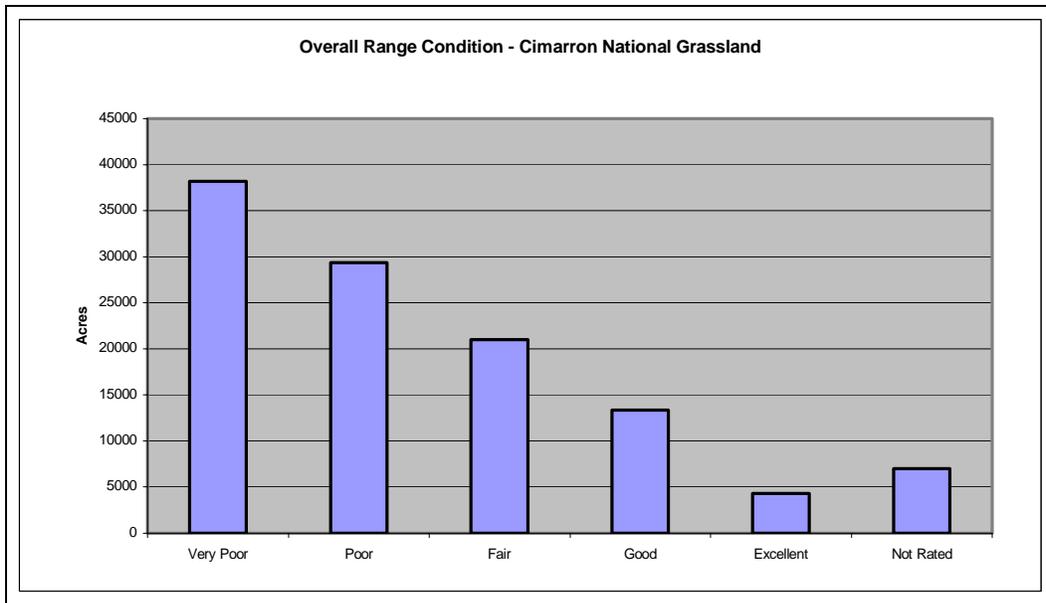
For the Cimarron, the current condition ratings of the sandsage prairie and shortgrass prairie ecosystems and the overall condition of the range are represented in Figure 12 through Figure 14.



**Figure 12. Cimarron Sandsage Habitat Range Condition**



**Figure 13. Cimarron Shortgrass Habitat Range Condition**



**Figure 14. Cimarron Overall Range Condition**

During the development of the environmental assessment (EA) for the Range Allotment Management Plan (RAMP) for the Cimarron (September 2001), these condition ratings were related to seral stages for both prairie ecosystems. From this EA, the estimated ecological classifications used are listed in Table 3.

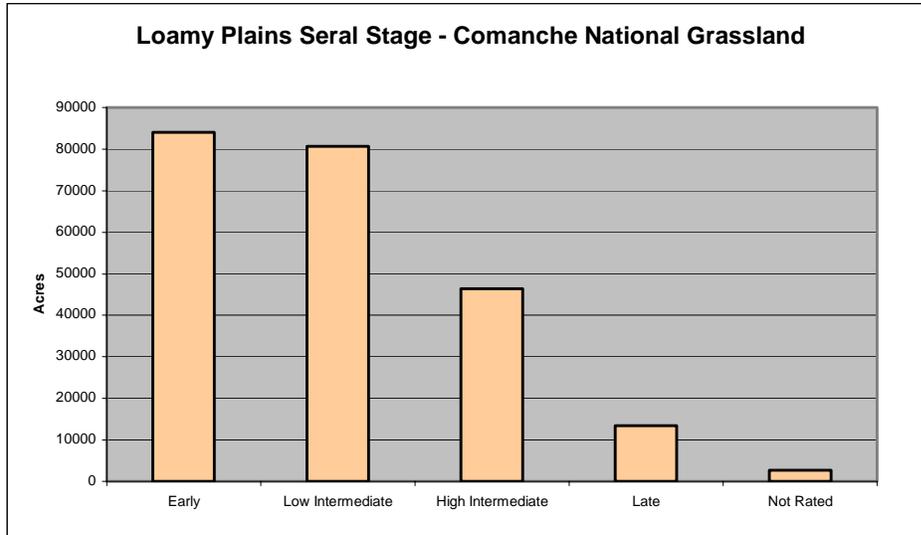
**Table 3. Estimated Ecological Classifications**

Prairie Ecosystem	Seral Stage	Equivalent Condition Classification	Percentage of Total
Shortgrass Prairie	High Seral	Excellent/Good	45%
	Mid Seral	Fair/Poor	45%
	Low Seral	Very Poor	10%
Sandsage Prairie	High Seral	Excellent/Good	4%
	Mid Seral	Fair/Poor	47%
	Low Seral	Very Poor	49%

**Comanche National Grassland (Comanche)** - Located in southeast Colorado and covering nearly 443,750 acres, the Comanche lies between the Central and Southern Great Plains. Moving from north to south, the Comanche is characterized by rolling loamy plains of short-grass prairie supporting a vegetation community dominated by blue grama-buffalo grass. Piñon-juniper woodlands edge the plains, as the topography changes to canyons and tablelands. Further south, sandy and deep sandy soils support short- and mid-grass prairie vegetation where sandsage-bluestem and bluestem-blue grama dominate. Woody species in riparian areas and trees are important sites for providing structural diversity and nesting habitat for birds. For this unit, the number of acres, by seral stages, in both the loamy plains and sandy/deep sandy plains habitats are represented in Tables 4 and 5 and Figures 15 and 16.

**Table 4. Definitions of Loamy Plains Seral Stages on the Comanche National Grassland**

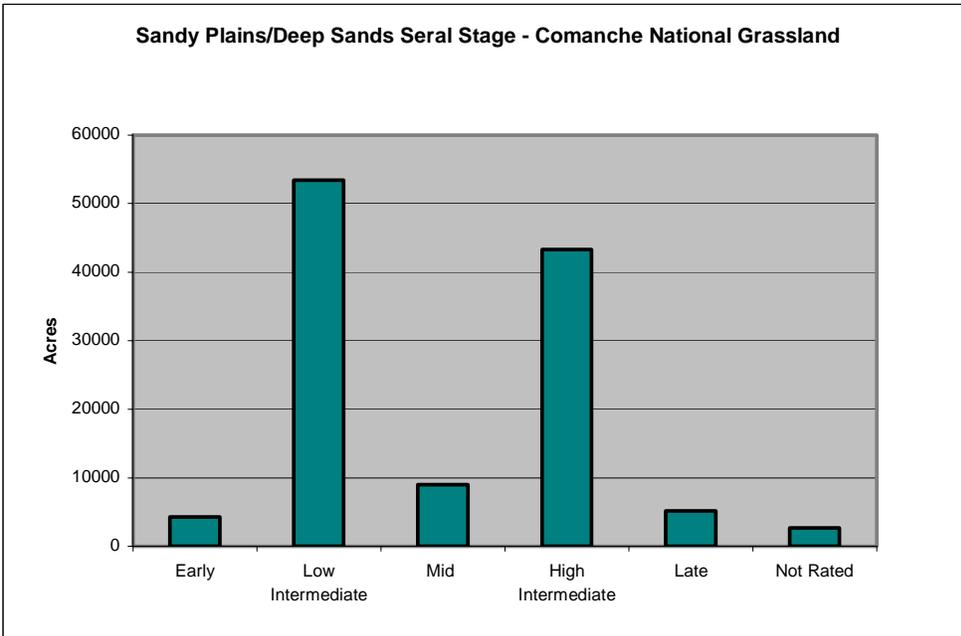
Seral Stage	Definitions
Early	Recently disturbed sites dominated by annuals
Low Intermediate	Blue grama occurs at moderate cover and frequency
High Intermediate	Increased dominance of blue grama with decreased species diversity
Late	Blue grama occurs at high cover and frequency



**Figure 15. Loamy Plains Seral Stage on the Comanche**

**Table 5. Definitions of Sandy Plains/Deep Sands Seral Stages on the Comanche**

Seral Stage	Definitions
Early	High abundance of sandsage and active soil movement through wind erosion
Low Intermediate	Represents a forb and grass-dominated plant community of early seral species with lower cover and frequency of sandsage
Mid	Increase in buffalo grass and blue grama with decrease in sand dropseed and sandsage
High Intermediate	Sites dominated by perennial grasses
Late	Sites with high cover and frequency of blue grama



**Figure 16. Sandy Plains/Deep Sands Seral Stage on the Comanche**

### Riparian and Aquatic Assessments

**Habitat Trends** – Aquatic and riparian resources were described in the FEIS for the Plan. In 1997 and 2002, riparian area inventories and condition assessments of 6<sup>th</sup> level watersheds on the PSICC were conducted. From these data, watersheds were categorized into three condition classes. Table 6 summarizes the percentages of each of these classifications on the PSICC in both 1997 and 2002.

**Table 6. Watershed Acres (%) by Condition Class in 1997 and 2002**

Unit	Class I (%) Pristine		Class II (%) Moderately Impacted		Class III (%) Severely Degraded	
	1997	2002	1997	2002	1997	2002
Pike National Forest	2	2	51	36	47	62
San Isabel National Forest	5	5	66	66	29	29
Cimarron National Grassland	0	0	60	60	40	40
Comanche National Grassland	0	0	87	87	13	13

The results of this work indicate a wide range of watershed and riparian conditions on the PSICC. The majority of watersheds are rated as Class II – moderately impacted, indicating that anthropogenic activities have altered the lands managed by the PSICC in the past and present.

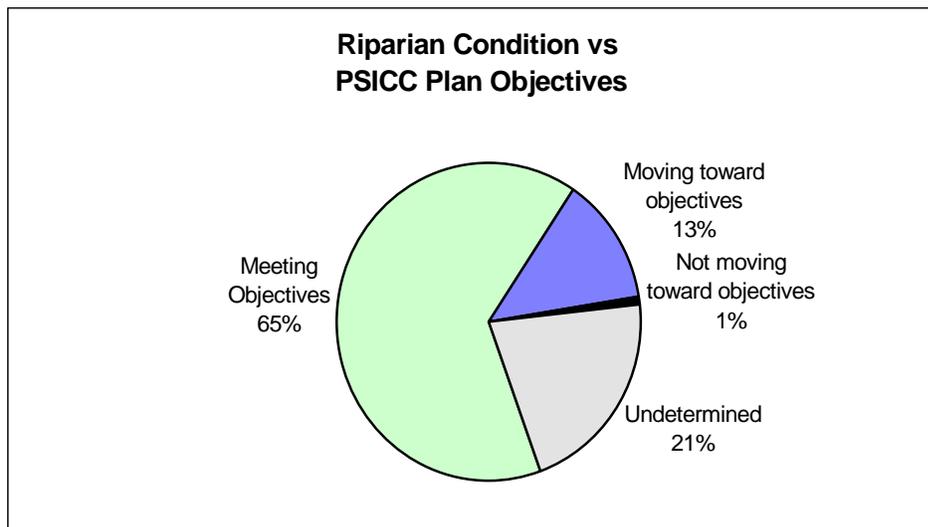
The Pike National Forest contains a high percentage of Class III watersheds. This is due to historic and current levels of elevated erosion and sedimentation. Much of the Pike is made up of highly erodible and poorly developed granitic soil, which can contribute large amounts of sediment into stream systems along the Front Range. Although erosion occurs naturally, the

presence and use of roads and trails, road maintenance activities, off-road uses, streamflow modifications (such as mining), and recent large wildfires have increased erosion rates and elevated sediment deposition into downstream watersheds.

Although almost one third of the San Isabel National Forest falls into Class III; most of these watersheds have been heavily affected by historic mining activities and, to a lesser extent, by current management activities. The toxic effluent from mine audits has been addressed, but technology is still limited for their successful treatment.

The Grasslands have been significantly affected by historic agricultural activities, and pristine watersheds no longer exist. Most watersheds on the Grasslands fall into Class II; the percentages of Class III watersheds vary between the Cimarron and the Comanche. The Grasslands' surface water flows are significantly altered by municipal and agricultural developments. Upstream dewatering and agricultural runoff have seriously reduced water quality and quantity in the Cimarron River and its tributaries. Stream systems with headwaters originating on or adjacent to the Grasslands show evidence of excess sedimentation caused from increased erosion from disturbance by cattle and vegetation conversion from perennial native to perennial nonnative and agricultural annual species.

Figure 17 shows how management of riparian conditions across the PSICC is meeting the objectives in the Plan.

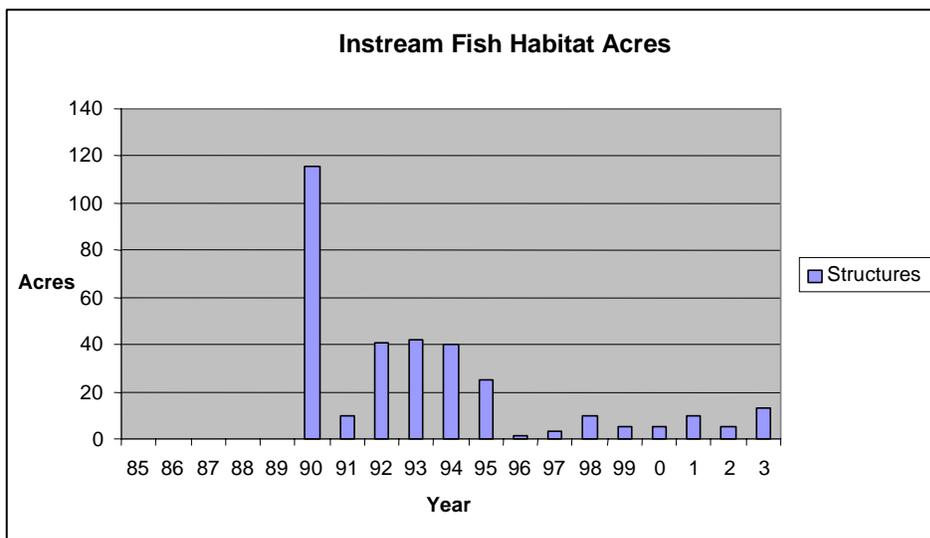


**Figure 17. Riparian Condition and PSICC Plan Objectives**

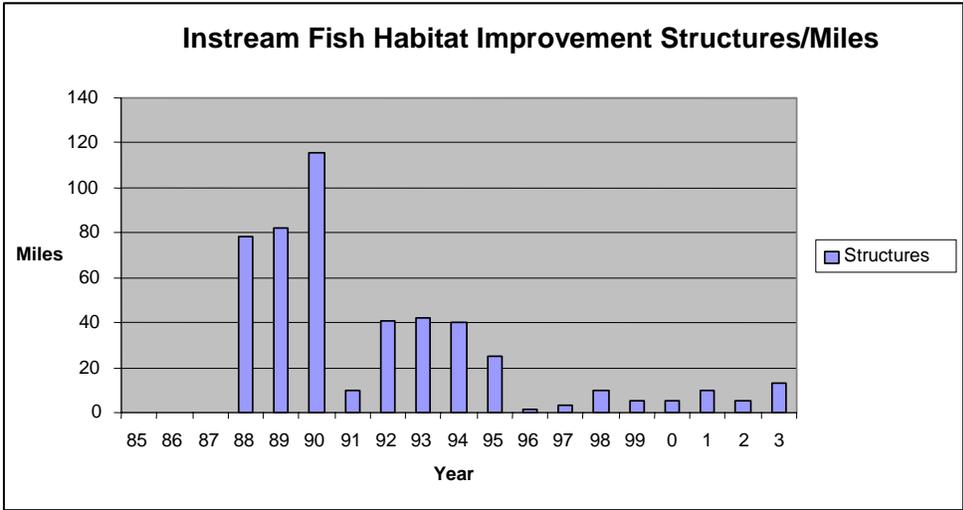
**Habitat Modification and Enhancement on the PSICC** – Impacts to riparian and aquatic ecosystems are derived from a number of human-related activities, with sedimentation from erosion causing the most extensive amount of impact to riparian areas. Because sedimentation can change stream channel physiology, increased water temperatures, reduction in aquatic habitat and other indirect effects, in-stream channel and riparian re-establishment projects have focused on restoring the physical processes needed to sustain habitat for aquatic and riparian-dependent species.

Most human-induced erosion is related to ground-disturbing activities, such as road and trail use, construction and maintenance, livestock grazing, mining, and timber harvest. Other direct or indirect consequences from human-related activities that currently effect aquatic and riparian ecosystems include removal of and/or invasive riparian vegetation with associated increases in water temperatures, mining effluent releases, and stream flow modifications (reduced flows). Recent adaptations of traditional habitat improvement methods have led to an increase in the effectiveness of stream enhancement projects. More emphasis is placed on treating root causes of dysfunction (disturbance and structure) than the symptoms (sedimentation).

Figure 18 and Figure 19 illustrate the aquatic habitat accomplishments from 1985 through 2003. In 1996, accomplishment reporting for streams changed from “number of structures” to “miles improved.” This change is evident in Figure 19, which shows habitat improvement structures per mile. While it seems that the numbers of structures/acres treated have decreased, the actual numbers of improvements has remained stable for over a decade.



**Figure 18. Instream Fish Habitat Acres**

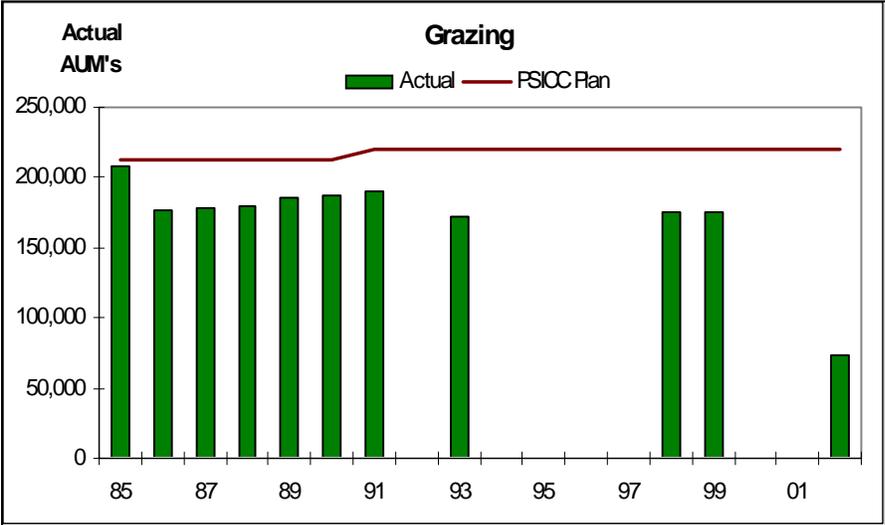


**Figure 19. Instream Fish Habitat Improvement Structures per Mile**

**Range Condition and Use**

Drought conditions continued across portions of the PSICC again in the 2003 grazing season. Though they were perhaps not as extreme as they were in 2002, they were nonetheless important in terms of the use made on the National Grasslands and Forest allotments. Nearly all of the livestock producers that took partial or total non-use in the 2002 grazing season again took partial or total non-use in 2003. This was due to uncertainties in continued forage availability and also fairly high cattle prices for those needing to replace cattle numbers sold off in the preceding years. In many situations, the start of the 2003 grazing season was delayed in an effort to rebuild some perennial grass vigor before the plants were subjected to grazing pressure. In some areas, mid- to late-season precipitation began to abate the drought conditions.

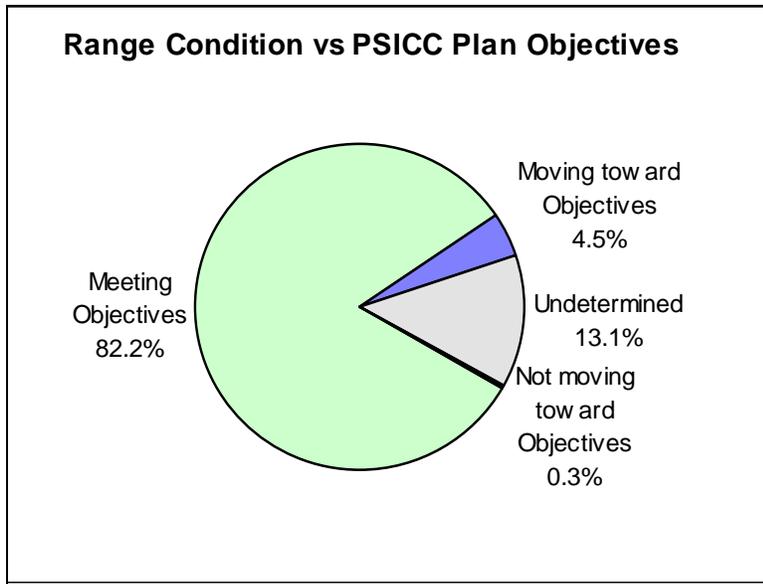
Although Actual Use figures are not available at this time, they are expected to be similar or perhaps slightly less than they were in 2002.



**Figure 20.**

Perhaps because of the drought, the two Forests experienced an increase in unauthorized use from non-permittees. This unauthorized use occurred both outside of the “normal” grazing season (winter months) and during the summer months. When this was discovered, action was taken immediately to have the cattle removed. In several cases, due to repeat occurrences, a Violation Notice was issued and the individual was required to appear in court before a Magistrate.

Annual monitoring indicates that range conditions across the PSICC are generally meeting or moving toward Plan objectives, as shown in Figure 21.



**Figure 21. Range Condition and PSICC Plan Objectives**

**Allotment Management Planning** – Progress continued on completing an Environmental Assessment (EA) for an additional seven allotments on the Pikes Peak District. However, the drought conditions changed the emphasis from completing this document in 2003 to administering the use that was occurring on the stocked allotments. The EA is almost complete and a Decision Record is expected to be signed before the start of the 2004 grazing season.

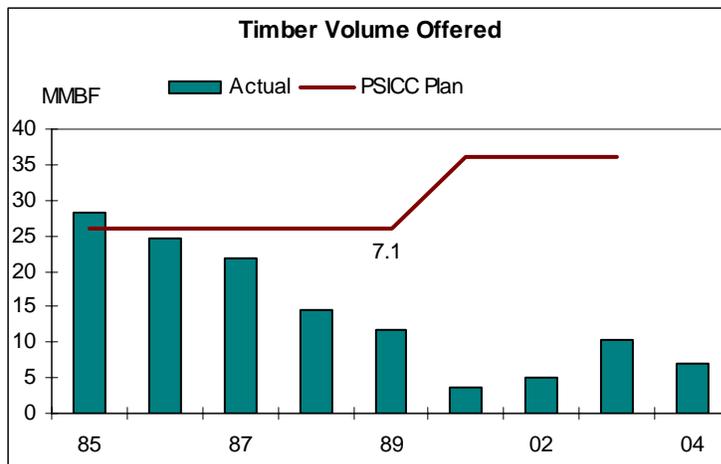
Work has begun to draft an EA for all except one of the remaining allotments on the Pike National Forest. Completion of this draft document is expected by late September 2004, with the Decision Record to be signed in 2005. The remaining allotment on the Pike will be included in the EA for the group of allotments on the Salida and Leadville Districts within the next two or three years. This is because of its close proximity to and management considerations with some of those allotments.

**Acres Administered to Standard** - The District and Forest Rangeland Management personnel gave added emphasis to administering the grazing use that occurred on the PSICC in 2003. When needed, changes in management were implemented to correct a situation before it resulted in resource problems. At the end of the 2003 grazing season, over 900,400 acres were reported to have been "administered to standard" according requirements in the Plan and any

corresponding Allotment Management Plans. This is important in terms of the drought conditions which occurred during this time.

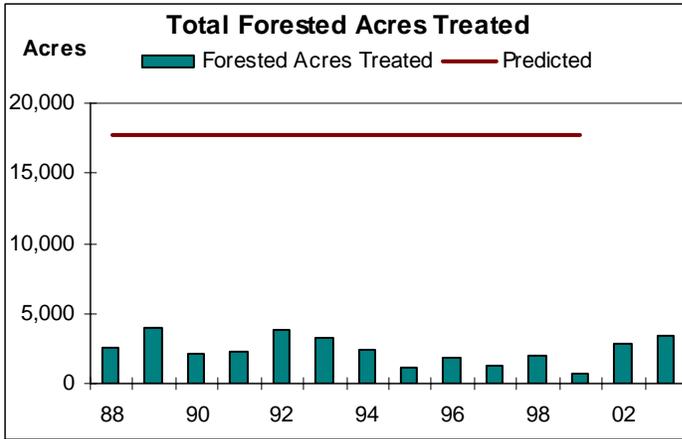
### Forest Condition and Use

The Plan established an allowable sale quantity of 37 million board-feet (mmbf) per year, with the intent that timber offer targets would gradually approach that level as more acres were put under management. In 1984, approximately 1,065,220 acres were considered suitable for commercial timber harvest. Much of the timber sold was used for fuel wood. In addition, the economics of harvesting timber on PSICC were such that, once the below-cost issue began affecting policy, funding for the commercial timber program was curtailed to a level well below Plan projections. By FY94, the timber program had declined to historically low levels, with most of the volume harvested still being sold for fuel wood. The timber volume offered since the Plan has been implemented is shown in Figure 22 the chart labeled *Timber Volume Offered*.



**Figure 22. Timber Volume Offered**

As shown in Figure 23, the treatment rate of forested acres by all types of projects designed to modify forested vegetation, has not kept pace with predictions. The Timber Harvest History table in Appendix A shows acres harvested and cutting method on the PSICC since 1987. The net effect is that the situation as described in the Plan has not substantially changed, except that most of the trees are about 22 years older.



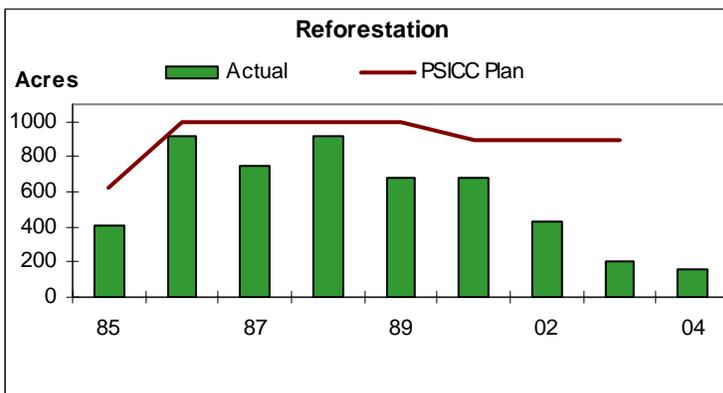
**Figure 23. Total Forested Acres Treated**

Forest management on the PSICC has not kept pace with the growth rate of the trees. This unmanaged growth, coupled with recent drought conditions has accelerated insect and disease infestations, and has produced an ominous fuels build-up. A situation of increasing severity exists, particularly along the Front Range on the Pike NF, where the Buffalo Creek, Hi Meadow and Hayman fires occurred. Steps are being taken to:

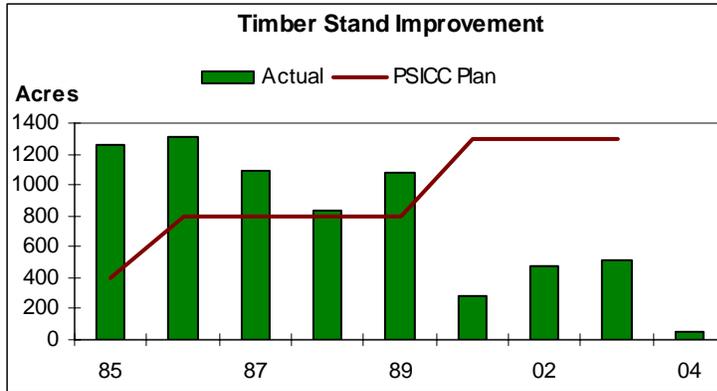
- 1) Build a new and active forest management program.
- 2) Seek possible markets for the types of smaller-sized wood products whose removal would best benefit forest health.
- 3) Use timber sales as a tool to achieve natural resource management goals.

This is discussed further in the Fuel Treatment section of this report.

**Reforestation and Timber Stand Improvement Activities** have been variable over time, as is shown in Figures 24 and 25. Funds for these activities are obtained primarily from timber sale revenues.



**Figure 24. Reforestation: Actual and PSICC Plan, in Acres**



**Figure 25. Timber Stand Improvement: Actual and PSICC Plan, in Acres**

The reforestation increases, beginning in FY96, are due to the restoration efforts after the 1996 Buffalo Creek Fire and the large fires of 2002, including the Hayman Fire that burned more than 150,000 acres. These events created a tremendous reforestation need on the Pike. Where the burning severity was moderate or high, the natural seed source has been lost for thousands of acres. To have a functioning ponderosa pine ecosystem in the future, seedlings need to be planted. At the time of this report, 23,000 seedlings were planted in FY04 on 100 acres, and planting another 250,000 seedlings on 1,100 acres in FY05 is proposed. As funding is received for cone collection, greenhouse expenses, and planting contracts, reforestation will continue in areas of the large burns.

### **Fuel Treatment**

While wildland fires have an integral role in many forest and rangeland ecosystems, decades of fire suppression on public lands has disrupted previous natural fire regimes. More communities are developing in and grow near the wildland-urban interface: areas that are adjacent to fire-prone lands. Wildland fires pose increasing threats to people and their property. For example, in the 2002 Hayman Fire 138,000 acres and 132 residences were lost; in the 1996 Buffalo Creek Fire 12,000 acres burned in one burning period, and 12 structures were lost.

Over the past year the PSICC has integrated two strategies into the hazardous fuels program. The first is the Front Range Fuels Treatment Strategy which emphasizes the need to identify, prioritize, and rapidly implement hazardous fuels treatment projects within Colorado's Front Range. This strategy focuses on a large-scale rapid assessment of the hazardous fuel conditions along the Front Range, enabling the identification of 300,000 acres on the Pike alone where treatment needs are of the greatest concern. The second is the reintroduction of Integrated Resource Management with a heavy emphasis on overall vegetation management to improve forest health, reduce wildfire risks to communities and the environment, and correct problems associated with long-term disruptions of natural fire cycles that have increased the risk of severe wildland fires to fire prone and fire dependent ecosystems (the PSICC treated 16,611 acres in 2003). This second strategy addresses the need to accelerate management of:

- 1) Hazardous fuel loadings.
- 2) Increasing insect infestation problems.

- 3) Reducing wildland fire impacts.
- 4) Protecting and restoring high value watersheds and wildlife habitats.
- 5) Enhancing ecosystem sustainability and the sustainability of communities in high hazard priority areas within the PSICC.

The current fire risk and beetle infestations on the PSICC are linked by a common factor of overly dense forests which resulted from 100 years of fire suppression and the prolific growth of ponderosa pine and mixed conifer stands. Cycles of drought exacerbate the stress on overcrowded tree stands. An estimated 900,000 acres on the PSICC are overcrowded with dense stands of ponderosa pine, mixed conifer trees, and decadent growth from grass and shrub species. Along with a growing mix of homes situated within forested areas and the many high priority areas and communities at risk adjacent to or within the PSICC, we are faced with the dilemma of how to choose treatment areas and communities to work with. Although many communities and counties have demonstrated their support for fuels treatment, some have not yet done so or are at different stages of developing fire and fuels management plans and strategies. Meeting the objectives of the two strategies mentioned above and also of the Healthy Forest Restoration Act, the National Fire Plan, the Healthy Forest Initiative, and the 10 Year Comprehensive Strategy, requires a coordinated effort across landscapes to restore and maintain the health of fire prone ecosystems. Currently, 500,000 acres of high priority treatments areas have been identified throughout the PSICC.

**Outlook for the Future** - The key to the PSICC's success will be extensive collaboration with the public and local, county, state, and other federal agencies to support specific treatment areas and types, along with the application of Wyden Amendment authorities and the Good Neighbor Policy to conduct fuels treatment work across boundaries. In five years the 500,000 acres of high priority to treatment areas is projected to increase to 575,000 acres, an estimate based on the rate of tree growth and increased insect infestation and disease. If the PSICC continues to accelerate treatment work by increasing the Hazardous Fuels and Vegetation Management Program, about 36% of these priority acres will be treated after five years, and 70% after ten years. Treating hazardous fuels and insect and disease infestations will help reduce the impacts of wildfires on communities and restore health to fire adapted ecosystems. Programs that focus on restoration of fire prone and fire dependent ecosystems and better integration of vegetation management, forest health, wildlife, range, watershed, and other available dollars will be more aggressively explored.

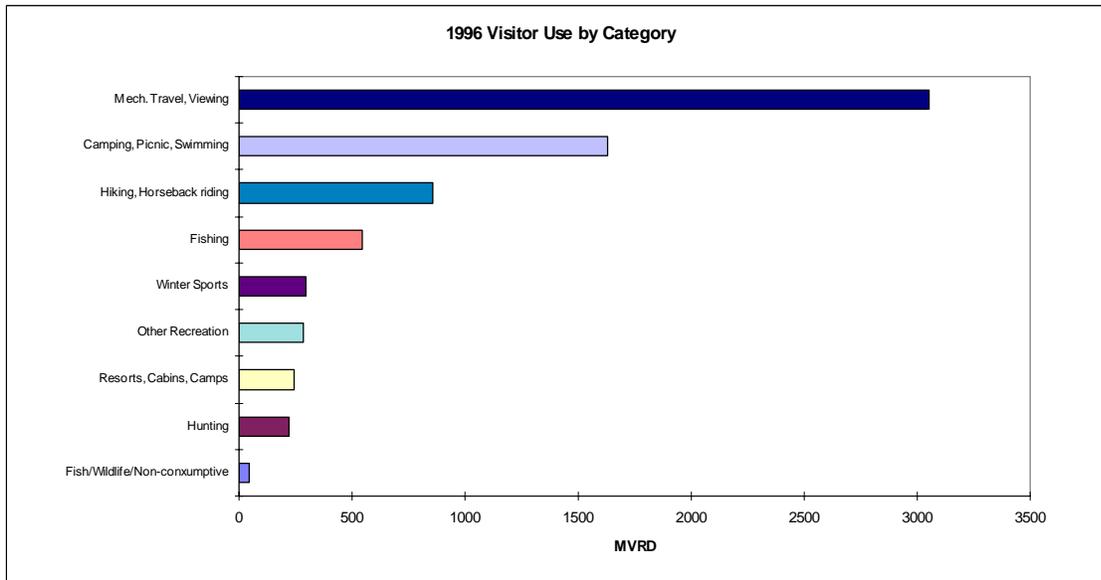
## **SOCIAL COMPONENTS**

### **Recreation**

Recreation visitor use data collection and reporting in the Forest Service has undergone dramatic changes since the Plan was approved in 1984. At that time data was reported using the Recreation Information Management (RIM) system, which contained detailed estimates of use on each Ranger District or smaller composite area. Use was measured in 12-hour visitor days. In 1987, RIM was abandoned and was not replaced with any data recording and reporting system until 2001 when the National Visitor Use Monitoring (NVUM) system was implemented. NVUM was designed as a statistically valid sample of visitor use at the level of a National Forest, but it uses visits as the basic measurement rather than visitor days. The sample process is repeated every four years. On the PSICC NVUM was conducted in 2001 and will be conducted

again in 2006, using about 271 sample sites. NVUM will be the standard monitoring protocol applied once every four years, to better understand the use, importance of and satisfaction with National Forest System recreation opportunities. Some correlations can be made between older visitor use (reported in visitor days) and NVUM visits, although many aspects of the older and newer data are not directly comparable. A complete copy of the FY01 NVUM report is available for review.

The PSICC has one of the heaviest recreation workloads in Region 2. Much of can be attributed to its location near the Denver-Colorado Springs-Pueblo metropolitan area, which is currently (2003) among the four fastest growing population centers in the U.S. In the Denver area 55,000 additional jobs were created in 2004. Visitor use on the Forest for FY01 was estimated at 3.87 million visits, placing the PSICC in the top 10 recreation forests in the nation. The top ten include the Mt. Hood near Portland, Oregon; Mt. Baker-Snoqualmie near Seattle; Wasatch-Cache near Salt Lake City; the Cleveland near San Diego; and the Angeles and San Bernardino near Los Angeles. Figure 26 shows combinations of visitor uses categories derived from 1996 data.



**Figure 26. PSICC Visitor Use by Category, 1996**

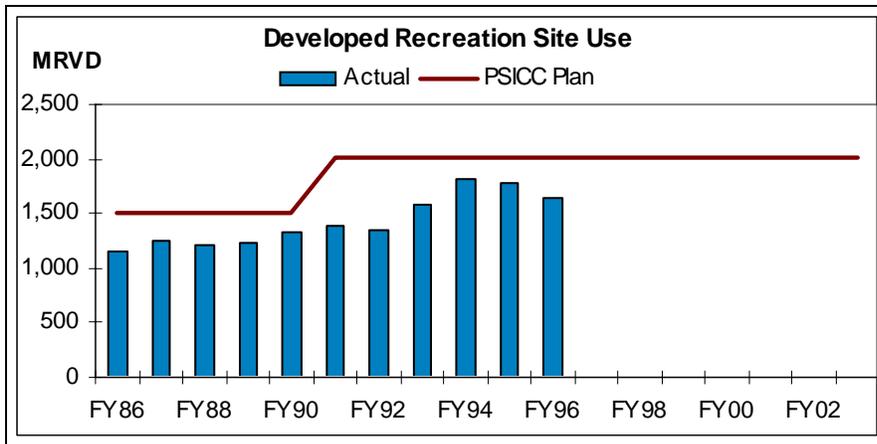
Table 7 lists activity types and the percent participation compiled from the FY01 NVUM report. From the FY01 data, the top five recreation activities were viewing natural features, relaxing, viewing wildlife, driving for pleasure, and hiking/walking. While direct comparisons of the FY96 data to those collected in FY01 may not always be possible (categories or activities are not perfect matches in some cases), it is interesting to note that viewing natural features, driving for pleasure, and hiking and walking (mechanized travel, viewing, and hiking) still rank as the highest among those activities offered to forest visitors. The FY01 report also shows increased participation in the activities of wildlife viewing, nature study, and gathering natural products (Fish/Wildlife/Non-consumptive visitor use).

**Table 7. PSICC Activity Participation by Primary Activity (from FY01 NVUM report)**

<b>Activity</b>	<b>Percent particip.</b>	<b>Activity</b>	<b>Percent particip.</b>
Camping in developed sites (family or group)	8.6	Off-highway vehicle travel (4-wheelers, dirt bikes, etc.)	18.0
Primitive camping	4.8	Driving for pleasure on roads	46.1
Backpacking, camping in unroaded areas	2.6	Snowmobile travel	0
Resorts, cabins & other accommodations on FS managed lands (private or FS run)	10.1	Motorized water travel (boats, ski sleds, etc.)	0.2
Picnicking and family day gatherings in developed sites (family or group)	16.9	Other motorized land/air activities (plane, other)	0.7
Viewing wildlife, birds, fish, etc., on NFS lands	58.1	Hiking or walking	43.9
Viewing natural features such as scenery, flowers, etc., on NFS lands	69.6	Horseback riding	1.6
Visiting historic and prehistoric sites/area	9.3	Bicycling, including mountain bikes	3.1
Visiting a nature center, nature trail or visitor information services	16.1	Non-motorized water travel (canoe, raft, etc.)	1.4
Nature study	5.3	Downhill skiing or snowboarding	5.4
General/other – relaxing, hanging out, escaping noise and heat, etc.	57.2	Cross-country skiing, snowshoeing	0.9
Fishing – all types	11.1	Other non-motorized activities (swimming, games and sports)	9.7
Hunting – all types	2.4	Gathering mushrooms, berries, firewood, or other natural products	4.3

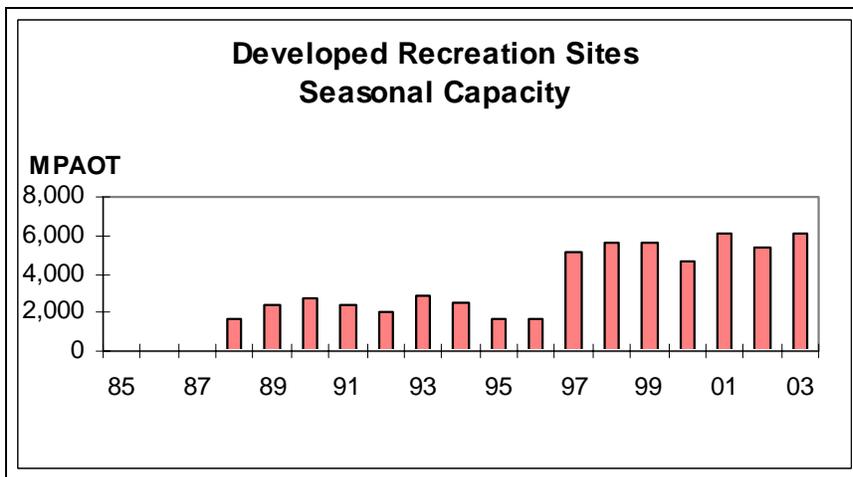
### **Developed Recreation**

Many recreation visits occur at developed facilities, particularly campgrounds (see Figure 27). These facilities were operated primarily by Forest Service personnel, but have been under concessionaire management since 1997.



**Figure 27. Developed Recreation Site Use**

The increase in developed site capacity beginning in FY97 (see Figure 28) is due primarily to the addition of developed trailhead parking areas. A small amount of capacity was lost during 2002 because of safety-related site closures (some fire-related), dredging a lake, and construction (approximately 60,000 reduction).



**Figure 28. Developed Recreation Sites' Seasonal Capacity**

The FY01 NVUM report polled recreation visitors about the types of constructed facilities and special designated areas they used during their visit. These data are listed in Table 8. The five most used facilities and areas were: Forest Service roads, non-motorized trails, scenic byways, picnic areas, and designated wilderness areas.

**Table 8. Percentage use of facilities and specially designated areas on PSICC (from FY01 NVUM report)**

Facility/Area Type	Percent indicating use (FS visits)	Facility/Area Type	Percent indicating use (FS visits)
Boat launch	0.5	Interpretive site	3.7

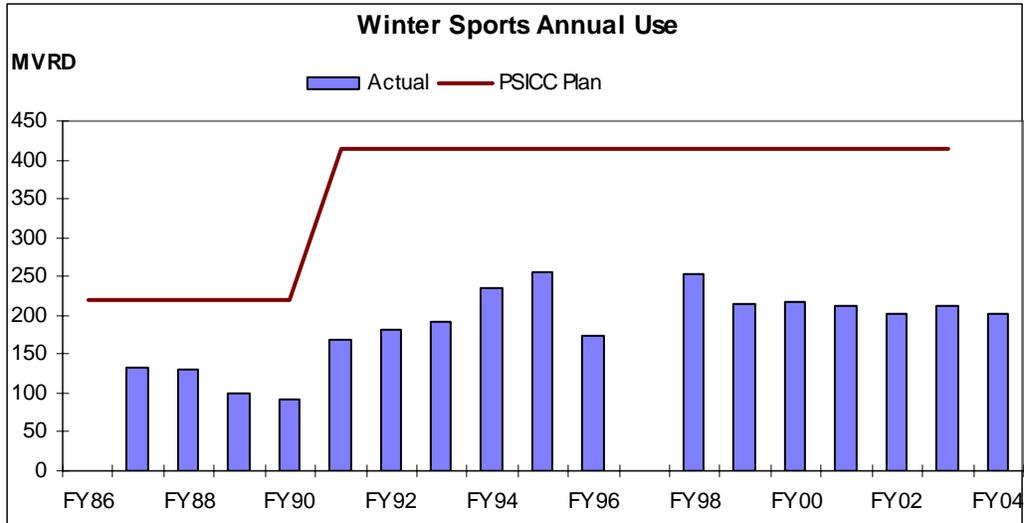
Facility/Area Type	Percent indicating use (FS visits)	Facility/Area Type	Percent indicating use (FS visits)
Designated off-road vehicle area	7.2	Lodges/resorts on NFS land	2.1
Designated snow play area	0.7	Motorized developed trails	2.9
Designated snowmobile area	0.7	Nordic ski area	0.7
Designated wilderness	8.4	Organization camp	1.2
Developed campground	5.7	Other forest roads	24.0
Developed fishing site/dock	2.6	Picnic area	11.3
Downhill ski area	5.4	Recreation residences	1.1
Fire lookouts/cabins FS owned	0.0	Scenic byway	19.6
Forest Service office or other info site	1.2	Swimming area	0.6
Hiking, biking or horseback trails	23.7	Visitor center, museum	3.2

**Recreation Facilities Backlog** – The PSICC has a strong recreation component in its overall program. It is also “urban” in character because more than four million people live within an easy weekend driving distance. Many of the developed campgrounds, which were built in the 1960s, are deteriorating. Operation and maintenance dollars have not kept pace with this deterioration, creating an increasing the backlog of needed work.

Repair and maintenance of the existing infrastructure will continue to be the focus of our capital improvement funds. Health, safety and sanitation projects will take priority. New Colorado state water quality requirements will require an emphasis on upgrading and improving water systems.

### **Winter Sports**

In general, downhill skiing use has leveled off nationwide. Use on the PSICC parallels that trend in spite of the front-range population increases and pressure. Figure 29 shows that capacity exceeds demand.



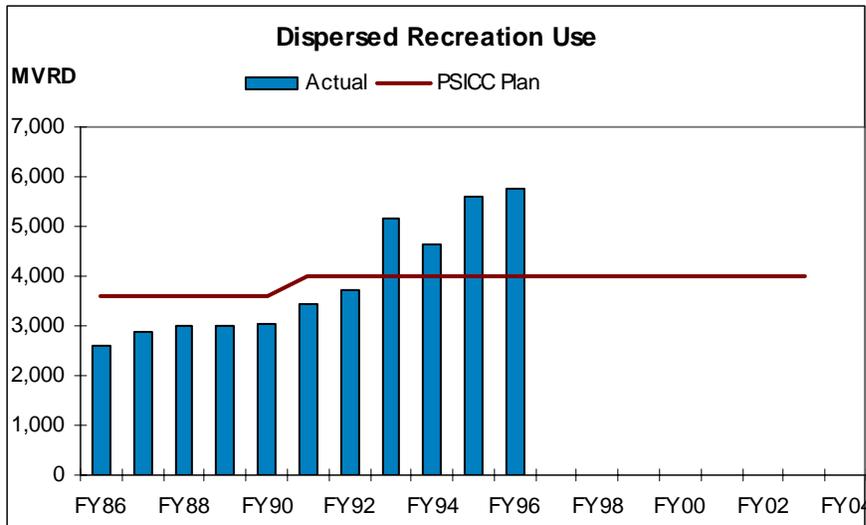
**Figure 29. Winters Sports Annual Use on the PSICC**

The PSICC has two operating ski areas: Ski Cooper and Powder Monarch. Powder Monarch was recently expanded by the addition of 128 acres in the Mirkwood Basin. During the 2004-2005 season, 207,190 skiers visited the PSICC.

One other area on the San Isabel National Forest, the Cuchara Valley Resort, had their permit revoked in 2002. The facilities (lifts) on National Forest System land are awaiting removal. See Table 8 for percentages of participation in snowboarding, skiing, cross-country skiing, snowshoeing, and snowmobile use.

**General Forest Areas**

**Dispersed Recreation** - Includes all activities that occur outside of developed facilities. Because of its proximity to the Denver-Colorado Springs-Pueblo metropolitan areas, the PSICC receives a large amount of dispersed recreation use. Figure 30 shows actual use through FY96.



**Figure 30. Dispersed Recreation Use on the PSICC**

Dispersed recreation constitutes the largest share of total recreation use. In recent years, visitor levels have exceeded projections made in the current Plan. The FY01 NVUM report lists many activities that fall into the Dispersed Recreation Use category (refer to Table 8). As mentioned in the introduction to the Recreation section, the top five recreation activities were viewing natural features, relaxing, viewing wildlife, driving for pleasure, and hiking/walking – all of which are considered Dispersed Recreation.

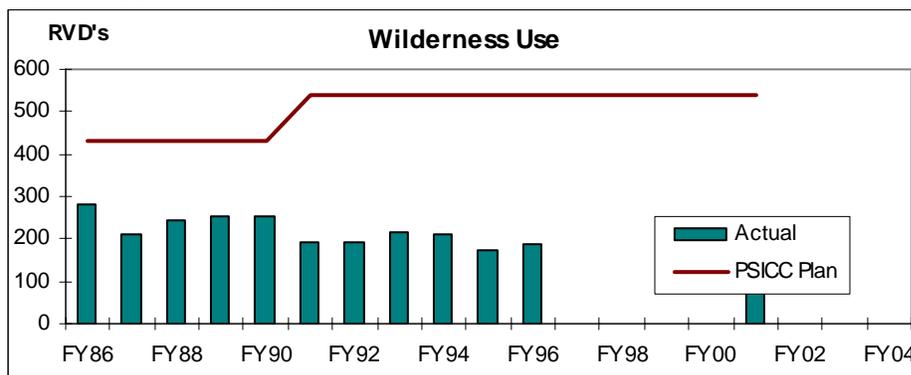
Immediately following Plan approval, the PSICC recognized the importance of implementing the travel management direction in the Plan. The White Arrow Program has been used to restrict motorized travel to designated roads and trails. However, the PSICC is converting to the Colorado Standard Signing with two Districts completed. With the rapid increase in all Terrain Vehicle sales, “unmanaged” off-highway vehicle use has become a major threat to the integrity of natural resources and a source of increasing conflict with other recreation users. The job of maintaining system roads and trails, and obliterating and rehabilitating illegal or unneeded routes continues to be a major workload.

**Wilderness Recommendations** – The PSICC has nine Wilderness areas, which together total 449,000 acres. Several of these areas cross Forest boundaries; the PSICC is the lead manager for three of those. In 2004 the Forest Service identified 10 management actions that would be completed for each Wilderness in the system. The PSICC completed Wilderness Education Plans for three areas in 2004 and in 2005 will concentrate on developing Fire Management Plans.

Lost Creek	Buffalo Peaks	Collegiate Peaks
Sangre de Cristo	Greenhorn	Spanish Peaks
Mount Evans	Holy Cross	Mount Massive

**Recreation Capacity Study** – In response to concerns that certain areas on the PSICC, particularly those in Wilderness, were being unacceptably impacted by increasing visitor use, a Forest-wide recreation capacity study was initiated in 1993. This study, completed in 1995,

analyzed visitation and impact levels in comparison to Plan direction. Findings indicated that many areas were at or exceeded capacity on most of the Forest and also that applications for outfitter-guide permits were increasing. In the highest overuse areas, outfitter-guide permits have been cut back, while in other areas no new permits were allowed. Steps are being taken to reduce public use in those problem areas as well. Even though Wilderness use has not been increasing (see Figure 31), impacts to Wilderness areas were becoming more problematic due to concentrated use in certain areas. Routes for climbing the peaks over 14,000 feet have become particularly popular and heavily used. As a follow-up to the study, selected high use areas are being monitored and managed more closely. Capacity refinements and use adjustments are being made as time and priorities allow. The FY01 NVUM report estimated wilderness use at 67,000 visits, with an average stay of 1.6 days per visit (based on a 25.2 hour average length of stay) or approximately 134,000 RVDs.



**Figure 31. RVDs and Wilderness Use: Actual and PSICC Plan**

This recreation capacity study also showed that:

- Management Area direction in portions of some Wilderness Areas was mismatched with current uses.
- Certain Plan Standards and Guidelines had become out-of-date with the current theory regarding management of dispersed recreation use in Wilderness Areas.

These corrections will be made during in conjunction with the Plan Revision for the Forests.

### **Interpretation, Protection, Public Outreach, and Accomplishments**

This part of the program includes interpreting non-vulnerable heritage sites for the public, protecting historic resources against natural deterioration and vandalism, and offering the public opportunities to participate in heritage resource management.

The historic Cabin Rental program is expanding. In 2004 the four cabins available under this program generated approximately \$14,000 in revenue that was used for the renovation and preservation of these sites. In 2005 the program will expand with the addition of the Crescent Mining Camp and Beaver City cabins.

**Table 9. Heritage Resources Accomplishments, 1994 – 2004**

Heritage Activity	Fiscal Year											
	94	95	96	97	98	99	00	01	02	03	04	Totals
Heritage sites interpreted	10	18	10	16	40	12	24	14	9	10	10	163
Public participation projects	0	12	0	6	9	8	7	7	6	7	8	62
Number of properties (cumulative)	1,276	2,158	2,343	2,741	2,823	3,056	3,406	3,766	4,022	4284	4629	29,875
Heritage sites preserved & protected	10	0	45	50	69	156	174	152	144	148	144	948
Heritage sites evaluated	28	475	173	150	240	265	437	360	345	294	376	2,767
Resource facilitation projects	121	92	67	113	155	158	142	137	142	169	187	1,296
Inventory/acres surveyed	25,285	14,000	14,600	18,460	12,491	10,246	14,700	23,435	28,000	19,879	28,966	181,096

### **Scenic Resources**

Scenic quality is being maintained. Activities with the potential to adversely affect the scenic integrity have been carefully designed to minimize those affects. The new Scenery Management System (SMS) will be implemented following the completion of each of the Plan Revision efforts for the PSICC.

Direction in the Built Environment Image Guide (BEIG) is followed to ensure that new buildings, signs, or other human-made features compliment the natural and cultural settings.

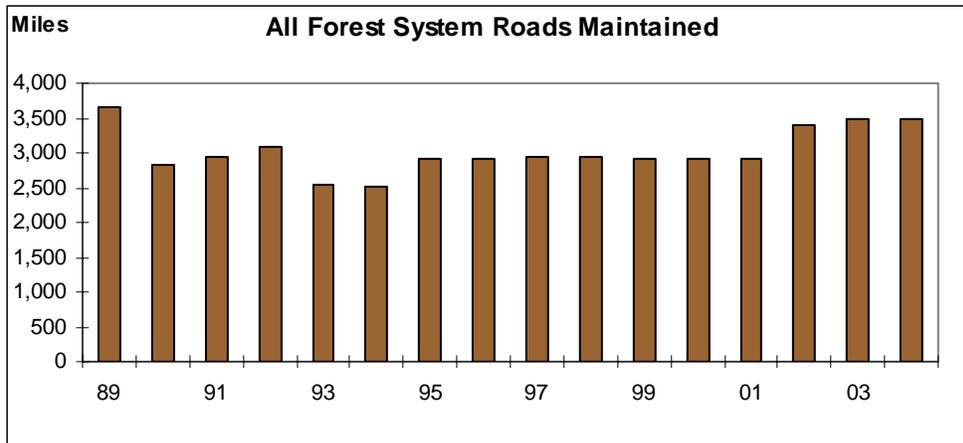
### **Travel Management**

Travel management is a persistent and growing topic of concern for the PSICC. Increasing population pressures are resulting in greater resource impacts and potential for conflict. Unmanaged recreation has been identified as one of the four major threats to long-term forest health, and off-highway vehicle use constitutes an important component of this threat.

Roads analyses have been conducted in several locations at the watershed and multiple-watershed scales, including the Hayman fire area. In addition, Forest-scale roads analyses on the Grasslands was completed in FY04 as part of the Plan Revision effort.

From 1997 to 1998, the PSICC conducted an informal assessment to better understand the concerns of travel management. The results revealed that most of the concerns have to do with the local administration and enforcement of the broad travel management decisions reflected in the Plan. Those local concerns are best resolved at the local (District) level. Land allocation, such as wilderness, semi-primitive non-motorized, and semi-primitive motorized management area prescriptions, concerns are appropriately directed to and addressed at the Plan level. These and other land allocation decisions will be addressed as part of Plan Revision or during implementation of the Revised Plans.

Figure 32 shows the total miles of roads identified as system (“classified”) roads that are available for public use. This use can vary from full use by the public with motor vehicles to administrative use only by the PSICC and designated permittees. Not included in the chart are Maintenance Level 1 (Intermittent Use) roads that are generally closed to all vehicle traffic for extended periods and which may be re-opened for specific resource needs. With continued shortfalls in maintenance funding, additional miles of road are being rendered unsuitable for use by passenger cars and moved into a high-clearance vehicle standard. This reflects a nationwide trend.



**Figure 32. All Maintained Forest System Roads on the PSICC**

The apparent increase in miles in FY02 is because temporary roads that serve oil and gas operations on the Grasslands were added to the system to better reflect actual conditions. Typically, temporary roads are obliterated after use (for example, after vegetation treatment is performed). Many of the oil and gas roads are longer-term, and they are largely available for, and passable to, the general public. Hence, their administrative classification was changed and these miles were added to the system.

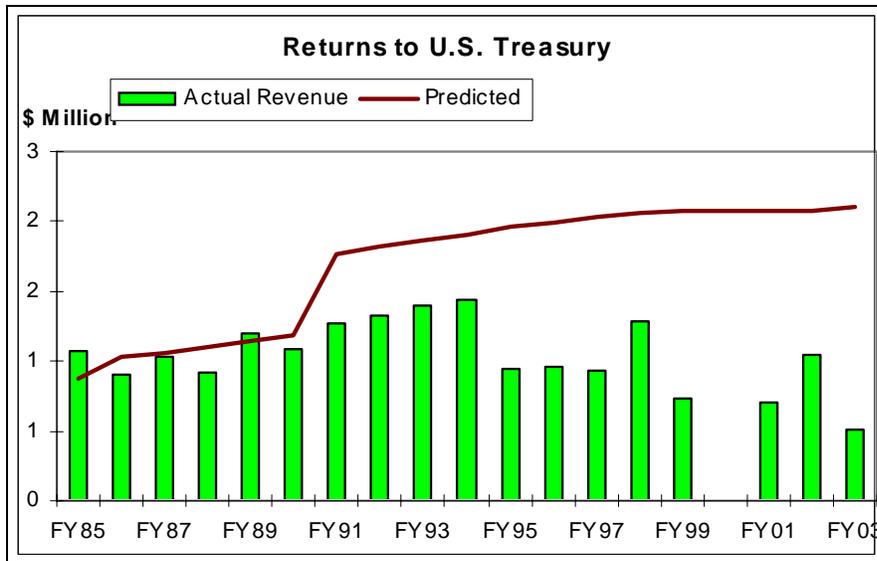
## ECONOMIC COMPONENTS

### Capital Investments

The Capital Investment Program (CIP) consists of two parts: one funded at the Regional level, and one funded at the Forest level. Before FY92, CIP was primarily for roads and general purpose timber and recreation use. After FY92, the emphasis shifted to include developed recreation areas and trail construction and reconstruction. PSICC's part of the CIP has been funded in the \$250,000 to \$500,000 range since 1991. The Regional CIP has been funded in the \$700,000 to \$2.3 million range, with the lowest funding in 1996 and the highest in 1992. As stated previously, the emphasis has shifted from roads in the early 1990s to developed recreation areas in the late 1990s.

### Returns to the U.S. Treasury

A wide range of activities generates revenues for the U.S. Treasury. These include special-use permits (such as ski areas, roads, waterlines, powerlines, outfitter-guides, recreation residences), grazing permits, fuel wood permits, Christmas tree permits, transplant sales, timber sales, and others. Revenues from oil and gas leases are not shown in Figure 33, but are included in Appendix B of this report.



**Figure 33. Revenue Returns to the U.S. Treasury: Actual and Predicted**

### Payments to Counties

In most cases, 25% of the revenues paid into the U.S. Treasury are returned to the counties where the revenue-generating activities took place. The flow of these funds to counties is shown in Table 10. The most dramatic change occurred on the Cimarron National Forest in 1987, when a number of oil and gas leases reverted to the United States. Revenues from those leases have declined in recent years as production has declined.

**Table 10. 25% Fund Payments to Counties by Proclaimed Units**

Nominal Year Dollars					
Fiscal Year*	Pike	San Isabel	Comanche*	Cimarron*	PSICC Total
FY85	115,898	123,019	145,707	77,852	462,476
FY86	103,787	107,703	103,185	39,027	353,702
FY87	105,173	130,414	72,730	4,240,391	4,548,708
FY88	92,751	119,698	45,236	3,028,349	3,286,034
FY89	127,780	149,169	47,240	1,514,045	1,838,234
FY90	122,124	127,901	64,605	1,007,529	1,322,159
FY91	134,263	149,236	111,347	541,837	936,683
FY92	117,394	172,006	106,777	428,047	824,224
FY93	157,919	152,076	106,463	737,839	1,154,297
FY94	162,181	175,534	59,587	785,574	1,182,876
FY95	91,038	134,596	117,975	503,049	846,658
FY96	94,520	142,053	221,394	627,538	1,085,505
FY97	92,591	120,173	632,708	170,706	1,016,178
FY98	157,857	149,073	71,530	473,494	851,954
FY99	92,481	90,829	0	0	183,310
FY00	94,249	73,177	0	0	167,426
FY01	127,424	180,922	71,617	516,309	896,272

<b>Nominal Year Dollars</b>					
<b>Fiscal Year*</b>	<b>Pike</b>	<b>San Isabel</b>	<b>Comanche*</b>	<b>Cimarron*</b>	<b>PSICC Total</b>
FY02	142,743	183,219	72,637	983,052	1,381,651
FY03	140,170	184,712	47,166	505,867	877,915
FY04	160,996	196,439	917,822	19,757	1,295,014

\* Note: Grassland revenues and payments are reported by calendar year rather than fiscal year.

**Unit Costs and Efficiency** – As a unit, the PSICC has made much progress toward improving customer service and reducing costs. Increased interagency cooperation and increased work with partners and volunteers has resulted in gains in efficiency.

Unit costs are extremely variable on a large and diverse unit such as the PSICC. Average unit costs tend to oversimplify the complexity of managing natural resource and ecosystems. Because they do not accurately portray effectiveness, unit costs have not been summarized in recent years. It is possible to do so by dividing outputs by either program or project costs. Unit costs have limited use in Plan monitoring because of:

- 1) The complexities of the budget allocation process.
- 2) The diverse nature of many projects.

Unit costs may be of some value in relating programs on different National Forests, but are less useful within an individual unit.

## AMENDMENTS TO THE PLAN

### Existing Amendments

Existing amendments to the Plan are shown in Table 11. For several years following approval of the Plan, it was believed that changes in the timber harvest schedule had to be reflected as amendments. When court decisions clarifying the purposes of Land and Resource Management Plans established that this practice was not required, amendments of this nature were discontinued.

**Table 11. Summary of Amendments to the Plan**

Amendment No.	Date Approved	Summary
1	09/23/85	Clarified intent of Plan implementation schedules (Appendices A, C & D) prepared as part of annual Forest Plan of Work. Rescinded by Amendment No. 9.
2	07/24/87	Corrected omission and indicated that bridge construction and reconstruction activities under Management Activity L16 – L18 (Local Road Construction and Reconstruction) are included.
3	07/24/87	<i>Revised boundary of the Comanche Lesser Prairie Chicken Habitat Zoological Area (designated a Colorado Natural Area February 13, 1987).</i>
4	7/24/87	Included in the Plan assessment of suitability and capability of Quail Mountain for proposed ski area development. Rescinded October 5, 1987.
5	07/24/87	Incorporated in the Plan, modified stipulations and supplements contained in FSM 2800 5/86 Supplement No. 25 for leases and permits issued on National Forest System lands.
6	07/24/87	Replaced fire management Standards and Guidelines with Regional fire management requirements that had been changed to provide greater flexibility to land managers.
7	07/24/87	Corrected a Plan map error to more accurately reflect Management Area Prescription application and changed acreage totals in the Management Area Summary Table.
8	07/24/87	Corrected information in the Plan – Appendix B; fuelwood products are not a part of the Allowable Sale Quantity (ASQ).
9	07/24/87	Rescinds Forest Plan Amendment No 1.

<b>Amendment No.</b>	<b>Date Approved</b>	<b>Summary</b>
10	07/24/87	Assigned Management Area Prescription 1D (Provided for Utility Corridors) for certain lands within the Comanche and changed Management Area Summary Table III-3 to show a change in the acreage of four Management Areas.
11	08/20/87	Replaced Appendix A (Ten-year Timber Sale Schedule) and established a three-year schedule of planned vegetation treatment projects.
12	10/05/87	Replaced Appendix C (Ten-Year Road Construction and Reconstruction Schedule) and established a three-year schedule of planned road construction/reconstruction projects.
13	12/09/88	Recommended establishment of the 373-acre Hoosier Ridge Research Natural Area, South Park District.
14	12/09/88	Assigned Management Area Prescriptions 2B and 4B to 10,290 acres of the Cimarron River corridor on the Cimarron.
15	01/89	Amendment drafted but not finalized.
16	01/03/89	Established three-year Timber Sale and Road Construction/Reconstruction Schedules (revised appendices A & C). (FSM 1920, R2 Supplement No. 8, 03/86 and FSH 1909.12, R2 Supplement No. 1, 08/88).
17	01/03/89	Assigned Management Area Prescription 5B to Babcock Hole, San Isabel (San Carlos District); 9,021 acres.
18	01/03/89	Assigned Management Area Prescription 1D to Methodist Mountain, San Isabel (Salida District); 53 acres.
19	03/02/89	Assigned Management Area Prescription 5B (Emphasis on Big Game Winter Range) in the Dry Union Gulch area, San Isabel (Leadville District) – change from a 7D Management Area Prescription; 5,114 acres.
20	12/06/89	Replaced three-year Timber Sale and Road Construction/Reconstruction Schedules (revised Appendices A & C). (FSM 1920, R2 Supplement No. 8, 03/86 and FSH 1909.12, R2 Supplement No. 1, 08/88).
21	06/11/90	Established Scenic Highway of Legends as a Scenic Byway on the San Carlos District. Incorporated new management direction for Scenic Byways in the Plan.

<b>Amendment No.</b>	<b>Date Approved</b>	<b>Summary</b>
22	10/04/90	Replaced three-year Timber Sale and Road. Construction/Reconstruction Schedules (revised Appendices A & C).
23	02/12/92	Oil & Gas Leasing – Incorporated decision made 02/92 to consent to oil and gas leasing. Reference Final EIS and Record of Decision (ROD).
24	04/09/92	Added Picket Wire Canyonlands per PL 101-501. Also established management area direction.
25	09/21/94	Revised Plan map to establish a utility corridor for the Divide Power Line between Divide and Lake George.
26	03/00	Changes VQO within Ski Cooper permit area to Modification.
27	02/01	Establishes Stanley Canyon expansion to the Northfield Multi-User Communications Site.
28	08/01	Amends suitable timber base and certain standards and guidelines in the area of the Upper south Platte Watershed Protection and Restoration Project.
29	6/02	Amends the Forest Plan to establish the Dick's Peak Communication Site.

### **Identified Need for Change through Either a Plan Amendment or Plan Revision**

**Management Indicator Species** - In 2002, a review of currently-listed MIS was prepared. This review provided the information needed to determine if current MIS should be retained or dropped based on criteria such as the efficiency and feasibility to monitor species, and whether or not they serve as an effective indicator of management activities. This review concluded that it is appropriate to recommend certain changes to the 1984 list. To do so, a Plan Amendment has been approved that addresses the need and rationale for the proposed changes; the decision notice was signed in August 2005. For more information, see the PSICC Web site at <http://www.fs.fed.us/r2/psicc/projects/> .

**Travel Management** – A pervasive issue on most National Forests is travel management. In FY97, the PSICC began an informal assessment to more clearly understand the issues involved. The assessment completed in FY98 concluded that most of the issues pertain to local administration and enforcement of the broad travel management decisions reflected in the Plan. Local issues are best resolved at the District level. Where the issues relate to land allocation, such as Wilderness, semi-primitive non-motorized and semi-primitive motorized prescriptions, they are appropriately addressed at the Plan level. These and other land allocation decisions will be addressed as part of Plan Revision.

**Wilderness** – Congress established additional Wilderness Areas on the PSICC in 1993. The Plan Record of Decision identified certain lands as suitable for wilderness and the Plan’s map was accordingly drawn to reflect that finding. When additional Wilderness was established, the final boundaries did not match those shown as recommended on the official Plan map. For this reason, some changes to the official map are needed. In addition, one outcome of the recreation capacity study (see the discussion under Dispersed Recreation) concluded that the pattern of management prescriptions in certain areas was not consistent with sustainable levels of use. This has led to the modification of outfitter guide permits and some modifications in public use management. In some areas, however, Plan Standards and Guidelines for level of human use and encounters are still not being met in some wilderness watersheds. Both the boundary changes and any needed changes in prescriptions will either be addressed before or during Plan Revision for the Forests.

**Wildfire Hazard** – Recent large fires like Buffalo Creek and Hayman (see Fuel Treatment, Soil and Water Resources) are reminders that forested lands are becoming increasingly susceptible to catastrophic fires. As reviewed earlier in this report (see Forest Condition and Use), the activity that historically had the greatest effect on this situation – timber harvest – has greatly declined in recent years. The net effect is that forested areas throughout the PSICC are becoming more susceptible to catastrophic wildfires and are not meeting or moving towards desired conditions as identified in the Plan.

This situation, which is not unique to PSICC, is widespread throughout National Forests. Because of this, increased funding has been made available to help work on the situation. Fuels treatment projects have already increased in recent years, and during FY03 the PSICC integrated the Front Range Fuels Treatment Strategy into the Hazardous Fuels program. This strategy is designed to identify priority areas of fuels treatment on public lands for the PSICC as well as on adjoining Forests. Much work involving a variety of treatment types, over a long period of time is needed. Not only are steady-state levels of fuels treatment appreciably above those of recent years, but major backlog also exists. To help ensure that projects are designed to produce the most effective results, the Plan Revision for the Forests will:

- 1) Re-clarify the desired condition of forested lands.
- 2) Establish priorities for the types of areas where treatment would produce the most beneficial results.
- 3) Modify PSICC direction regarding fuels treatment to provide greater flexibility in prescribed fire management.



## LIST OF PREPARERS

This monitoring report was prepared and/or reviewed by the following staff specialists on the PSICC.

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## REFERENCES

The information in this annual monitoring report is based on the PSICC Management Attainment Reports, Final Budget Documents, INFRA (Infrastructure) database, SILVA (silviculture) reports, NVUM (recreation uses), Regional Revenue and 25% Payments to Counties reports, individual program accomplishment reports, and other miscellaneous documents. All referenced documents are available for review at the PSICC Supervisor's Office located at:

Pike & San Isabel National Forests  
Cimarron & Comanche National Grasslands  
2840 Kachina Drive  
Pueblo, CO 81008

Additional copies of this report are available by writing to or visiting the address above, by calling 719-553-1475, or through the World Wide Web (<http://www.fs.fed.us/r2/psicc>).

**APPENDIX A. Timber Harvest History, 1987 through 1998 (Cutting Method and Acres Harvested)**

Cover Type & Cutting Method	87	88	89	90	91	92	93	94	95	96	97	98	Total Acres
<b>Ponderosa Pine</b>													
Selection	0	0	0	0	0	0	0	0	0	0	0	0	0
Intermediate cut, sanitation/salvage, commercial thin	170	92	243	243	364	1,312	1,459	1,105	27	0	448	89	2790
Clearcut	11	15	27	0	0	0	0	0	0	0	0	0	53
Preparatory cut (shelterwood)	0	26	0	0	0	0	0	0	0	0	0	0	26
Seed cut (shelterwood)	83	251	378	428	0	80	113	0	0	0	0	26	1,359
Removal cut (shelterwood)	47	38	176	67	0	0	0	0	0	0	0	0	628
<b>Aspen</b>													
Clearcut	40	101	81	85	140	69	73	49	13	7	9	0	667
Sanitation/salvage	0	0	0	0	0	0	0	5	9	0	0	37	51
<b>Lodgepole Pine</b>													
Clearcut	57	151	43	38	176	47	156	102	54	0	130	14	993
Seed cut	0	0	0	0	66	107	12	0	0	0	0	0	185
Removal cut	0	0	0	0	0	0	13	0	0	16	0	0	29
Commercial thin	0	0	0	0	0	0	0	0	50	0	0	0	50
Sanitation/salvage	0	0	0	0	0	0	8	0	0	0	0	0	8
<b>Engleman Spruce/Fir</b>													
Clearcut	2	64	57	0	150	64	44	0	0	0	0	0	381
Preparatory cut (shelterwood)	0	255	0	54	30	0	27	0	108	0	0	0	474
Seed cut (shelterwood)	0	0	34	0	553	0	175	430	0	0	88	88	1,368
Removal cut (shelterwood)	0	7	0	0	82	0	72	0	0	0	0	23	184
Selection (uneven-aged mgmt)	0	286	164	150	27	152	0	0	0	41	65	7	892
<b>Mixed Conifer (Douglas-fir)</b>													
Intermediate cut, salvage, commercial thin	0	15	1,689	229	47	416	232	232	278	0	208	0	36
Clearcut	0	10	0	0	31	13	4	0	0	0	0	0	58
Preparatory cut (shelterwood)	0	386	0	0	0	0	0	0	0	0	0	0	386
Seed cut (shelterwood)	0	0	0	0	56	389	51	0	0	0	0	0	496
Removal cut (shelterwood)	0	0	59	79	261	0	0	0	0	0	0	0	399
<b>Other Species</b>													
Sanitation salvage, special cut, selection, x-mas trees	0	0	0	0	0	0	93	16	0	0	0	0	119
<b>Total Acres Cut</b>	<b>410</b>	<b>1,697</b>	<b>2,951</b>	<b>1,373</b>	<b>1,983</b>	<b>2,649</b>	<b>2,532</b>	<b>1,939</b>	<b>539</b>	<b>64</b>	<b>948</b>	<b>284</b>	<b>12,076</b>

**APPENDIX A (cont'd). Timber Harvest History, 2000 through 2004 (Cutting Method and Acres Harvested)**

<b>Cover Type &amp; Cutting Method</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>Total Acres</b>
<b>Ponderosa Pine</b>						
Selection	0	0	337	80	0	417
Intermediate cut, sanitation/salvage, commercial thin	0	180	1,429	1,228	3,150	8,464
Clearcut	0	0	0	0	0	53
Preparatory cut (shelterwood)	0	0	0	0	0	26
Seed cut (shelterwood)	0	0	0	0	0	1,359
Removal cut (shelterwood)	0	0	83	0	0	711
<b>Aspen</b>						
Clearcut	0	0	0	0	0	667
Sanitation/salvage	0	0	21	10	0	82
<b>Lodgepole Pine</b>						
Clearcut	0	0	7	5	0	1,005
Seed cut	0	0	53	0	0	238
Removal cut	0	0	0	0	0	29
Commercial thin	0	0	5	55	0	110
Sanitation/salvage	0	0	220	15	0	243
<b>Engleman Spruce/Fir</b>						
Clearcut	0	0	36	0	0	417
Preparatory cut (shelterwood)	0	0	108	0	0	582
Seed cut (shelterwood)	0	0	0	0	0	1,368
Removal cut (shelterwood)	0	0	0	0	0	184
Selection (uneven-aged mgmt)	0	0	0	0	0	892
<b>Mixed Conifer (Douglas-fir)</b>						
Intermediate cut, salvage, commercial thin	0	0	59	0	0	3,695
Clearcut	0	0	0	0	0	58
Preparatory cut (shelterwood)	0	0	0	0	0	386
Seed cut (shelterwood)	0	0	0	0	0	496
Removal cut (shelterwood)	0	0	0	0	0	399
<b>Other Species</b>						
Sanitation salvage, special cut, selection, x-mas trees	0	10	0	0	0	119
<b>Total Acres Cut</b>	<b>0</b>	<b>190</b>	<b>2,358</b>	<b>1,393</b>	<b>3,150</b>	<b>24,980</b>

**APPENDIX B. PSICC Revenues 1985 to Present**

PSICC Revenues 1985 to Present <u>1/</u> Revenue Category												
FY	National Forest Funds (\$)						Trust Funds (\$)					Total \$
	Timber Sales	Special Uses <u>2/</u>	Mineral Leases <u>3/</u>	Recreation Revenue	Grazing Fees	Power	K-V Funds	Salvage Funds	Purchaser Credit	Timber Purchase	Special Road Construction	
85	76,701	245,505	774,346	301,619	159,918		211,209	0	80,604			1,849,902
86	77,242	232,052	514,733	323,447	93,933		140,503	0	32,897			1,414,807
87	95,106	286,770	17,167,292	323,091	92,629		188,588	0	41,358			18,194,834
88	20,132	272,773	12,222,776	342,096	107,098		110,467	548	68,248			13,144,138
89	67,031	269,855	6,151,595	512,328	154,048		132,262	26,860	38,958			7,352,937
90	56,798	280,321	4,206,179	371,214	129,094		106,459	80,790	57,778			5,288,633
91	66,923	332,516	2,476,165	377,950	173,307		115,195	119,780	84,895			3,746,731
92	32,070	447,066	1,976,099	436,734	207,661		79,496	99,305	18,460			3,296,891
93	153,532	492,503	3,218,247	269,658	195,529		80,045	142,544	65,128			4,617,186
94	112,635	113,258	3,296,673	667,833	119,670		191,398	102,199	127,836			4,731,502
95	108,042	148,345	2,438,829	468,555	60,429		84,106	49,530	28,790			3,386,626
96	179,015	65,642	3,295,406	498,421	73,460		109,114	40,175	0			4,261,233
97	86,869	161,507	3,131,603	490,425	81,569		53,260	59,482	0			4,064,715
98	67,571	483,854	2,118,483	570,171	69,018		54,299	44,418	0			3,407,814
99	33,442	149,670	157	427,176	27,384		68,213	27,197	0			733,239
00	78,324	327,975	203,661	138,361	48,044	26,416	63,402	16,083	0	0	0	902,266
01	73,083	468,512	4,133,042	242,038	66,276	27,979	102,839	20,462	0	403	2,700	5,137,334
02	60,338	516,540	4,189,001	185,654	68,160	30,993	116,416	47,634	0	13,696	0	5,228,434
03	66,442	281,719	2,168,132	69,321	18,104	21,078	12,264	76,737	0	0	0	2,713,800
04	25,077	476,212	22,159	189,276	20,903	42,627	38,357	106,214	0	0	0	921,735

1/ Nominal year dollars

2/ Beginning in FY00, Special Uses includes Recreation Special Uses and Land Uses

3/ In FY00, mineral lease revenues were available for all units with the exception of the Cimarron (traditionally the bulk of these revenues comes from the Cimarron)