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Forest Service

Rocky Mountain Region

Pike and San Isabel National Forests and Cimarron and Comanche National Grasslands

Annual Monitoring Report for

Fiscal Year 2012

August 2013

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1. 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, and social and economic settings, and must be integrated with the needs of two state governments and seventeen counties.

The 1984 land and resource management plan (1984 Plan) for the PSICC focuses on resource needs and the desires of the diverse publics being served. Predicted rates of accomplishment corresponded with the needs identified in the 1984 Plan. As is apparent in many of the following sections, implementation has not kept pace with predicted rates.

2.0. Physical Components

2.1. Soil 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

2.1.1. 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 the National Forest Management Act (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 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 (the eastern portion of the Pike National Forest and Morton County) have current published surveys. The mapping, draft manuscripts, and interpretations have been completed for the remaining survey areas

2.1.2. 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 prescribe and implement land

treatments, and in some cases to modify management to:

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

Direction in the 1984 Plan includes improving 440 treated or 1,200 affected acres per year. Figure 1 shows the number of treated acres from 1985 to the present. The PSICC has implemented over 400 soil and water improvement projects since implementation of the 1984 Plan, totaling more than 35,000 acres of treated or improved lands, excluding areas rehabilitated following wildfire (see Burned Area Rehabilitation, below).

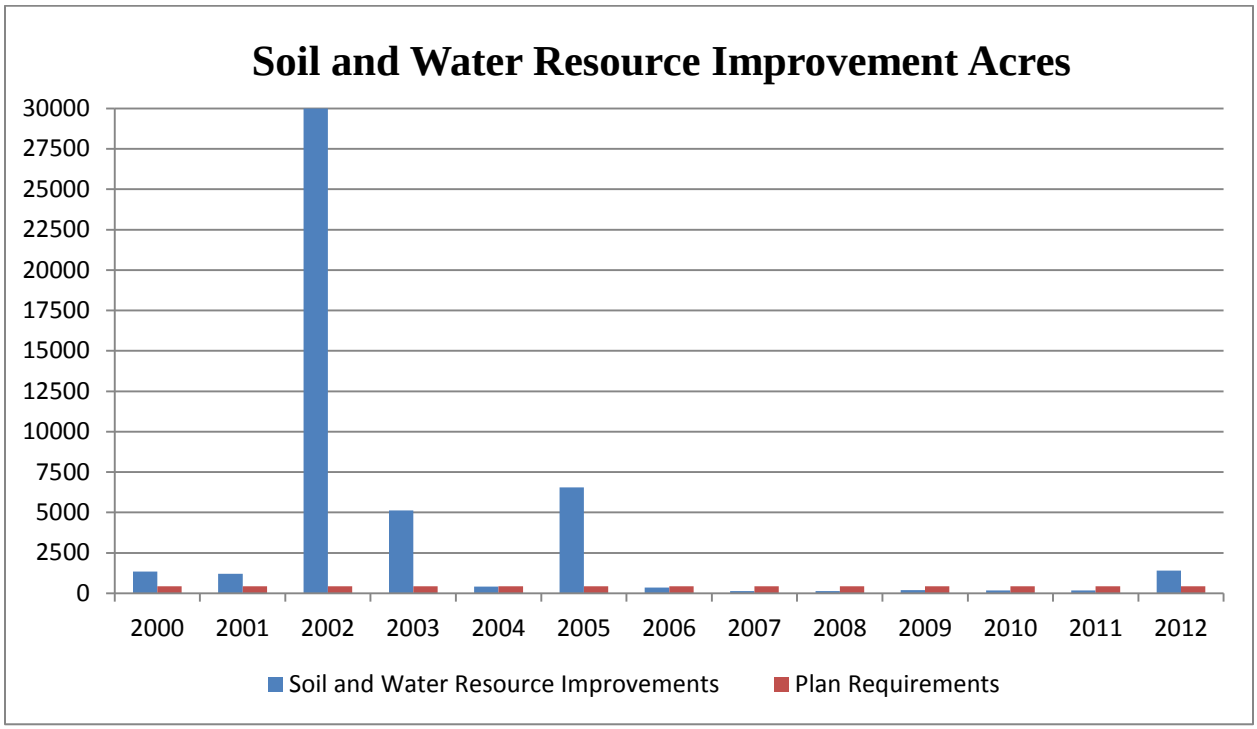

Figure 1. Soil and Water Resource Improvements

Over the past 28 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. In 2011, the majority of the work was within the perimeter of the Hayman Burn Area in the Trail Creek Watershed. This work is a cooperative effort with the USFS, CUSP, NFF and Vail ski resorts. On the Pike National Forest the Happy Meadows Stream restoration project treated about a ½ of the mainstem of the 303(d) listed South Platte River. Some of the improvements include adjusting the width to depth ratios and natural stream bank restoration with transplanted willows. Increased cooperation between the soil and water

program and engineering as well as the long term stewardship project led to several road/trail improvement projects. Many unauthorized routes on the Pike Zone were GPSed in 2010/2011 and are being closed as budget allows. In 2011, the South Rampart Travel Management plan was completed, however final signature is waiting for the outcome of the Motor Vehicle Use Map lawsuit. When implemented, this plan will prioritize road closures, relocation and improvements at high risk and high value soil/water areas.

2.1.3. Watershed Assessments

In 2011, the PSICC utilized District participation and an interdisciplinary team to rate each watershed indicator value resulting in an overall 6th level watershed numeric value. Ratings were entered into the web based WCATT national watershed condition assessment tracking tool. The top two priority watersheds for restoration were described in detail in watershed restoration action plans (WRAP). The top two watersheds for restoration are Trail Creek Watershed on the Pikes Peak Ranger District and Picketwire Canyon on the Comanche Ranger District. 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.

Watersheds within the Hayman Burn area were evaluated and prioritized using the EPA Watershed Assessment of River Stability and Sediment Supply (WARSSS) watershed assessment tool in 2010. Watershed restoration and in-stream restoration started in 2011 and will continue throughout 2012. Watersheds in the Waldo Canyon Burn area were also evaluated and prioritized using EPA's WARSS watershed assessment tool in 2012. Watershed restoration and in-stream stabilization in the Waldo Burn area will continue into 2014.

2.1.4. Burned Area Rehabilitation (BAER)

In 2012 theWaldo Canyon Fire burned on the west side of Colorado Springs. The fire destroyed over 340 homes and burned watersheds with steep slopes and high erosion hazard. As a result The Forest Service approved approximately 4.8 million dollars for BAER work in prioritized watersheds within the burn perimeter.

The work includes; 22 detention basins on Forest and 12-13 on private lands, 9,600 feet of stream channel reshaping on Forest and 2,300 feet on private lands, 3.5 miles of roads maintained on Forest and 1.06 miles maintained on private lands, 80 acres of hand treatment on Forest and seven acres on private lands, installation of 1,928 linear feet of debris deflectors on Forest and 455 linear feet on private, spread among 22 different debris deflectors.

The Hayman Fire (137,760 acres) and the Mason Gulch Fire (11,357 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.

Ongoing BAER effectiveness monitoring is being analyzed in the Hayman Burn area by the Rocky Mountain Research Station (RMRS) and Dr. Pete Robichaud. Weed treatments occurred

in the Hayman and Mason Gulch burn area in 2011. The Rocky Mountain Field Institute (RMFI) was responsible for monitoring watershed restoration work in the Hayman Burn Area. The monitoring report produced by RMFI is available at the PSICC Supervisor's Office.

2.1.5. 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, 1984 Plan standards and guidelines, and the watershed condition analysis for seriously degraded and high value stream segments on the PSICC[1] give long-term objectives and monitoring guidelines used to measure changes in soils and watersheds.

Work is ongoing on the 2008/2012 303d-listed streams on the PSICC. A total maximum daily load (TMDL) for the Upper South Platte River was prepared in fiscal year (FY) 2002; the Forest Service continues to implement and monitor water quality restoration measures recommended by the TMDL. The mainstem of the South Platte near Happy Meadows has a design plan and implementation started in 2011. Monitoring at Williams Creek was established in 2008 to monitor water quality for lead pollution from the Rampart shooting range. The EPA took over Williams Creek monitoring in 2011. All monitoring data is entered into the corporate soils and water databases maintained by the PSICC.

Best Management Practices (BMPs) are used to ensure compliance with State and Federal regulations and with the 1984 Plan standards and guidelines. In 2012, soil and water quality monitoring was tied to project implementation.

Range allotment management plans (RAMPs) and monitoring incorporate proper functioning condition monitoring to determine the effect of grazing on soil and water resources.

2.1.6. Soil Quality Standards

The PSICC uses the soil quality standards established for the Rocky Mountain Region of the 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 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 off-highway vehicles (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.

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[1] U.S.D.A., Forest Service. 1998. FS-710. Watershed condition analysis: seriously degraded and high value stream segments on the Pike and San Isabel National Forests and Cimarron and Comanche National Grasslands. Compiled and edited by D.S. Winters and P. Gallagher. March 1998.

The PSICC completed an equivalent roaded acres (ERA) model for the Oil and Gas EIS. This model analyzes project impacts to every watershed on the Forests and Grasslands. Any watersheds over a predetermined threshold are singled out for mitigation when projects are proposed in the identified basins.

2.2 Water Rights

Three goals of the PSICC water rights program are to:

1. Maintain current water rights
2. Protect and maintain channel stability and capacity on streams
3. Assess and potentially accomplish any proposed increase in water use or resource activity

The PSICC will continue 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 violate or threaten the rights held by the Forest Service. Through these reviews, the PSICC learns about individuals seeking water rights on the Forests or Grasslands that may not hold special-use permits for the requested use. Rather than filing a Statement of Opposition opposing the request, the PSICC would often send a letter to the applicant about the special-use permitting procedures. If the water right application is for an absolute water right (as opposed to a conditional water right), the PSICC files a Statement of Opposition instead of the letter explaining the USFS special-use permitting process.

The PSICC continues its focus on augmentation requirements for Lake Isabel in 2012. The State of Colorado is requiring the PSICC to augment for water loss caused by evaporation. Many options have been explored and the PSICC Leadership Team is now making decisions related to which options are most viable and should be explored more in-depth. If augmentation water is not secured by spring of 2012, water will begin being released to account for the evaporative loss to downstream senior water rights holders.

The PSICC water rights program continued to support the range program by applying for well permits and/or stock tank certificates for new stock uses. An in-depth inventory of stock water uses also is underway, starting on the San Carlos Ranger District.

The PSICC continues working on getting long-term special-use permits issued for North Fork, Boss, and O'Haver reservoirs on the Salida Ranger District. Work this year also consisted of continued efforts on the Instream Flow Incremental Methodology (IFIM) for stream habitat.

2.3. Air Resources

This section describes the known conditions for air quality on or near the PSICC by the various pollutants that are thought to pose the greatest threats to forest and grassland ecosystems and recreation settings.

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 across the

PSICC, especially in wilderness areas. See Table 1 for the locations of air monitoring sites currently managed by the PSICC.

Table 1. Air Quality Monitoring Sites Managed by the PSICC

Air quality monitoring site	Measured characteristics	Year established
Mount Evans Wilderness – Upper Bears Tracks Lake	Acid deposition	1994
Mount Evan Wilderness – Frozen Lake	Acid deposition	1994
Mount Evans Wilderness – Abyss Lake	Acid deposition	1994
Sangre de Cristo Wilderness – Upper Stout Lake	Acid deposition	1994
Sangre de Cristo Wilderness – Lower Stout Lake	Acid deposition	1994
Manitou Experimental Forest	Acid deposition Ozone	1978
Kenosha Pass	Ozone	2005
Guanella Pass	Ozone	2005
Trout Creek Pass	Ozone	2009
Cimarron National Grassland	PM10 and other particulates Mercury	1994

2.3.1. Ozone

Ground-level ozone is formed when oxides of nitrogen (NOx) react with volatile organic compounds (VOCs) in the presence of sunlight. Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC. Sunlight and warm weather accelerate the reaction, which is why ozone is typically a summertime pollutant. At high concentrations, ground-level ozone can damage plant tissues and adversely impact plant growth and health. At higher concentrations, ozone can impact public health.

The Forest Service has initiated ozone monitoring by installing a continuous ozone monitor at Kenosha Pass and a passive ozone monitor in the Manitou Experimental Forest. Though specific concentrations are not available at this time, a preliminary analysis suggests ozone levels increase with elevation.

In November 2007, several counties around the Denver area were designated as "Non-Attainment" with respect to the National Ambient Air Quality Standards (NAAQS) for ozone. These counties include Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson, as well as the southern half of Larimer and Weld counties. The Pike National Forest is partially

located in Jefferson and Douglas counties. While the rest of the state is in attainment for ozone, a June 2007 EPA proposal to strengthen air quality standards for ozone would reduce the primary 8-hour standard from 0.08 parts per million (ppm) to a level within a range of 0.070 to 0.075 ppm. This may have implications for areas that are in compliance but near the 8-hour standard, such as El Paso County. EPA expects new designations of attainment/non-attainment to take effect in 2010.

EPA uses a national network of monitoring sites to measure ambient ozone concentrations. According to the EPA, from 1990–2006 thirty-four sites in Colorado have been used to measure ozone for at least one year; nineteen of these sites were in operation in 2007. None of the sites are located within the PSICC, but several are located adjacent to the PSICC. A cluster of sites are located in Denver county and the northern half of Jefferson County. Four sites border the PSICC near Colorado Springs. One site is located at the Great Sand Dunes National Park, in the vicinity of the San Isabel National Forest.

Data obtained from the sites near Colorado Springs suggest stable levels of ozone throughout the 1990s, where 8-hour average levels ranged between approximately 0.05–0.06 ppm from 1990–1997. More recent data reported by EPA for the Colorado Springs area indicate levels are approaching the national standard of 0.08 ppm. Closer to Denver County, ozone concentrations have exceeded the national standard at sites located closest to the Pike National Forest. At the Great Sand Dunes National Park, the most recent data is from 1991, where ozone was measured at approximately 0.06 ppm

2.3.2. Nitrogen Oxides

Nitrogen oxide (NOx) is a generic term for a group of highly reactive gases, all of which contain varying amounts of nitrogen and oxygen. The criteria pollutant nitrogen dioxide (NO_2), along with other particles in the air, can often be seen as a reddish-brown layer over many urban areas. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

NOx is one of the main contributors to the formulation of ground-level ozone when it reacts with volatile organic compounds (VOCs) in the presence of sunlight. In addition, NOx reacts to form nitrate particles, acid aerosols, as well as NO_2, all of which can cause respiratory problems. NOx also contributes to the formation of acid rain, contributes to nutrient overload that deteriorates water quality, and contributes to atmospheric particles that cause visibility impairment in national parks and wilderness areas. NOx and the secondary pollutants formed from NOx can be transported over long distances, following the pattern of prevailing winds in the U.S. Therefore, problems associated with NOx are not confined to where NOx are emitted.

EPA uses a national network of monitoring sites to measure ambient NO_2 concentrations. From 1990–2006, 21 sites in Colorado have been used to measure NO_2 for at least one year. A cluster of sites border the Pike National Forest in the Denver area, and nine sites are located in western El Paso County near the boundary of the Pike National Forest.

The entire State of Colorado is in attainment for nitrogen. EPA monitoring sites near Colorado Springs in western El Paso County show concentrations well below federal standards as recent as 2001. The cluster of monitors around the Denver area show similar compliance with standards.

2.3.3. Particulate Matter

Particulate matter (PM) is the primary air pollutant created by activity on the Forests, especially from prescribed burning and wildfires. PM is a complex mixture of extremely small particles and liquid droplets and can consist of a number of components including acids, organic chemicals, metals, and soil or dust particles. PM can be emitted directly from sources such as construction sites, unpaved roads, fields, smokestacks, prescribed burns and wildland fires. It can also form when chemicals such as sulfur dioxides and nitrogen oxides react in the atmosphere after being emitted from power plants, industries, or automobiles. These "secondary particles" make up most of the fine particle pollution in the country

PM is regulated at two distinct levels or sizes, PM10 and PM2.5. PM10 or particles 10 micrometers in diameter or smaller can generally pass through the throat and nose and enter the lungs causing serious health effects. PM2.5 or particles 2.5 micrometers in diameter and smaller are the major cause of reduced visibility (haze) in parts of the U.S., including many national parks and wilderness areas. The entire State of Colorado is in attainment for PM10.

EPA uses a national network of monitoring sites to measure ambient PM10 concentrations. Sites in Colorado have been used to measure PM10 for at least one year, between 1990–2006. Forty of these sites were in operation in 2007. There are a cluster of sites on the Pike National Forest's northern boundary, primarily located in the Denver area. There are also sites in Douglas, El Paso, Teller, Fremont, and Alamosa counties.

2.3.4. Sulfur Dioxide

Sulfur dioxide ($SO_{2)}$ belongs to the family of sulfur oxide gases (SOx). SOx gases are formed when fuel containing sulfur, such as coal and oil, is burned, or when metals are extracted from ore. SO_2 dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form secondary products. Over 65% of SO_2 released to the air comes from electric utilities, especially those that burn coal. Other sources of SO_2 are industrial facilities that derive their products from raw materials like metallic ore, coal, and crude oil, or that burn coal or oil to produce process heat and oil and gas well flaring. The entire State of Colorado is in attainment for SO_2.

EPA uses a national network of monitoring sites to measure ambient SO_2 concentrations. A number of sites in Colorado have been used to measure SO_2 for at least one year, between 1990–2006. Of these sites, two were in operation in 2007, both located in the Denver area. Though neither site that currently monitors SO_2 is located within the PSICC, some that have collected historic data are located adjacent to the PSICC.

2.3.5. Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas formed from incomplete combustion. Motor vehicle exhaust contributes about 56% of nationwide CO emissions. Non-road engines and vehicles (such as construction equipment) contribute about 22% of nationwide CO emissions. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent, trapping air pollution near the ground beneath a layer of warm air.

The entire State of Colorado is in attainment for CO. As reported by EPA, trends in El Paso County show CO levels well below federal standards. Similar conditions exist around Denver.

A number of sites in Colorado have been used to measure CO for at least one year, between 1990-2006. Of these sites, ten were in operation in 2007. A cluster of sites border the Pike National Forest, primarily in the Denver area. Sites are also located in El Paso County.

2.3.6. Prescribed Fires

Any person or entity seeking to conduct a prescribed fire on the Forests must obtain a permit from the Colorado Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE). Permits are required for planned ignition (human ignited) or unplanned ignition (lightning ignited) fires.

The wildland fire smoke management and permitting program is implemented under the requirements of Colorado Air Quality Commission Regulation 9, "Open Burning, Prescribed Fire, and Permitting" (5 CCR 1001-11). This regulation provides requirements for permitting, reporting of activity, and collection of fees to cover the cost of the smoke management program. In addition, the State of Colorado requires permit applicants to submit Simple Approach Smoke Estimation Model (SASEM) outputs. SASEM is a conservative screening model that predicts PM10 emissions, ground level concentrations, and visibility reduction based on simple terrain and general vegetation types.

The APCD permit application and reporting forms provide the information necessary to generate an emissions inventory for prescribed fires. Smoke from prescribed fire contains a complex mixture of carbon, tars, liquids, various gases and particles. The fuel loading, fuel consumption, fuel moisture, burning method, and fuel type influence the air pollutant emissions. This emissions inventory is only an estimate of the emissions from fires. To develop an emissions inventory, the land managers report the most accurate burn-specific information available. In 2006, 57 burn permits were issued to the Forests. There were 25 actual burns: four broadcast burns (1,155 acres) and 21 pile burns (1.96 million ft^3 of material).

2.3.7. Acid Deposition

Acid deposition is the result of gaseous emissions of sulfur dioxide (SO_2) and nitrogen oxides (NOx) that undergo complex reactions in the atmosphere resulting in the formation of sulfuric and nitric acid, respectively. These compounds can be deposited on the ground or into water bodies resulting in fertilization and acidification of soils and waters. The major source of sulfur dioxide is the burning of fossil fuels such as coal, fuel oil and diesel. The predominant sources of nitrogen oxides are automobile exhaust and industrial emissions.

Increased nitrate concentrations, from urban, agricultural, and industrial pollution sources, have been measured in tundra ecosystems along the Front Range in the late 20th century. This is causing significant impacts to tundra communities as well as alpine aquatic communities. As a result, the biogeochemistry of alpine ecosystems is now outside the historic range of variability. Further damage from nitrogen could lead to significant effects of episodic and chronic acidification. If acidification from air pollution is pronounced and chronic, the long-term effects could be lethal to aquatic life, including some fish species, as well as vegetation.

High altitude lakes and ponds in Colorado tend to be very sensitive to acid deposition as they are poorly buffered. Acids accumulate in the snow pack over the winter and are released in the first 10–20% of snowmelt in a phenomenon known as the acid pulse. Some species of fish, salamanders and other aquatic life that are breeding around the pulse time may be affected. To determine relationships between pollution, air quality, and ecosystem impacts, the Forest Service Air Program has been monitoring lakes since the early 1980s, and continues to monitor lakes that appear to be the most sensitive to acid deposition. One parameter of interest is the acid-neutralizing capacity (ANC), which provides an indicator of the lake's ability to buffer acidic deposition whereby lower values indicate less buffering capacity.

As part of this Forest Service Air Program, five lakes in the Mount Evans Wilderness have been monitored for sensitivity to acidic deposition and long term trends in surface lake chemistry. These lakes include Abyss, Frozen, Upper Middle Bear Track, North, and South.

The tenth-percentile value for Abyss, Frozen, Upper Middle Bear Track, North, and South lakes are shown in Table 2. The tenth-percentile value is often reported because it represents lake conditions when the lake is most sensitive to acidic deposition.

Table 2. Tenth-Percentile ANC for Lakes in Mount Evans Wilderness

Lake	10th percentile ANC (µeq/L)	Number of samples
Abyss	79.5	33
Frozen	94.2	32
Upper Middle Bear Track	50.1	27
North	80.9	15
South	67.0	16

It is difficult to draw substantive conclusions from the above ANC trend data because the measurements have not been corrected for hydrologic activity such as variations in precipitation

or snowmelt runoff. However, these lakes meet the threshold for susceptibility to acidification as defined in a study conducted by Musselman and Slauson (2004). They considered high-elevation lakes "susceptible" to acidification if ANC was less than or equal to 200 micro-equivalents per liter (μeq/l) Samples from the five lakes presented above generally fall well below this threshold, with tenth-percentile values all below 100 μeq/l.

The study by Musselman and Slauson (2004) examined data from lakes throughout Colorado. They analyzed data from alpine and sub-alpine lakes (above 3000 meter elevation) based upon sampling conducted in 1995. Sampling locations in the Forests included four wilderness areas: Mount Evans, Sangre de Cristo, Holy Cross, and Collegiate Peaks. All seven lakes sampled in the Mount Evans Wilderness were considered susceptible to acidification. Twelve lakes, or 27% of lakes sampled in the Sangre de Cristo Wilderness were considered susceptible to acidification. Seven lakes, or 70% of lakes sampled in the Holy Cross Wilderness were also considered susceptible to acidification. Both lakes sampled in the Collegiate Peaks Wilderness were considered susceptible to acidification. Overall, 70% of the Colorado lakes were considered sensitive to acidification and 15% extremely sensitive.

The results from the Musselman study indicate the sensitivity of high elevation wilderness aquatic ecosystems in all regions of Colorado to acidification and nitrogen deposition. Most high elevation Rocky Mountain catchments are nitrogen limited, so increasing available nitrogen via atmospheric deposition of air pollution would result in increased growth and production of biomass. However, if organisms are unable to use all available nitrogen, it is exported, chiefly as nitrate, in surface waters to downstream terrestrial ecosystems.

Nationally, acid deposition is measured through a network of precipitation chemistry monitoring sites administered under the National Atmospheric Deposition Program / National Trends Network (NADP/NTN) The NADP/NTN network consists of monitoring sites located throughout the country which provide historical data on precipitation chemistry. The program began with 22 monitoring sites in 1978 and has grown to over 250 sites across the United States, Alaska, Puerto Rico, and the Virgin Islands. In Colorado, nineteen NADP/NTN sites are in operation, some since the late 70s and early 80s, including a station at the Manitou Experimental Forest headquarters on the Pikes Peak Ranger District of the PSICC.

Projections between now and 2030 suggest a 50-75% reduction in national nitrogen oxides as a result of declining nitrogen oxide emissions tied to recent federal rules requiring cleaner-burning conventional and diesel vehicles (40 CFR 80, 85, and 86). These reductions may significantly reduce deposition in sensitive regions, as vehicle exhaust accounts for nearly half of the nitrogen emissions in the South Platte Basin. At the same time, the federal regulations calling for cuts in haze at national parks—another form of pollution linked to nitrogen compounds—will likely force more emission reductions at some Front Range power plants and factories. In addition, the National Park Service is proposing protective limits on nitrogen deposition; 1.5 kilograms per hectare (100 acres) per year. This limit is half, or less, of current fallout levels, which range from 3 to 4 kilograms per hectar. The limit would establish the nation's first critical load of a pollutant to protect a national park environment, and efforts to achieve the standard would likely have air quality benefits throughout Colorado.

2.3.8. Visibility

Visibility is a measure of how clearly distant objects can be seen. The Clean Air Act identifies visibility as an "Air Quality Related Value" (AQRV), meaning visibility is a resource that may be adversely impacted by air quality changes in Class I or Class II areas. Other AQRVs include any specific scenic, cultural, physical, geologic, biological, ecological, or recreational resource identified by the Federal Land Manager (FLM) for a particular area.

Impairment to visibility is commonly called "haze", which results when particles in the air scatter and absorb light. As airborne pollutants increase, more absorption and scattering of light occurs, thereby reducing the clarity and color of distant objects. Some types of particles such as sulfates are more efficient at scattering light, particularly during humid conditions. Impairment to visibility can also occur from specific point source such as a coherent plume that does not dissipate into a general haze.

Section 169(A) of the Clean Air Act requires the Environmental Protection Agency (EPA) to create regulations to make progress towards the national goal of the "prevention of any future, and the remedying of any existing impairment of visibility in mandatory Class I Federal areas were impairment results from man-made air pollution." To aid the implementation of this legislation, the Interagency Monitoring of Protected Visual Environments (IMPROVE) program was implemented in 1985. This program launched an extensive long term monitoring program to establish the current visibility conditions, track changes in visibility, and determine mechanisms for visibility impairment. In 1999, the EPA announced the Regional Haze Rule to improve air quality in Class I Federal areas. The rule requires the states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, the Forest Service, and other interested parties, to develop and implement air quality protection plans to reduce the pollution that causes visibility impairment.

There are no Class I areas on the Forests, so visibility monitoring is not a mandate in this area.

2.3.9. Light Pollution

Light pollution from urban areas is affecting the night sky viewing experience in the Mount Evans and the Lost Creek wilderness areas. Radiant light from the Denver metropolitan area has elevated the sky brightness by as much as 34% over the natural background for parts of these wilderness areas (Albers and Duriscoe 2001).

2.4. Mineral Resources

2.4.1. Energy Minerals

The Cimarron and Comanche National Grasslands (Grasslands) support the majority of the oil and gas leasing, exploration, development, and production activities on the PSICC. The grasslands have 324 Federal oil/gas leases and over 400 oil/gas facilities. 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 lease procured by the Dyad

Petroleum Corporation expired recentely.. BLM provided the company an opportunity to renew their lease. Dyad has not responded to BLM's letter. .

The South Park District has a proposal to lease an area southeast of the town of Jefferson, Colorado. The San Carlos District has a proposal to lease an area southwest of the town of La Veta, Colorado, and another southeast of the town of Cuchara, Colorado. Extensive seismic and other geophysical and geochemical exploration has taken place over the years in the Rampart Range on the Pikes Peak Ranger District and Wet Mountains on the San Carlos Ranger District.

2.4.2. Locatable Minerals

The South Park District of the Pike National Forest supports the majority of mining and exploration activities; some locatable mining also takes place in the Leadville and Salida Districts of the San Isabel National Forest and the South Platte District of the Pike 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 couple of years 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. These efforts have been successful in that the operators currently have approved plans of operations in place.

3.0 Biological Components

3.1. Wildlife, Fisheries, and Rare Plant Resources

3.1.1. Accomplishments of interagency Objectives

PSICC personnel meet regularly with the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), Colorado Division of Parks and Wildlife (CPW), 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 focus on the lesser prairie chicken, big game species, and greenback cutthroat with the state agencies; livestock grazing, timber, and travel management with the BLM; and threatened and endangered (T&E) species with the USFWS. CPW's Habitat Partnership Program includes representatives from CPW, the Forest Service, the BLM, private landowners, and hunters with the aim of addressing big game animal damage issues on private lands intermixed with state and federal ownerships. The PSICC has established partnerships with state universities and species advocacy groups such as Trout Unlimited, Ducks Unlimited, Quail Unlimited, the Rocky Mountain Elk Foundation, Mule Deer Foundation, Rocky Mountain Bighorn Sheep Society, and the National Wild Turkey Federation for research and habitat enhancement projects. The PSICC is currently developing a 5-Year Action Plan (2013–2017) for wildlife, fish and rare plants. Program priorities for projects and funding will follow this action plan.

3.1.2. Threatened and Endangered Species

Emphasis continues to focus on habitat improvement projects and completing inter-agency inventories to establish baseline species population and distribution information. The T&E habitat improvement efforts have primarily involved work necessary to support the reintroduction of the greenback cutthroat trout and improving Pawnee montane skipper habitat. Prescribed burning, mechanical treatments and noxious weed treatments are extensively to improve ecosystem structure and composition for both Forest and Grassland sensitive species (such as mountain plover, bighorn sheep, black-tailed prairie dog, lesser prairie chicken, and northern goshawk). Partnerships are a critical part of achieving these accomplishments. A summary of monitoring efforts for Threatened & Endangered Species is provided below.

Penland's fen mustard In July 2012, the PSICC was a cooperating partner in establishing permanent monitoring plots for the federally threatened Penland's fen mustard (*Eutrema penlandii*). As a species listed under the Endangered Species Act, US Fish and Wildlife Service initiated monitoring to aid with the development of a recovery plan for the species. Four of the five monitoring plots established are on National Forest System land on the South Park Ranger District (the fifth is on BLM land). Other cooperators include Bureau of Land Management, Colorado Natural Heritage Program, and the Mosquito Range Heritage Initiative. The majority of populations of the fen mustard are on the South Park Ranger District in alpine areas of the Mosquito Range. Little is known about the life history of this plant, so this monitoring effort will fill in gaps in the knowledge of the species, and aid in future management and recovery of it

Mexican Spotted Owl (MSO) – MSO surveys were conducted jointly by the Forest Service and the Bureau of Land Management (BLM). Surveys were completed at four sites on the San Carlos Ranger District and eleven sites on BLM land. MSO were detected, all on BLM land.

Canada Lynx – No survey activity in 2012; Continue coordination with CPW. The PSICC is working to update mapping of lynx habitat and is working with CPW to get the latest monitoring data for lynx.

Greenback Cutthroat Trout – No population surveys were conducted by the Forest Service in 2012. A monitoring plan was completed for the Severy Creek greenback population. Efforts to monitor habitat were conducted in 2012 and the plan is to expand monitoring to include the Bear Creek greenback population. Bill Janowsky, Regional Assistant Aquatic Ecology Program Leader, serves as the Regional contact for the Greenback Recovery Team.

Pawnee Montane Skipper – In 2000, the South Platte Ranger District, in cooperation with other entities, outlined a program to improve watershed conditions and reduce fuel loads in ponderosa pine forests of the South Platte River drainage. Among other activities, the Upper South Platte Watershed Protection and Restoration Project included timber harvesting, understory thinning, and prescribed burning. Suitable habitat for the Pawnee montane skipper butterfly (Hesperia leonardus montana) was included within the thinning and burning prescription areas. The skipper is a locally endemic subspecies, and the majority of its habitat occurs on NFS land. Project cooperators initiated a monitoring plan to assess the skipper and habitat response to treatments. Monitoring has occurred every year since 2000.

Survey methods: Monitors walk 13 treatment and 3 control transects (400 m x 10 m), and record observations of skippers, nectar plants (Liatris sp.), and egg-laying plants (Bouteloua gracilis).

Pawnee montane skippers and their key plants for nectaring and reproducing have responded differently in the treatment and control areas. The most aggressive thinning treatment has consistently had low densities of skippers. The control (no thinning) areas have moderate skipper densities, and the less aggressively thinned areas have moderate to high densities of skippers. However, none of the treatment or control areas have produced the extremely high densities of skippers reported by ERT (1986). Fires between 1996 and 2002 have burned more than 40% of the known skipper habitat, and the subspecies is still recovering from this severe habitat loss (see our second TES Project for skippers). This monitoring project will be important to continue in the future because vegetation responses are slow and complicated by annual weather variations. We plan to apply lessons from this monitoring effort to future forest thinning prescriptions to benefit the skipper across its range.

3.1.3. Monitoring of Regional Forester Sensitive Species

Porter's Feathergrass – Conducted bi-annual monitoring of Porter's feathergrass (*Ptilagrostis porteri*). All observations of Porter's feathergrass in two 25-m x 1-m belt transects were recorded. In 2011, counts of Porter's feathergrass were down slightly from 2008 and 2006, but generally consistent with the average count since 2004. Grazing and recreation are not impacting this population.

Bighorn Sheep – The Forest assisted CPW with an inventory of bighorn sheep, including counts of adults and young. Abundance of sheep was determined in the designated areas and will be used to determine population trends.

Osprey, Golden Eagle, Prairie Falcon, and Red-Tail Hawk – Known nest sites were monitored on the Leadville RD. Nests were visited numerous times throughout the nesting season to determine presence and reproductive success. Data are on file at the Leadville RD Office in Leadville, CO.

Mountain Plover, Swift Fox, Burrowing Owl, and Long-Billed Curlew – Surveys were conducted across 3,600 acres on the Comanche NG to determine the number of nesting mountain plover in prairie dog towns. Presence and absence of burrowing owl, swift fox and long-billed curlew in the vicinity of the prairie dog towns were also recorded. Nine mountain plover were seen during the nesting season. Burrowing owls were present in 55% of the prairie dog colonies. One swift fox den was found and 9 curlews were found on five colonies.

Ferruginous Hawks, Swainson's Hawks and Loggerhead Shrikes – Surveys were conducted on the Timpas Unit of the Comanche National Grassland. On the Timpas Unit volunteers were given road routes to drive near known nesting locations utilized by ferruginous hawks, Swainson's hawks and loggerhead shrikes. Each nest site location was surveyed to determine whether it was active or inactive, number of birds per nest, and nesting success. New nests were also located and recorded with a GPS Unit. Results of the survey are on file at the Comanche NG Office in Springfield, CO.

Boreal Toad – Surveys were completed within proposed project areas and historical breeding sites for any evidence of boreal toads or suitable habitat. Survey data are on file at the Leadville RD in Leadville, CO and the Salida RD in Salida, CO.

Northern Goshawk – Surveys were conducted across more than 15,000 acres across the Pike & San Isabel National Forests. The Region 2 Northern Goshawk protocol was used to conduct the surveys. Numerous active goshawk nests were located.

Peregrine Falcon – Known American Peregrine Falcon eyries/nests were monitored on the San Carlos RD to determine productivity. A highly skilled volunteer (retired college biology professor) monitored two of the four eyrie sites tracked this year. Forest Service personnel made one visit each to three of the four known eyries.

Black Swift – Surveys were conducted to detect presence/absence of Black Swifts on the San Carlos Ranger District and to monitor known colony sites. Two chicks and at least two adult Black Swifts were located at one colony site.

White-Tailed Ptarmigan – On the South Platte RD, monitoring surveys were conducted across the winter use area in March 2012. Surveyors spread out approximately 30-50m apart and recorded observations of ptarmigan and sign. In 2008, 2009, and 2010 the number of ptarmigan recorded were low compared to the results obtained during the 2003-2006 winters. We observed 42 birds in 2008, 69 birds in 2009, and 48 birds in 2010. The number of ptarmigan located in 10 surveys conducted from 2003 to 2006 ranged from 53 to 104, with the exception of 18 birds being recorded during our first survey in December 2003, during a mild winter. It is important to continue to monitor this winter population in light of expected climate changes, and possible listing petitions. Results for 2012 are not yet in.

Northern Leopard Frog – On the San Carlos RD daytime surveys for northern leopard frogs were conducted by walking along edges/perimeter of streams, natural/man-made ponds and small lakes. No northern leopard frogs were seen or heard at any of the numerous sites surveyed.

Lesser Prairie Chicken – Lek surveys on the Cimarron and Comanche National Grassland were conducted in 2012.

Black-Tailed Prairie Dog – Surveys were conducted on both the Cimarron and Comanche National Grasslands in 2011 (Tables 3 and 4). No surveys were conducted in 2012.

Table 3. Acres of Active Black-Tailed Prairie Dog Colonies Measured Using GPS Surveys on the Comanche National Grassland 1995–2011

Year	Carrizo Unit (acres)	Timpas Unit (acres)	Comanche total (acres)
1995	5,728	551	6,279
1999	1,894	N/A	N/A
2001	3,851	362	4,213
2002	5,127	575	5,702
2003	6,064	556	6,620
2004	11,592	536	12,128
2005	14,387	508	14,894
2006	5,786	988	6,774
2007	3,554	1,073	4,627
2008	2,542	1,093	3,635
2009	2154	5342	5,115
2010	6173	1014	7187
2011	6720	1014?	7734

Table 4. Acres of Active Black-Tailed Prairie Dog Colonies on the Cimarron National Grassland, 1989–2011.

Year	Cimarron active colony acres	Net annual change in active colony acreage measures (%)
1989	750	
1992	1,082	
1997	1,246	
1998	1,298	
1999	1,697	
2001	2,439	
2002	3,321	36.2
2003	4,008	20.7
2004	5,634	40.6
2005	5,793	2.8
2006	5,660	-2.3
2007	2710	-108.9
2008	1,337	-102.7
2009	2,154	62
2010	3,066	42.0
2011	4164	35.8

Results from the Cimarron from 1989–2010 suggest a steady, long-term increase in colony acreage with a sudden drop in 2007, likely due to plague. Plague was detected on the Cimarron in 1999 and 2003, but colony die-off was isolated in those years and did not spread to other colonies. Beginning in 2006, the plague has had a much greater impact.

3.1.4. Monitoring of Management Indicator Species

A decision notice for a Forest Plan amendment was published August 8, 2005, modifying the current management indicator species (MIS) list. This review indicated the need to reduce the 1984 MIS list with related Forest and Grassland major management activities in associated ecotypes (called management indicator groups).

The completed MIS Amendment Decision Notice and EA are on file at the PSICC Supervisor's Office in Pueblo, Colorado, and available on the PSICC Web site at http://www.fs.usda.gov/projects/psicc/landmanagement/projects

A summary of MIS monitoring for 2011 is provided below.

Abert's Squirrel – Abert's squirrel relative abundance is monitored on the PSICC on about 40 plots throughout the forest. The plots are divided into 256 subplots, and the number of subplots with Abert's sign is recorded.

Pikes Peak Ranger District - Monitoring was completed on 4 plots or about 240 acres, with data collected from approximately 1,024 subplots or sampling locations.

Leadville Ranger District - Monitoring was completed on 300 acres.

South Park Ranger District - Monitoring was completed on 180 acres.

South Platte Ranger District - Monitoring was completed on 900 acres.

Brook Trout – no monitoring was conducted in 2012. Data for previous surveys are on file at the Salida and South Platte District Offices.

Greenback Cutthroat Trout – no new monitoring was conducted in 2012. Monitoring protocols for two populations, Severy and Bear Creek, have been developed and will be implemented in 2012-2013.

3.2 Range Resource

3.2.1. Range Condition and Use

Range Specialists utilize a number of techniques to monitor long term range condition. Factors that influence range condition include species composition, basal and foliar cover, percentage of bare ground, and production. Monitoring throughout the PSICC has shown an improvement in range condition as Permittee's have responded to increased demands in management practices. A concerted effort has been made to improve range infrastructure. In 2009 permittees have shown an increased interest in monitoring, herding, salting and expanding water distribution systems.

3.2.2. Allotment Management Planning

In 2012 implementation of range allotment management planning work continued on the PSICC. This work included monitoring of vegetation and installation of critical range improvements. District and Forest Rangeland Management personnel gave added emphasis to administering grazing use because of the ongoing severe drought conditions present on the San Isabel National Forest and the Comanche and Cimarron Grasslands. Allotments on the Pike National Forest received more precipitation and vegetation continued to recover from the drought. On all allotments needed changes in management of grazing use was implemented in a timely manner to prevent resource problems from occurring.

Decision notices were signed in 2011 .for the McQuaid and San Carlos range allotment management planning projects. The decisions included eight allotments for the San Carlos District and one for the South Park District. No allotment management planning was completed in 2012.

3.2.3. Acres Administered to Standard

During the 2012 grazing season Rangeland Management Specialists implemented the required direction found in the LRMP, AMP, term grazing permits, grazing agreements, biological opinions, and other documents developed to guide livestock grazing on the PSICC. A total of 539,353 acres of rangeland were administered to standard in 2012. These acres were monitored by Rangeland Management Specialists who closely evaluated grazing use by permitted livestock.

3.3. Forest Resources

3.3.1. Forest Condition and Use

The 1984 Plan established an allowable sale quantity of 37 million board feet (MMBF) per year, with the intent that timber offer targets would gradualy approach that level as more acres were put under management. In 1984, approximately 1,065,220 acres were condidered tentatively suitable for commercial timber harvest. Much of the timber sold was used for fuel wood. In addition, the economics of harvesting timber on the 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 1984 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 1984 Plan was implemented is shown in figure 2.

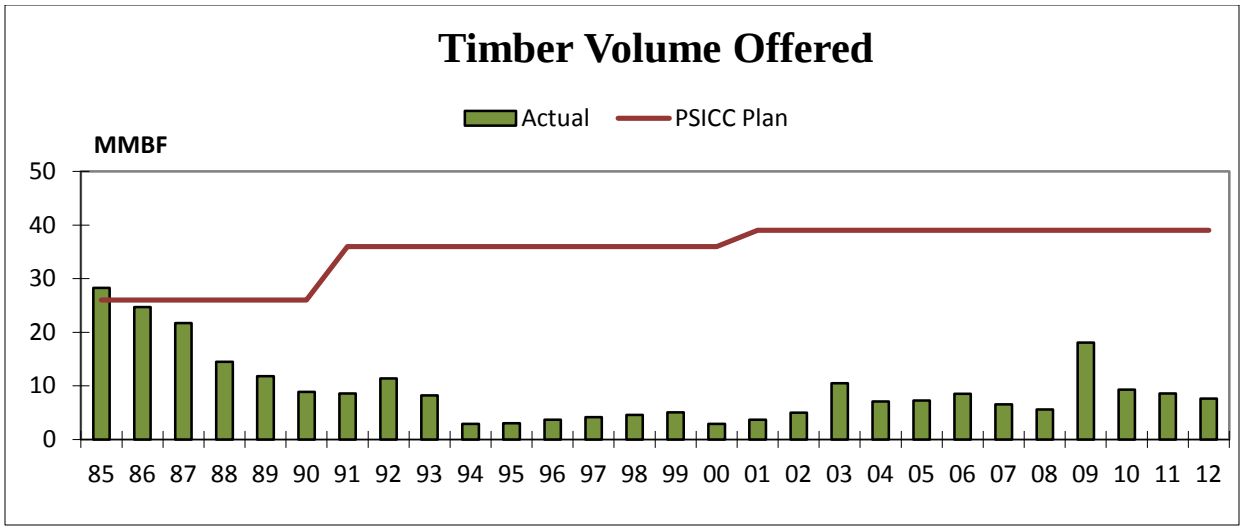

Figure 2. Timber Volume Offered

As shown in Figure 3, the treatment rate of forested acres by all types of projects designed to modify forested vegetation, has not kept pace with predictions. The net effect is that the situation as described in the 1984 Plan has not substantially changed, except that most of the trees are about 25 years older.

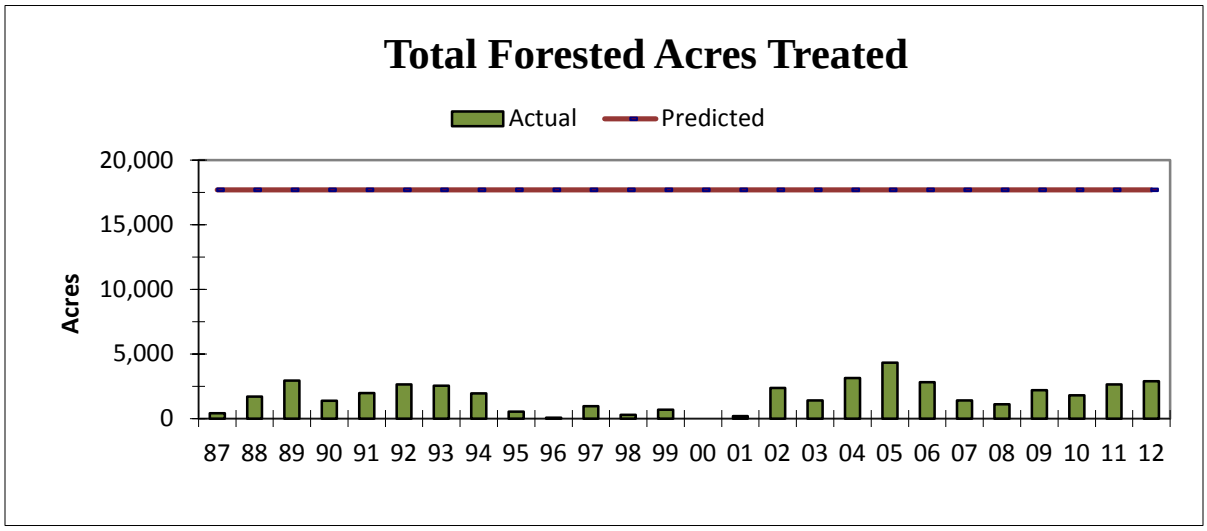

Figure 3. Total Number of Forested Acres Treated

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, where the Buffalo Creek, Hi Meadow, Hayman, Mason Gulch, Hayman, and Springer fires occurred.

Steps are being taken to:

1. Implement hazardous fuels and restoration projects on the Pike NF through the CFLRP program, partnerships including water providers such as Denver Water.
2. Use commercial timber sales to implement sanitation/salvage treatments in areas of bark beetle mortality.
3. Bring more partnerships on line through collection agreements to increase treatments levels.

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

3.3.2. Reforestation and Timber Stand Improvement Activities

These activities have been variable over time, as is shown in Figure 4 and Figure 16. Funds for these activities are obtained primarily from timber sale revenues.

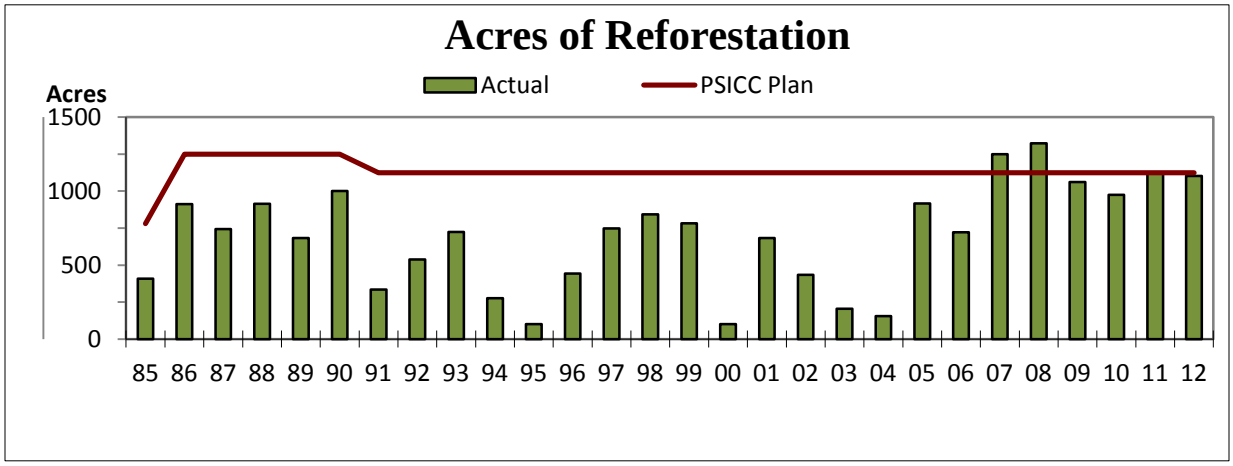

Figure 4. Acres of Reforestation: Actual and PSICC Plan

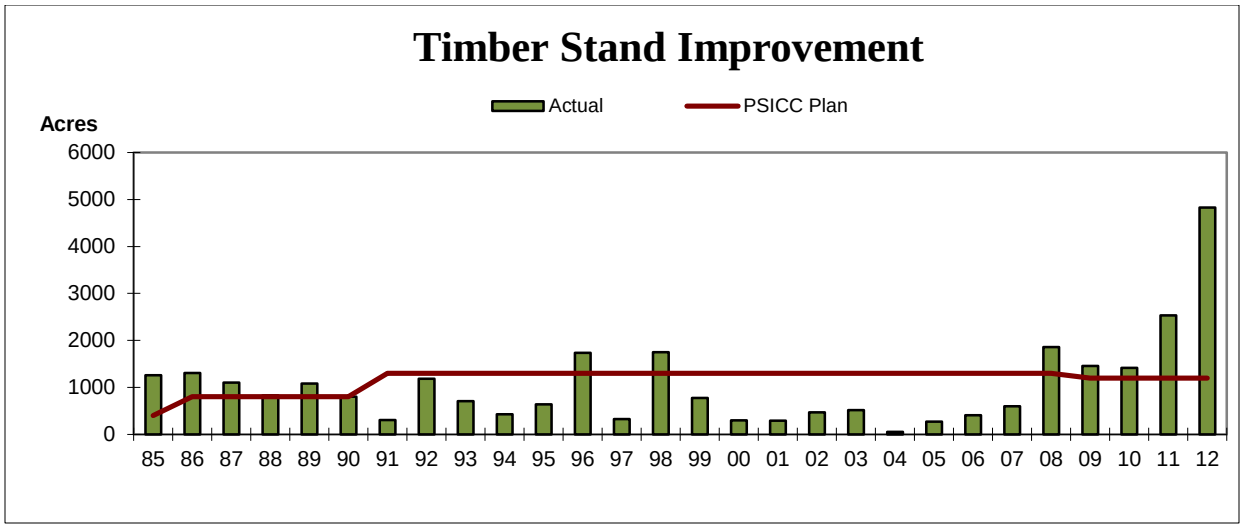

Figure 5. Acres of Timber Stand Improvement: Actual and PSICC Plan

The reforestation increases, beginning in FY 1996, are due to the restoration efforts after the 1996 Buffalo Creek Fire and the large fires of 2002, including the Hayman fire that burned approximately 138,000 acres. These events created a tremendous reforestation need on the Pike National Forest. 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.

Reforestation efforts following the Hayman fire started in 2003 with cone collection. In 2004, 100 acres were planted followed by 920 acres in 2005, 722 acres in 2006, 1,250 acres in 2007, 931 acres in 2008, 660 acres in 2009, 892 acres in 2010, 1,118 acres in 2011, and 1,102 acres in 2012. As funding is received for cone collection, greenhouse expenses, and planting contracts, reforestation will continue in areas of the large burns. The National Arbor Day Foundation donated more than $600,000 toward reforestation in the Hayman fire burn area from 2003 through 2012. The National Forest Foundation donated more than $10,000 over the last two years.

3.4. Fuels

3.4.1. Fuels Treatment

A history of fire suppression, land use practices (such as widespread burning and logging in the late 1800s, heavy livestock grazing the late 1800s and early 1900s, and tree planting in the early 1900s) and climatic variation has, over the last century, altered fire regimes and associated fuel loading, landscape composition, structure, and function across the Forest. As a result, the number, size, and severity of wildland fires have departed significantly from those of historical conditions – sometimes with catastrophic consequences. These negative effects of certain land-use practices on land health and sustainability have been recognized in recent years.

Recent examples of increasing wildland fire size and uncharacteristic severity in Colorado include the 2000 fire season in the Pike and San Isabel National Forests in which over 24,000 acres burned and 59 structures were destroyed. The 2002 Hayman fire in Colorado burned approximately 138,000 acres and cost nearly $44.2 million to suppress. To date, the Hayman fire is the largest wildland fire in the state of Colorado.

Over the past year the PSICC has added another strategy for a total of three hazardous fuel strategies. The first is the Front Range Fuels Treatment Strategy which emphasizes the need to identify, prioritize, and rapidly implement hazardous fuels treatment projects along 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 National Forest alone that are in need of immediate treatment.

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. 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 third strategy is the Collaborative Forest Restoration Program. This program pulls together stakeholders from throughout the community who, in collaboration with the Forest Service, identify landscapes in need of restoration. The groups work collaboratively on desired conditions and treatment options for collectively selected landscapes. The collaborative effort culminates in a suite of treatments that satisfy fuels, forest health and wildlife needs.

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 completed 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.

3.4.2. Fuels Management Outlook for the Future

The key to the PSICC's success in fuels management 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 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.

The PSICC used various forms of fire to manage approximately 1400 acres. 1405 acres were treated with broadcast burning. Conditions were not conducive for pile burning and/or Fire Use authority due to prolonged wildfire activity. More specifically the agency issued a temporary suspension on Fire Use authority due to political perceptions towards cost containment.

Table 5. Acres of Forest and Grassland Managed with Fire in FY 2012

Fuel Treatment Type	Broadcast Burning	Fire Use	Pile Burning
Acres Treated	1405	0	0

4. Social Components

4.1 Heritage Resources

4.1.1 Cultural Resources Compliance Surveys/Inventories and Recording Site

Inventories are conducted in areas where ground disturbing projects are planned; such inventories include on the ground searches for new cultural sites, recording these sites, and evaluation of previously recorded sites. In recent years, major inventories (in terms of total acres surveyed) have occurred on grazing allotments (primarily on the San Isabel National Forest) in support of allotment management planning, and for proposed large fuels reduction and vegetation management projects.

Non-project related surveys and survey reporting have both continued in areas known to contain high densities of cultural resources. These multi-year efforts include Trout Creek on the San Isabell National Forest and Guanella Pass west of Denver.

4.1.2. Interpretation, Protection, Public Outreach and Accomplishments

4.1.2a Interpretive Efforts. For the Forests, the focus in 2012 continued on mining and transportation history, as well as early recreation developments in the Pikes Peak Region. Interpretive efforts on the Grasslands have continued to focus on the Santa Fe Trail, and canyon settings including the National Register and State listed properties in Picketwire Canyon. However interpretation was placed at the Trout Creek prehistoric quarry.

4.1.2b Protection Efforts. Protection efforts in FY2012 were focused on sites across the Forests, as well as sites in the Picketwire Canyon of the Comanche National Grassland. Historic property assessment, repair, and restoration projects in 2012 was primarily in developing partnerships which would take fruit in future fiscal years, this included developing agreements with the PaleoCultural Research Group, a 501.3C non profit.

4.1.2.c. Public Outreach. Efforts in public outreach were primarily public presentations in 2012. Also, a site stewardship and monitoring program was continued using volunteers throughout Colorado; these volunteers periodically check the condition of archeological sites in areas such as the Picketwire and Picture Canyons

Volunteer historians helped with research and background documentation for historic properties. The heritage program helped accomplish guided auto tours of the Picketwire Canyon on the Comanche National Grassland, sharing our nation's prehistoric heritage and the conservation ethic to protect such sites.

4.1.2d.Accomplishments. Accomplishments in resources interpreted and protected, and in public outreach opportunities, continued below the levels as in FY09 and FY10 due to budget challenges. A summary of accomplishments dating back to 2004 can be found in Table 6.

Table 6. Heritage Resources Accomplishments 2000-2010

Heritage Activity	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
Heritage sites interpreted	7	8	9	8	7	5	5	2	2
Public participation projects	7	8	7	7	7	8	8	3	1
Number of properties (cumulative)	4,689	5,007	5,267	5,517	5,752	5,956	6,037	6,077	6,188
Heritage sites preserved & protected	145	138	142	140	136	136	146	135	135
Heritage sites evaluated	289	312	316	298	302	278	81	35	45
Resource facilitation projects	175	210	207	215	221	262	147	188	176
Inventory/acres surveyed	28,966	17,631	10,483	9,870	9,576	9,223	6,835	2,300	4,111

4.2. Recreation

4.2.1. 2012 Recreation Monitoring Report

The PSICC has a wealth of recreation activities, experiences and opportunities, for the visiting public. From the solitude, challenges and re-energizing of a Wilderness setting, to: historic cabin rentals, all the way to urban campgrounds. The PSICC has it all: dispersed camping, trail riding, hiking, fishing, scenic byways; historic, local and long distance trails, cabin rentals, a Christmas tree program, guided tours, outfitter and guide services, recreation events, high mountain lakes, rock climbing, X-country and downhill skiing, Picket Wire Canyon Auto Tours and many other activities or opportunities and settings for our visitors.

Physical settings vary from the mid-grass prairies of western Kansas, through the montane, sub-alpine and alpine ecosystems, culminating along the crest of the Continental Divide. The PSICC offers 11,320 vertical feet of diversity.

The National Visitor Use Monitoring or NVUM is the system developed by the Forest Service to monitor and estimate recreation visitor use. The national goal is to re-inventory each National Forest on a five year cycle. On the PSICC, NVUM was completed in 2001 and 2006, and most recently in 2011. The 2011 results indicate a slight decrease in visitation. Approximately 366 interview locations and timeslots were randomly selected by the Forest Service to conduct interviews and traffic counts. Final results from this round of NVUM will be available later this year.

NVUM uses standard monitoring protocol survey and record the public's use of, value of and satisfaction with National Forest System recreation opportunities. Much of the PSICC use can be attributed to our proximity to the Denver, Colorado Springs and Pueblo metropolitan areas. The 2001 and 2006 NVUM studies revealed that very large percentages of our visitor originate from the 303, 719 and 720 area codes. The majority of our visitors are repeat visitors, some as many as 300 times per year.

Table 7. PSICC Visitor Use (2006 NVUM data)

2001 and 2006 National Visitor Use Monitoring Data		
National Forests		National Grasslands
Wilderness Visits	220,000	
Special Events	30,000	
All Other Single Site Visits	4,281,000	46,000
Total Greater than One Site Visits Per Trip 2001	*4,406,348	
Total Greater than One Site Visits Per Trip 2006	4,985,000	103,000

*2001 numbers combined the Grasslands and Forests

Tables 8a, and 8b, list activity types and participation compiled from the FY 2011 NVUM report. The top five recreation activities continue to be; viewing natural features, relaxing, viewing wildlife, driving for pleasure, and hiking/walking.

Table 8a. Activity Participation on the National Forests (2011NVUM)

Activity	% Participation	Activity	% Participation.
Camping in developed sites (family or group)	5.7	Off-highway vehicle travel (4-2heelers, dirt bikes, etc.)	10.9
Primitive camping	3.3	**Driving for pleasure on roads**	**41.8**
Backpacking, camping in unroaded areas	2.3	Snowmobile travel	--
Resorts, cabins & other accommodations on FS managed lands (private or FS run)	3.2	Motorized water travel (boats, ski sleds, etc.	.5
Picnicking and family day gatherings in developed sites (family or group)	.9	Other motorized land/air activities (plane, other)	.5
Viewing wildlife, birds, fish, etc., on NFS lands	**38.1**	**Hiking or walking**	**49.2**
Viewing natural features such as scenery, flowers, etc., on NFS lands	**54.9**	Horseback riding	.1
Visiting historic and prehistoric sites/area	8.5	Bicycling, including mountain bikes	6.1
Visiting a nature center, nature trail or visitor information services	4.8	Non-motorized water travel (canoe, raft, etc.)	.5
Nature study	4.9	Downhill skiing or snowboarding	4.4
General/other – relaxing, hanging out, escaping noise and heat, etc.	**37.1**	Cross-country skiing, snowshoeing	1.1
Fishing – all types	8.4	Other non-motorized activities (swimming, games and sports)	.3
Hunting – all types	9.4	Gathering mushrooms, berries, firewood, or other natural products	4.0

Table 8b. Activity Participation on the National Grasslands (2011 NVUM)

Activity	% Participation	Activity	% Participation.
Camping in developed sites (family or group)	7.2	Off-highway vehicle travel (4-2heelers, dirt bikes, etc.)	--
Primitive camping	7.8	**Driving for pleasure on roads**	**45.7**
Backpacking, camping in unroaded areas	.4	Snowmobile travel	0
Resorts, cabins & other accommodations on FS managed lands (private or FS run)	0	Motorized water travel (boats, ski sleds, etc.	0
Picnicking and family day gatherings in developed sites (family or group)	14.1	Other motorized land/air activities (plane, other)	0
Viewing wildlife, birds, fish, etc., on NFS lands	**45.7**	**Hiking or walking**	**39.5**
Viewing natural features such as scenery, flowers, etc., on NFS lands	**56.8**	Horseback riding	1.8
Visiting historic and prehistoric sites/area	38.7	Bicycling, including mountain bikes	.5
Visiting a nature center, nature trail or visitor information services	6.1	Non-motorized water travel (canoe, raft, etc.)	0
Nature study	16.5	Downhill skiing or snowboarding	0
General/other – relaxing, hanging out, escaping noise and heat, etc.	**25.6**	Cross-country skiing, snowshoeing	0
Fishing – all types	2.6	Other non-motorized activities (swimming, games and sports)	.9
Hunting – all types	14.0	Gathering mushrooms, berries, firewood, or other natural products	--

4.2.2. Developed Recreation

Many recreation visits occur at developed facilities, particularly campgrounds, and day use areas (see Table 8A). On the Pike and San Isabel National Forests the majority of the recreation facilities are managed for the Forest Service by concessionaires. The PSICC has been using concessionaires since 1993. Two different companies manage over 100 sites. One permit was re-issued in January 2009, and will expire at the end of 2013. The concession opportunity for the South Park Ranger District Permits was advertised and awarded, effective Jan 1, 2012. In 2012 the two concessionaires generated approximately $1.62 million in revenue. Revenue and

recreation visitation were both down in 2012 as a result of the Springer and Waldo fires, that closed recreation facilities for an extended period on our South Park and Pikes Peak Ranger Districts. These two permits resulted in fees to the government of approximately $175,000, which was used to fund a variety of maintenance projects.

On the Cimarron National Grassland only the Cimarron Recreation Area, with group picnic facilities and a campground generates revenue. Several scenic overlooks, two trailheads and a picnic area provide access to the Santa Fe National Historic Trail. There are no fee sites on the Comanche National Grasslands, although there are guided tours into Picket Wire Canyon during spring and fall weekends. Recreation use on the Cimarron was affected by the closure of the campground, group site and day use area after the Tunner Fire in May. Those facilities were re-opend to the public during the spring of 2012, after some force account work was completed to repair the fire damage.

In 2012 developed camping capacity remained steady, but occupancy was affected by high snowfall that delayed campground openings and the two large project fires identified above. O'Haver Lake Campground re-opened after the completion of an extensive renovation project.

We continue to implement a 2007 Recreation Facility Analysis (RFA) that was completed in 2007, with plans to revise it in 2014. The RFA will make decision on closing under-utilized facilities and prioritize spending of our limited CIP and maintenance funds.

4.2.3. Historic Cabin Program

The PSICC is continuing our Historic Cabin Rental Program. Four (4) cabins were available in 2012. This program generated approximately $24,000 of revenue in 2012. This revenue is used to manage the program and fund improvements at other sites so that the program may expand. Of the four sites, one is open year round and saw an occupancy rate of 27.2%. The other 3 cabins are only available seasonally and had occupancies rates of 66.9%, 27.1%, and 44.3%.

All of the sites provide visitors with unique opportunities to experience "living" history, such as old homesteads, mining camps or Forest Service Guard Stations. In the future we plan to add the Black's Cabin, Schwartz Cabin and additional cabins at Lake Isabel to the program.

Table 9. Percentage of User Satisfaction (from FY 2011 NVUM report)

	Satisfied Survey Respondents (%)					
	Developed Sites[b]		Undeveloped Areas (GFAs)		Designated Wilderness	
Items Rated	National Forest	National Grassland	National Forest	National Grassland	National Forest	National Grassland
Developed Facilities (includes restroom cleanliness and facility condition)	87.5	99.3	72.9	95.7	88.1	n/a
Access (includes parking availability, parking lot condition, road condition and trail condition)	88.9	83.6	81.7	67.6	87.4	n/a
Services (includes availability of information, signage, employee helpfulness)	78.6	84.7	74.6	63.3	83.6	n/a
Perception of Safety	99.8	89.9	91.3	98.8	100	n/a

Table 10. Percentage Use of Facilities and Specially Designated Areas on PSICC (from FY 2011 NVUM report)

	Respondents who used this item (%)	
FACILITY/ Area	**National Forest, FY 2006**	**National Grassland, FY 2006**
Developed Swimming Site	.4	0.0
Scenic Byway	38.0	15.3
Visitor Center or Museum	5.5	.2
Designated ORV Area	25.4	45.1
Forest Roads	35.3	19.6
Interpretive Displays	6.3	21.6
Information Sites	7.5	1.0
Developed Fishing Site	7.9	4.2
Motorized Single Track Trail	5.1	9.0
Motorized Dual Track Trails	20.3	28.4
None of these Facilities	29.6	26.6

4.2.4. Winter sports

In general, downhill skiing use declined nationwide as a result of poor or low snow conditions On the PSICC, there are two operating ski areas Monarch Mountain Ski Resort and Ski Cooper. For the 2010/ 2011 season there was a total of 234,367 skier days, in the 2011/2012 season there were 186,504 ski days. The decrease between the two years represents that national pattern and

poor snow conditions experienced everywhere. Revenue from the two permits also decreased, coinciding with the decrease skier days. The 2012/2013 season saw rebound in skier visits to 213,000 skier visits.

Table 11. 10 Year History of Skier Days and Fees Collected on the PSICC

PSICC 10 Year History of Skier Days and Fees Collected		
YEAR	SKIER DAYS	FEES
2001- 2002	212,637	$ 110,270
2002- 2003	206,771	$ 117,530
2003- 2004	200,051	$ 119,868
2004- 2005	199,419	$ 129,976
2005- 2006	227,558	$ 157,153
2006- 2007	217,610	$ 155,418
2008- 2009	220,280	$ 171,015
2009-2010	242,727	$ 181,520
2010-2011	234,367	$ 187,272
2011-2012	186,504	$ 157,121
2012-2013	213,000	$ 164,000

4.2.5 Dispersed Recreation: General Forest Areas

Because of the PSICC's proximity to the Denver, Colorado Springs, and Pueblo metropolitan areas, there continues to be a large demand for dispersed and day-use recreation opportunities.

Dispersed recreation constitutes the largest share of total recreation use. In recent years, visitor levels have exceeded projections made in the 1984 Plan. The FY 2011 NVUM report lists many activities that fall into the dispersed recreation use category (refer to Table 8a and b). As mentioned in the introduction 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. Slightly more than 23% of the recreation visits to the PSICC involved overnight stays in undeveloped areas. This use is almost 40% higher than use in developed recreation sites.

Immediately following approval of the 1984 Plan, the PSICC recognized the importance of implementing the travel management direction. In the fall of 2005 the Chief of the Forest Service initiated a new Travel Management Rule, in effect eliminating all off-road and trail motorized use. In 2009 the PSICC completed the first round of Motor Vehicle Use Maps (MVUM.) A map has now been produced for each Ranger District. These maps are updated and re-printed yearly.

4.2.6. Wilderness

The PSICC has all or part of nine designated Wilderness Areas, which together total approximately 449,000 acres (Table 12). Several of these Wilderness Areas cross Forest

boundaries; the PSICC is the lead manager for three of those.

In the Colorado Wilderness Bill (H.R. 4289), 127,000 acres of additional Wilderness are proposed, as sponsored by Representative DeGette. Those acreages include the Brown's Canyon, Grape Creek, Badger Creek and Beaver Creek Areas. There was no progress on either of the recent Congressional bills that would add Wilderness acreage to the PSICC..In 2004, the Forest Service identified 10 management actions that would be completed for each Wilderness in the system over a 10-year period that coincides with the 50th anniversary of the Wilderness Preservation Act, of 1964. The PSICC continues to implement the Wilderness Strategy.

The 2011 NVUM Report estimated 220,000 Wilderness visits on the Pike and San Isabel, (there is no Wilderness on the Cimarron or Comanche). This represents a 50% increase from the previous inventory in 2006.

Table 12. Designated Wilderness Areas on the PSICC

Wilderness Area	Designation Date	National Forest	Approximate Acreage
Buffalo Peaks	January 1993	Pike and San Isabel	43,410
Collegiate Peaks	November 1980	San Isabel, Gunnison, White River	106,620
Greenhorn Mountain	January 1993	San Isabel	22,040
Holy Cross	November 1980	San Isabel, White River	15,000
Lost Creek Lost Creek Wilderness addition	June 1980 January 1993	Pike	58,040 14,700
Mount Evans	June 1980	Pike, Arapaho	34,680
Mount Massive	October 1979	San Isabel	26,100
Sangre de Cristo	January 1993	San Isabel, Rio Grande	226,455
Spanish Peaks	February 1999	San Isabel	18,000

4.2.7. Recreation Special Uses

On the PSICC recreation special uses include, recreation events, outfitter and guides, organization camps, a resort, and the recreation residence or summer home program.

On the Pike and San Isabel National Forests (PSI) there are 202 recreation residences, some are individual cabins, whiles some are part of summer home tracts, which have as many as 25 cabins. Per CUFFA or (Cabin Use Fee Fairness Act) the permit fee for these cabins is 5% of the lot value determined during a 2009 appraisal. The PSI began phasing in the new fees in 2012. Full implementation of the new fees should be in 2014.

On the PSICC there are approximately 67 permittees providing outfitting and guiding Services. Hunting, fishing, mountain biking, birding tours, boating tours are some of the services provided.

Recreation Events include mountain biking, shooting events, running, and motorsports.

In some instances the permits are administered by neighboring National Forests, which have permittees use or "service days" on the PSICC.

4.2.8. Scenic Resource

Scenic quality continues to be 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 revision of the 1984 Plan.

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

4.3. Travel Management

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

Roads analyses have been conducted in several locations at the watershed and multiple-watershed scales, including the Hayman burn area. In addition, Forest-scale roads analysis was completed on the Grasslands in FY 2004 as part of the 1984 Plan revision effort. A Forest-scale travel analysis (TAP) covering maintenance level 3 through 5 roads was completed in FY2010 for the Pike and San Isabel National Forests, in conjunction with the revision of the 1984 Plan. A TAP covering maintenance level 2 roads and motorized trails on the Salida Ranger District as well as all roads and motorized trails on the Cimarron and Comanche National Grasslands is underway and is planned for completion during FY2013.

In FY2009 the PSICC commenced the South Rampart Travel Management Plan & Environmental Assessment, which is a consultant-led effort encompassing approximately 122,000 acres within the Pikes Peak Ranger District. This work will complement the North Rampart travel management plan and National Environmental Policy Act NEPA analysis, completed in July 2005, with implementation on-going. However, during FY2011, due to the Wilderness Society lawsuit, as described below, the South Rampart Travel Management Plan was put on hold until the lawsuit is settled.

The PSICC's goal is to identify, classify, and prioritize travel management planning efforts, from highly-intensive and costly projects such as Rampart Range to smaller, incremental improvements in areas that do not warrant this level of investment. The lower level investments represent geographic areas that are in a reasonably sustainable condition, which generally occur when topography limits the users' ability to travel cross-country. Such areas may have more specific, focused needs to address, such as user conflict, jurisdictional issues, watershed issues,

etc.

Funding constraints will continue to hamper the PSICC's ability to pursue travel management planning and implementation to the extent desired. Difficult decisions must be made relative to apportionment of funding to this effort versus deferred maintenance, safety, and capital improvement needs. Thus, it is imperative to identify and move forward with those travel management areas with greatest need.

During FY2009, the Motor Vehicle Use Maps (MVUMs) for Salida, South Park and Comanche Ranger Districts were completed. Now that all eight MVUMs have been published and hard copy prints made available at the district offices, the focus on MVUMs will shift to fine-tuning the maps so that they are more user-friendly. In FY 2010, all eight PSICC Ranger District MVUMs were republished and five remain valid for FY2013. In FY 2012, MVUMs were republished for Leadville and San Carlos Ranger Districts, and in FY 2013, the MVUM for South Platte was republished. Also, the PSICC is working aggressively to improve signage consistency between Districts and motorized use areas.

During FY2011, The Wilderness Society, along with four other Plaintiffs filed suit against the PSICC, challenging the publication of MVUMs for the six Ranger Districts on the Pike and San Isabel National Forests. This suit specifically challenges the validity of a total of 782 Forest Service system routes, equaling approximately 839 miles of roads and motorized trails. This lawsuit is ongoing and is expected to continue through FY2013.

The PSICC is continuing an aggressive effort to identify and correct errors and inaccuracies in its roads and trails data, including tabular and geo-spatial data. This is becoming increasingly important for travel analysis and planning work. The release of the final travel management rule (36 CFR parts 212, 251,261, and 295) is further elevating the importance of travel management on a nationwide basis. Travel management planning and implementation will be closely tied to revision of the 1984 Plan, given the direct relationship with, and impacts to, all major resource areas.

The total number of miles of National Forest System Roads (NFSRs) on the PSICC is 3,710. Included in the total number of miles of NFSRs are three distinct types of roads. Following is a description of the three types and the number of miles for each type.

1. Roads open for public use: 3,265 miles. These are the roads that are shown on the MVUM. They are intended to be used by the general public.

2. Roads open for administrative use: 350 miles. These are roads that are used by authorized Forest Service personnel for administrative purposes. They are also used by designated permittees. They do not show up on the MVUM. It is probable that during FY2013, new direction will come from the Washington office that will reclassify the roads used solely by special use permittees as temporary roads. At that time, approximately 15% of these administrative use roads will change from NFSRs to temporary (non-NFSR) roads.

3. Roads closed to all motorized use: 289miles. These are roads that have been placed in

storage for extended periods between intermittent uses. They do not show up on the MVUM.

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.

5. Economic Components

5.1. 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.

5.2. Returns to the US 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 6, but are included in Appendix A of this report.

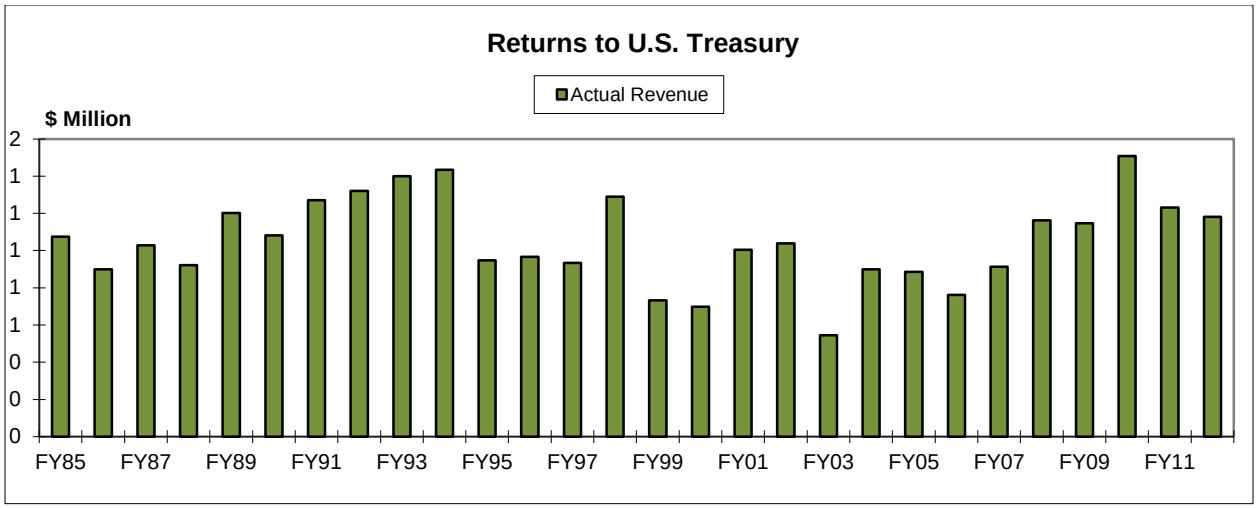

Figure 6. Returns to the US Treasury

5.3. Payments to Counties

The Secure Rural Schools Act gives states and counties payments for the next four years (2008-2011), tied to the amount of national forest land in the country and other factors. Counties designate a portion of the funds to projects reviewed by the resource advisory committee (RAC).

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 13. 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 13. 25% Fund Payments to Counties by Proclaimed Units and County Funding Through the Secure Rural Schools Program.

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**
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	19,757	917,822	**1,295,014**
FY05	180,689	203,368	77,932	750,020	**1,212,009**
FY06	181,494	205,395	76,157	1,161,741	**1,624,788**
FY07	187,403	204,973	84,791	975,155	**1,452,321**
FY08	992,480	1,879,734	88,010	1,445,794	**4,406,018**
FY09	43,955	153,508	58,255	621,219	**876,937**
FY10	853,810	1,382,574	59,680	764,677	**3,060,741**
FY11	798,831	1,276,706	68,217	922,425	**3,066,179**
FY 12	783,283	1,162,283	65,882	855,372	**2,866,820**

*** Note: Grassland revenues and payments are reported by calendar year rather than fiscal year.**
*** Note: Counties can receive more funding starting in FY08 through FY11, because the Secure Rural Schools law.**

6. Amendments to the 1984 Land and Resource Management Plan

6.1. Existing Amendments

There were 32 existing amendments (through FY 2009) to the 1984 Plan as shown in Table 14. For several years following approval of the 1984 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. The last 1984 Plan amendment was signed in January 2009.

Table 14. Summary of Amendments to the 1984 Plan

Amendment #	Date Approved	Summary
1	09/23/1985	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	07/24/1987	Corrected omission and indicated that bridge construction and reconstruction activities under Management Activity L16–L18 (Local Road Construction and Reconstruction) are included.
3	07/24/1987	*Revised boundary of the Comanche Lesser Prairie Chicken Habitat Zoological Area (designated a Colorado Natural Area February 13, 1987).*
4	7/24/1987	Included in the Plan assessment of suitability and capability of Quail Mountain for proposed ski area development. Rescinded October 5, 1987.
5	07/24/1987	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	07/24/1987	Replaced fire management Standards and Guidelines with Regional fire management requirements that had been changed to provide greater flexibility to land managers.
7	07/24/1987	Corrected a Plan map error to more accurately reflect Management Area Prescription application and changed acreage totals in the Management Area Summary Table.
8	07/24/1987	Corrected information in the Plan – Appendix B; fuelwood products are not a part of the Allowable Sale Quantity (ASQ).
9	07/24/1987	Rescinds Forest Plan Amendment No 1.
10	07/24/1987	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.

Amendment #	Date Approved	Summary
11	08/20/1987	Replaced Appendix A (Ten-year Timber Sale Schedule) and established a three-year schedule of planned vegetation treatment projects.
12	10/05/1987	Replaced Appendix C (Ten-Year Road Construction and Reconstruction Schedule) and established a three-year schedule of planned road construction/reconstruction projects.
13	12/09/1988	Recommended establishment of the 373-acre Hoosier Ridge Research Natural Area, South Park District.
14	12/09/1988	Assigned Management Area Prescriptions 2B and 4B to 10,290 acres of the Cimarron River corridor on the Cimarron.
15	01/1989	Amendment drafted but not finalized.
16	01/03/1989	Established three-year Timber Sale and Road Construction/Reconstruction Scheduled (revised appendices A & C). (FSM 1920, R2 Supplement No. 8, 03/86 and FSH 1909.12, R2 Supplement No. 1, 08/88).
17	01/03/1989	Assigned Management Area Prescription 5B to Babcock Hole, San Isabel (San Carlos District); 9,021 acres.
18	01/03/1989	Assigned Management Area Prescription 1D to Methodist Mountain, San Isabel (Salida District); 53 acres.
19	03/02/1989	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	12/06/1989	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	06/11/1990	Established Scenic Highway of Legends as a Scenic Byway on the San Carlos District. Incorporated new management direction for Scenic Byways in the Plan.
22	10/04/1990	Replaced three-year Timber Sale and Road. Construction/Reconstruction Schedules (revised Appendices A & C).

Amendment #	Date Approved	Summary
23	02/12/1992	Oil & Gas Leasing – Incorporated decision made 02/92 to consent to oil and gas leasing. Reference Final EIS and Record of Decision (ROD).
24	04/09/1992	Added Picket Wire Canyonlands per PL 101-501. Also established management area direction.
25	09/21/1994	Revised Plan map to establish a utility corridor for the Divide Power Line between Divide and Lake George.
26	03/2000	Changes VQO within Ski Cooper permit area to Modification.
27	02/2001	Establishes Stanley Canyon expansion to the Northfield Multi-User Communications Site.
28	08/2001	Amends suitable timber base and certain standards and guidelines in the area of the Upper south Platte Watershed Protection and Restoration Project.
29	06/2002	Amends the Forest Plan to establish the Dick's Peak Communication Site.
30	08/2005	Amends the Forest Plan to establish an updated list of Management Indicator Species (MIS)
31	06/2004	Amends the Forest Plan to establish a new management area along the South Platte River between Elevenmile Reservoir and Strontia Springs Reservoir, and along the North Fork of the South Platte River from below Bailey to the confluence with the South Platte River.
32	06/2008	Amends the Forest Plan to designate additional areas where fire managers may use naturally-ignited wildland fires to achieve management objectives. The use of naturally-ignited wildland fires is expanded beyond designated wilderness areas, to all NFS lands in the Wet Mountains, Sangre de Cristo range, and Spanish Peaks.
33	10/28/2008	Amends the Forest Plan to provide consistent Region 2 wide standards and guidelines designed to conserve the Canada lynx in the Southern Rocky Mountains. The amendment contains 7 new standards and 24 new guidelines specifically designed to ensure the conservation of the Canada lynx.
34	01/24/2009	Amends the Forest Plan to include Section 368 energy corridors. The amendment accepts the ROD for the Westwide Energy Corridors Final Environmental Imapct Statement. The EIS and ROD identified preferred locations for energy corridors that minimize impacts to lands and surface resources.

6.2. Identified Need to Change the 1984 Plan through an Amendment or Revision

6.2.1. Amendments to the 1984 Plan

In FY 2012 there were no new amendments approved for the 1984 Plan.

6.2.2. Revision of the 1984 Plan

In FY 2009 two revisions to the 1984 Plan were underway: 1) the development of a land management plan for the Cimarron and Comanche National Grasslands (Grasslands); and 2) a revised Plan for the Pike and San Isabel National Forests (Forests).

Work on the Grasslands Plan, originally prepared under the 2005 National Forest System Land Management Planning Rule (Planning Rule), was suspended following a court order enjoining the Forest Service from implementing the 2005 Planning Rule. This suspension began during the 30-day pre-decisional review and objection period conducted by the PSICC in March 2007.

The 9th circuit Planning Rule enjoinment effectively stopped all planning under the 2008 Rule. The PSICC considered reworking the existing 2008 Planning Rule documents to conform to the 1982 Planning Rule and start plan revision under that rule. After weighing all the options available, the Forest decided the uncertainties associated with working under an interim planning rule were too great, so the PSICC chose to wait for the new Planning Rule before embarking on Plan Revision once again.

The revised Forests Plan pre-work was initiated in 2005, and revision efforts continued until these activities were also suspended by the same court order described above. Prior to suspension, a series of eight public workshops were held in various locations. The workshops gathered information regarding Forest resources and resource management and what the public thought needed to change. As mentioned earlier, the Forest Plan revision has been put on indefinite hold until the new Planning Rule is complete and fully implemented.

For more details, see the Web site at
http://www.fs.usda.gov/detail/psicc/landmanagement/planning/?cid=fsm9_032786

The PSICC began work on revising the PSICC Oil and Gas Analysis in 2010. The imminent listing of the Lessor Prairie Chicken prompted the Grasslands districts to put a moratorium on oil and gas development in the bird's known habitat. The moratorium prompted the PSICC to examine the current conditions surrounding oil and gas development and begin the planning process required to complete a new leasing analysis. The PSICC Oil and Gas Leasing Analysis got officially underway in the third quarter of FY 2013 with the publishing of a Notice of Intent to Prepare and Environmental Imapct Statement (NOI). The NOI was published on Monday May 30, 2013.

7. Information Sources for the Annual Monitoring Report

The information in this FY 2012 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 and San Isabel National Forests
Cimarron and Comanche National Grasslands
Supervisor's Office
2840 Kachina Drive
Pueblo, CO 81008

Additional copies of this report are available by writing, by visiting the address above, by calling 719-553-1400, or on the web at
http://www.fs.usda.gov/detail/psicc/landmanagement/planning/?cid=fsm9_032802

8. Summary Evaluation and Conclusions

8.1. Are the 1984 Plan's Goals and Objectives Being Met?

Although the goals and objectives of the 1984 Plan are being pursued to some degree, the rate of accomplishment is different than predicted in 1984. The ambitiousness of the overall program has proven to exceed the available funding levels during the years of implementing the 1984 Plan. In addition, the economic conditions and social demands for goods and services have also changed.

8.2. Are the 1984 Plan Standards and Guidelines Being Followed?

Decision documents signed by responsible officials certify that projects are designed to be consistent with the 1984 Plan, as amended and monitoring results described in this document support those finding

9. References

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10. List of Preparers

This annual monitoring report was prepared and reviewed by staff and resource specialists on the PSICC. Table 15 displays Forest and Grassland report contributors..

Table 15. List of Preparers by Program.

Program(s)	Program manager or specialist
Air	Steve Sanchez
Aquatic and riparian resources	Mike Welker
Budget and finance	Lauri Naber
Fire and fuels	Aaron Ortega
Heritage	Ian Ritchie
Hydrology, soils	Steve Sanchez/ Dana Butler
Land management planning	John Dow
Minerals and Energy Resources	John Brown
Range	Stan Vallejos
Recreation, scenery, wilderness, visual resource management	Neal Weierbach
Timber	Jeff Underhill
Transportation	Jerry Stevenson/Gary Morrsion
Water rights	Misty DeSalvo
Wildlife, fisheries, and rare plants, threatened, endangered, and sensitive species	Steve Olson, Stephanie Shively, Mike Welker

APPENDIX A PSICC Revenues 2001 to Present

PSICC Revenues 1985 to Present												
	National Forest Funds ($)						Trust Funds ($)					
	Timber Sales	Special Uses	Mineral Leases	Recreation Revenue	Grazing Fees	Power	K-V Funds	Salvage Funds	Purchaser Credit	Timber Purchase	Special Road Construction	Total
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	5,228,432
03	66,442	281,719	2,168,132	69,321	18,104	21,078	12,264	76,737	0	0	0	2,713,797
04	25,077	476,212	22,159	189,276	20,903	42,627	38,357	106,214	0	0	0	920,825
05	38,539	489,468	29,222	198,937	33,020	40,512	35,762	49,794	0	0	0	915,254
06	22,779	551,960	4,806	7,034	27,021	41,560	44,958	65,927	0	0	0	766,045
07	26,737	645,646	35,432	3,748	24,016	43,187	62,142	62,223	0	0	45,690	948,820
08	21,391	938,684	26,310	0	28,414	44,531	73,118	56,527	0	0	0	1,188,976
09	7,747	919,846	21,508	0	27,169	46,327	89,469	55,948	0	0		1,168,013
10	39,266	1,004,389	23,442	0	24,927	293,782	118,739	26,856	0	0	0	1,531,401
11	19,619	1,032,788	3,039,944	0	55,055	14,567	93,539	15,869	0	0	0	4,271,381
12	19,324	1,018,031	12,772	0	16,926	29,505	78,064	20,323	0	0	0	1,194,945

Certification

The PSICC Land and Resource Management Plan, as currently written, is sufficient to guide implementation for the next year. There are several improvements that can be made to the Plan, but they are not required to meet the goals and objectives of the Plan.

The Plan should be amended in the future to consider the use of wildland fire as a resource option. Currently the Plan distinguishes between wildfire and fire use, however policies have changed. Now a wildfire is simply considered a wildfire, the use of the wildfire depends on the local natural resource needs and how the fire is managed. A wildfire managed for suppression would be managed differently than a fire managed for resource benefits. The plan should reflect this new change in policy and provide a mechanism to count the acres of wildfire managed for resource benefit.

/s/ Jerri Marr
Jerri Marr
Forest Supervisor

August 28, 2013
Date