**United States Department of Agriculture**

Forest Service

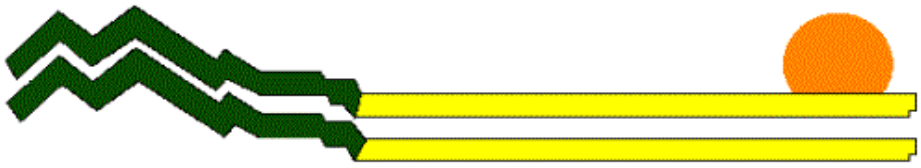
Rocky Mountain Region

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

## Annual Monitoring Report for

## Fiscal Year 2013

June 2015



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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. The variety of ecosystems, from high plains desert to high mountain tundra, provide a challenging and complex management mosaic for the PSICC. The management challenges contained within such an ecological diverse unit are increased by the social, economic and political realities associated with working in two states 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 correspond 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 PSICC soil and water resources program provides different levels of soil and water monitoring information. The monitoring information provided ensures the unit project decision making processes consider potential project impacts to soil and water resources. Program monitoring is divided into three major functions:

1. Soil inventory
2. Soil and watershed improvement
3. Soil and water quality

### *2.1.1. Soils Inventory*

Conducting soil inventories is a prerequisite to land management planning and implementation. Soil inventories provide baseline soil condition information. Baseline soil condition provides an important starting point for project monitoring. Soil inventories help PSICC soil scientists understand the properties of undisturbed soil. Understanding undisturbed soil properties, helps PSICC soil scientists analyze and predict potential soil impacts from current and future projects.

Modern soil inventories use an integrated approach to describe and map biotic and abiotic features: geology, landforms, climate, vegetation, and soils. In cooperation with other Federal and State agencies, the PSICC completed soil surveys in eight major areas. 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, Kansas) have current published surveys. The mapping, draft manuscripts, and interpretations are complete 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 soil and water resources. Improving watershed conditions is important for maintaining long-term ecosystem

health at local and landscape levels. The soil and watershed 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 requires 440 acres of soil and water improvements per year. The PSICC implemented over 400 soil and water improvement projects equaling over 35,000 treated acres not associated with wildfire (see Burned Area Rehabilitation) since 1984 Plan approval. Although the PSICC has not consistently improved 440 acres every year as required by 1984 Plan direction, when all treatments are combined annual average treated acres exceed 440 acres per year.

Over the past 28 years, PSICC soil and watershed improvement projects focused on watersheds and stream systems where sedimentation exceeds Federal and State water quality thresholds and standards. Although the PSICC is making progress in restoring degraded watersheds, much work remains to be done.

Most of the 2013 watershed restoration work occurred within the perimeter of the Hayman Burn Area in the Trail Creek Watershed and the Waldo Canyon Fire Burn Area. Hayman Restoration in Trail Creek included; one sediment retention basin partially installed, two miles of trail rerouted, and seven miles of road maintenance and decommissioning of identified non-system routes. The Waldo Canyon Fire Burn Area response work focused on flood mitigation, hillside erosion control and water retention/sediment basin construction. Cooperative efforts between the United States Forest Service (USFS), Coalition for the Upper South Platte (CUSP), National Forest Foundation (NFF) and Vail Ski Resorts made the restoration work in the Trail Creek Watershed and Waldo Canyon Fire Burned Area possible.

In 2013 the PSICC Soil and Water program also provided direct project support to three high-profile projects. Soil and water program staff reviewed and commented on Monarch Ski Resort's parking lot expansion. PSICC soil and water staff supported the Leadville Ranger District's Tennessee Creek Watershed Restoration project National Environmental Policy Act (NEPA) analysis. And PSICC Soil and water staff assisted the Natural Resources Conservation Service with their East Peak Fire Burned Areas Emergency Response (BAER) analysis.

### *2.1.3. Watershed Assessments*

Watershed assessments identify status, trend and interrelationships of and between resource conditions within watersheds. Assessments also consider desired future conditions and cumulative effects. By providing these types of information, watershed assessments assist PSICC staff in prioritizing watershed improvement projects and determining appropriate watershed management actions.

In 2011, the PSICC assembled a cross district inter-disciplinary team to rate each watershed indicator value for all 6th field watersheds. Each indicator was rated as Class 1 (Functioning Properly), Class 2 (Functioning at Risk), or Class 3 (Impaired). Indicators assessed were water quality, water quantity, aquatic habitat, aquatic biota, riparian vegetation, roads and trails, soils, fire regime class or wildfire, forest cover, rangeland and vegetation, terrestrial invasive species, and forest health.

Ratings were entered into the web based national Watershed Condition Assessment Tracking Tool or WCATT. WCATT identified the Trail Creek Watershed on the Pikes Peak Ranger District, and Picketwire Canyon watershed on the Comanche Ranger District as the two top priority watersheds for restoration. Each top priority watershed received a Watershed Restoration Action Plan (WRAP). The WRAP describes the necessary steps required for stream restoration.

### *2.1.4. Burned Area Emergency Rehabilitation (BAER)*

BAER work concentrates funding towards areas on the Forest with recent wildfire activity. The program identifies and funds restoration work in areas mapped as high burn severity and streams and channels that have a high likelihood of depositing sediment downstream.

In 2012 the Waldo Canyon Fire burned on the west side of Colorado Springs. The fire destroyed over 340 homes and burned high erosion hazard watersheds with steep slopes. In order to slow sediment deposition from these streams, the Forest Service approved approximately 4.8 million dollars for BAER work in prioritized watersheds within the burn perimeter. The 4.8 million dollars was supplemented with an additional 2.9 million in Forest Service dollars and over 22 million Waldo Regional Recovery Group dollars to accomplish the projects listed in Table 1 below.

**Table 1. Waldo Canyon Fire BAER and Waldo Regional Recovery Group Projects**

| Work Completed | USFS | Private Lands | Total to Date |
|---|---|---|---|
| Detention Basins Constructed | 37 | 18 | 55 |
| Feet of Stream Channel Reshaped | 31,060 | 12,300 | 43,360 |
| Miles of Forest Service Roads Maintained | 21.0 | 1.06 | 22.06 |
| Acres of Hand Treatments | >1,000 | >500 | >1,500 |

| Work Completed | USFS | Private Lands | Total to Date |
|---|---|---|---|
| Linear Feet of Debris Deflectors (wattles) | 1,928 | 570 | 2,498 |
| Linear Feet of Log Erosion Barriers | 6,916 | 10,632 | 17,548 |
| Culvert Installments | 15 | | 15 |

In direct support of Waldo Canyon Fire emergency response and long term watershed restoration , the PSICC completed over 640 acres of cultural survey work and contracted for an additional 300 acres of cultural survey. In fiscal year 2013 the PSICC also completed approximately 60 acres of weed treatment.

The Hayman Fire burned 137,760 acres, making it one of the largest fires in recent Colorado history. Areas that experience vegetation loss caused by large scale fires like the Hayman see accelerated erosion levels that increase with storm severity. Accelerated erosion increases sediment levels in drainages within and downstream of the burned area.

The U.S. Forest Service's Rocky Mountain Research Station (RMRS) and Dr. Peter Robichaud continue monitoring BAER treatment the effectiveness in the Hayman Burn Area. RMRS and Dr. Robichaud review watershed monitoring reports collected by the Rocky Mountain Field Institute (RMFI). The Hayman Burn Area BAER treatment monitoring reports produced by RMFI are available at the PSICC Supervisor's Office.

### *2.1.5. Soil and Water Quality Monitoring*

Monitoring soil and water quality provides information about the effects of management decisions and subsequent actions on soil and water resources. 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] provide long-term objectives and monitoring guidelines. The PSICC uses these multiple monitoring objectives and guidelines to gauge long and short-term changes in soil and watershed conditions.

The PSICC is working, where possible, on taking necessary steps towards delisting PSICC 303d-listed streams. 303d listed streams are found by the state to have insufficient pollution controls. The lack of sufficient pollution controls makes them unable to attain or maintain applicable

[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.

water quality standards. Once 303d listed streams are identified, states are required to establish total maximum daily load implementation plans (TMDL) for them. TMDL's are management plans designed to attain established targets that, when implemented, move the watershed towards a fully supporting level. A TMDL was completed for the Upper South Platte River. According to EPA the status of the Upper South Platte River is good (http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=&p_au_id=COSPUS19_0500&p_cycle=2010&p_state=CO).
Happy Meadows, a stream restoration project on the South Park Ranger District is one example of how the PSICC implements recommendations outlined in the South Platte River TMDL.

Monitoring at Williams Creek was established in 2008 to monitor potential watershed lead contamination from the Rampart Shooting range. In 2011 EPA, through a contract with URS Operating Services Inc., took over Williams Creek monitoring. URS Operating Services, Inc completed a START 3 EPA Sampling Activities Report for Manitou Natural Springs under Contract No. EP-W-05-050. Monitoring results are available at the PSICC Supervisor's Office. Williams Creek is upstream from Manitou Springs. Concern with potential lead contamination in Manitou Springs' springs from shooting range lead prompted the Williams Creek monitoring.

In 2013, the PSICC implemented the National Best Management Practices program, and completed 2 watershed assessments. Best Management Practices (BMPs) are used to ensure compliance with State and Federal regulations and with the 1984 Plan standards and guidelines When followed, the National Best Management Practices (BMP) Program also improves Federal Clean Water Act and State water quality program consistency. In 2012, the PSICC tied soil and water quality monitoring to project implementation, this practice continues into the future. BMP Monitoring results are available at the PSICC Supervisor's Office.

Soil and water quality monitoring is also achieved through Range Allotment Management Plans (RAMPs) monitoring. RAMPs monitoring uses the proper functioning condition monitoring protocol 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). R2 soil quality standards provide threshold values to document major reductions in soil productivity potential. Threshold values act as early warning signs, they indicate when further alteration of soil properties could extensively change or impair soil productivity.

The PSICC is moving towards detailed quantitative soil impact monitoring for timber and salvage sales, roads, trails and facility construction and maintenance, and recreation-related activities. In 2013 the PSICC started work on establishing more detailed quantitative soil monitoring. The program started by collecting soil compaction from livestock grazing and erosion from BAER treatments and off-highway vehicle use. In the future, the PSICC will implement both soil qualitative project monitoring and more detailed soil specific management use and issue studies.

## 2.2 Water Rights

The main PSICC water rights program goals are to:

1. Maintain current water rights.
2. Protect and maintain channel stability and capacity on streams.
3. Determine increased water use from Forest activities.
4. Accommodate, where possible, identified increased water need from Forest activities.

The PSICC water rights program reviews monthly water court resumes in Water Division 1 (South Platte Basin) and Water Division 2 (Arkansas Basin) for potential water right applications that require PSICC special use permits. If water right applicants are found without the necessary PSICC permits, the PSICC water rights program files Statements of Opposition in respective Water Divisions or sends letters directly to water right applicants.

The way in which water right applicants are contacted depends upon the type of water right requested. Applicants for conditional water rights without a PSICC special use permit generally receive a letter directly from the PSICC. The letter explains USFS Special Use Permitting processes and requirements. On the other hand, an absolute water right filer without a PSICC special use permit is not contacted directly. Instead, the PSICC files a Statement of Opposition in the water right water division filing district.

The PSICC continued focusing on Lake Isabel augmentation requirements in 2013. The State of Colorado is requiring the PSICC augment for surface water evaporation from Lake Isabel. The PSICC Leadership Team explored many possible solutions, and is now making decisions on which possible solutions are most viable. The PSICC will continue to secure augmentation water every year to meet State augmentation requirements until the PSICC finds a more permanent solution for Lake Isabel surface water evaporation. Augmentation water was secured for 2013.

The PSICC water rights program continued its range program support in 2013 by applying for well permits and/or stock tank certificates for new stock uses. The water rights program also continued working on the PSICC-wide stock water use inventory. The inventory started on the San Carlos Ranger District and will continue until an inventory of each district's stock tank water use is complete. Once the water rights program completes the stock water use inventory, program staff will start a district by district forest-wide recreation water use inventory.

The PSICC continues to work on completing long-term special-use permits issued for North Fork, Boss, and O'Haver reservoirs on the Salida Ranger District and instream flow incremental methodology (IFIM) for stream habitat.

## 2.3. Air Resources

The air resources section of the 1984 Plan describes the pollutants and activities that are thought to pose the greatest threats to forest and grassland ecosystems and recreation settings.

In support of air resources monitoring in the 1984 Plan and in response to Clean Air Act requirements the PSICC initiated a long-term air quality monitoring program in 1994. The long-term air quality monitoring program develops baseline data for evaluating air quality-related

values across the PSICC, especially in wilderness areas. See Table 2 for air quality monitoring site locations currently managed by the PSICC.

**Table 2. 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 |
| Kenosha Pass | Ozone | 2005 |
| Guanella Pass | Ozone | 2005 |
| Trout Creek Pass | Ozone | 2009 |
| Cimarron National Grassland | PM10 and other particulates<br>Mercury | 1994 |

All available interpreted data reports are available at the PSICC Supervisor's Office

### *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.

Denver and several surrounding counties are the only areas in Colorado 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. While the rest of the state is in "Attainment" not exceeding NAAQS set by EPA. The Pike National Forest is partially located in Jefferson and Douglas counties; however activities generated on the Forest potentially affecting ozone pale in comparison to industrial, utilities, vehicle exhaust and chemical solvents generated in the Denver Metropolitan Area.

### 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. Therefore, problems associated with NOx are not confined to where NOx are emitted. The entire State of Colorado is in attainment for nitrogen oxides.

### 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 and PM 2.5.

### 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 heat and oil and gas well flaring. The entire State of Colorado is in attainment for $SO_2$

### 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.

### *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 outlines requirements for permitting and reporting prescribed fire activity, and fee collection to cover the cost of the smoke management program. Simple Approach Smoke Estimation Modeling (SASEM) is part of Colorado Air Quality Commission Regulation 9. SASEM is a conservative smoke 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 generate an emissions inventory for prescribed fires. Emissions inventories describe emission types and sources in the area that when added to expected prescribed fire smoke levels, determine the potential prescribed fire smoke impacts. 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 combined create the estimated potential prescribed fire emissions inventory.

### *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, are present in the tundra ecosystems along the Front Range. Increased nitrate levels are causing significant impacts to tundra communities as well as alpine aquatic communities. One example impact is the movement of the alpine ecosystems biogeochemistry outside the historic range of variability. Increasing nitrogen deposition 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 or ANC. ANC provides an indicator of the lake's ability to buffer acidic deposition where lower values indicate less buffering capacity.

As part of this Forest Service Air Program, five lakes in the Mount Evans Wilderness are 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 Lakes .

The tenth-percentile value for Abyss, Frozen, Upper Middle Bear Track, North, and South lakes are shown in Table 3. The tenth-percentile value is often reported because it represents lake conditions when the lake is most sensitive to acidic deposition.

**Table 3. Tenth-Percentile ANC for Lakes in Mount Evans Wilderness 2012**

| 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 Lake | 80.9 | 15 |
| South Lake | 67.0 | 16 |

It is difficult to draw substantive conclusions from the above ANC trend data, because the measurements are not 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). The study authors 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) from samples collected 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 as well. Overall, 70% of the Colorado lakes sampled were considered sensitive to acidification and 15% were found to be extremely sensitive.

The results from the Musselman study indicate high acidification and nitrogen deposition sensitivity in high elevation wilderness aquatic ecosystems in all regions of Colorado. Most high elevation Rocky Mountain catchments are nitrogen limited, so increasing available nitrogen, via atmospheric deposition from air pollution, generally results 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. Monitoring sites 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. The projected decline in nitrogen oxide emissions is expected as are result of 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 National Park Service's proposed protective 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.

In 2011, USGS released Response of Lake Chemistry to Atmospheric Deposition and Climate in Selected Class 1 Wilderness Areas in Western United States, 1993 – 2009 report. The purpose of the report was to communicate changes in atmospheric deposition of pollutants in the Rocky Mountain region. The report lists that Sulfur dioxide ($SO_2$) emissions in the Rocky Mountain region are mostly from stationary sources; they account for 3 percent of released $SO_2$ in the United States, and have declined by 46% since the mid-1990s. Further analysis indicated long-term climate records show a mean annual air temperature increase from 0.57 to 0.75 ˚C with warming trends being more pronounced in Colorado (USGS, 2011).

### *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).

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 a 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 promulgate regulations to make progress towards the national goal of the “prevention of any future deterioration, 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. The IMPORVE 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 or Grasslands, so visibility monitoring is not a mandate in this area.

## 2.4. Mineral Resources

### *2.4.1. Energy Minerals*

The majority of oil and gas leasing, exploration, development, and production activities on the PSICC are located on the Cimarron and Comanche National Grasslands (Grasslands), with some signs of interest in the Spanish Peaks area of the San Carlos Ranger District, and some expired leases on the Pikes Peak Ranger District. The Grasslands have 324 Federal oil and gas leases and over 400 oil and gas facilities. The Spanish Peaks area has oil and gas development on private land near the Forest boundary that could eventually lead to development on the PSICC. Dyad Petroleum’s 20 leases on the Pikes Peak Ranger District expired July 31, 2014. The Pikes Peak Ranger District of the Pike National Forest has not received any new oil and gas interest.

### *2.4.2. Locatable Minerals*

Most of the PSICC’s mining and exploration activity takes place on the South Park Ranger District of the Pike National Forest. Amazonite and smokey quartz crystals are the main focus of these mining activities. A small amount of locatable mineral activities take place on the Leadville and Salida Ranger Districts.

No major or moderate exploration, development, or production operations are taking place on the PSICC. Recreational mining activities such as panning, dredging, and rock hounding are on a slight increase. In 2012 and 2013 efforts (including criminal litigation in two cases) to bring

several unauthorized mining operations on the South Park Ranger District into compliance with regulation and policy were successful. The operators formerly out of compliance currently have approved plans of operations in place. The PSICC land and minerals division continues working towards PSICC-wide operator compliance.

# 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), Colorado Natural Heritage Program (CNHP), Kansas Department of Wildlife and Parks (KDWP), and various other partners. The various agency meetings support long standing wildlife objectives and provide opportunities to create projects that help achieve shared objectives. 2013 interagency discussions focused 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 (HPP) includes representatives from CPW, the Forest Service, the BLM, private landowners, and hunters. The partnership addresses big game animal damage issues on private lands intermixed with state and federal ownerships.

The PSICC continued important partnerships to advance research and habitat enhancement projects in 2013 with state universities and species advocacy groups. The partnership list included 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. The PSICC is developing a 5-Year Action Plan (2015–2019) for wildlife, fish and rare plants. Once implemented, program project and funding priorities will follow the new action plan.

### *3.1.2. Threatened and Endangered Species*

The PSICC continues to emphasize habitat improvement projects and species inventory to establish baseline species population and distribution information. Current T&E habitat improvement efforts are focused on supporting the reintroduction of the greenback cutthroat trout, improving Pawnee montane skipper habitat, and restoring lesser prairie chicken habitat. Prescribed burning, mechanical treatments and noxious weed treatments are used 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. All monitoring data are available at the PSICC Supervisor's Office.

**Mexican Spotted Owl (MSO)** – In 2013 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, two sites on the Pikes Peak Ranger District, one site on the South

Platte Ranger District, and eleven sites on BLM land. One MSO was detected on the San Carlos Ranger District. The PSICC also completed a new MSO habitat map.

**Canada Lynx** – No survey activity occurred in 2013. The PSICC continues ongoing coordination with CPW. In 2013 the PSICC completed an updated lynx habitat map. The new lynx map was submitted to the U.S. Fish & Wildlife Service for concurrence in December 2013.

**Greenback Cutthroat Trout** – No population surveys were conducted by the Forest Service in 2013. A draft Greenback Cutthroat Management Plan was completed. The management plan will guide restoration and management of cutthroat along the Front Range of Colorado. New genetics information released in 2013 identified Bear Creek on the Pikes Peak Ranger District as home to the "sole remaining population of pure greenback cutthroat trout on the face of the earth." The Pikes Peak Ranger District initiated an Environmental Assessment to provide protection for the Bear Creek population. The timeline for completion is October, 2014. Dave Winters, Regional Assistant Aquatic Ecology Program Leader, serves as the Regional contact for the Greenback Recovery Team.

**Pawnee Montane Skipper** –The skipper is a locally endemic subspecies that mostly occurs on PSICC lands within the South Platte Ranger District. In 2000, the South Platte Ranger District initiated the Upper South Platte Watershed Protection and Restoration Project. The project is designed to improve watershed conditions and reduce fuel loads in ponderosa pine forests in the South Platte River drainage. The Upper South Platte Watershed Protection and Restoration Project reduces fuel loading in ponderosa pine by implementing timber harvesting, understory thinning, and prescribed burning. Suitable habitat for the Pawnee montane skipper butterfly *(Hesperia leonardus montana*) is located within the thinning and burning prescription areas. Project cooperators initiated a monitoring plan to assess potential project skipper impacts and habitat treatment response. 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*).

The Pawnee montane skippers and their key plants for nectaring and reproducing responded differently to varying vegetation treatment levels. Lower skipper densities in aggressively thinned areas show a negative response to heavily thinned treatments. Moderate to high skipper densities in control (no thinning) and less aggressively thinned areas show a possible skipper affinity to no thinning and less aggressive thinning. However, none of the treatment or control areas have consistently produced the extremely high densities of skippers reported in 1986.

Fires between 1996 and 2002 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). It is important to continue the TES skipper monitoring project because vegetation responses are slow and complicated by annual weather variations. The PSICC biology staff plan to apply lessons from this monitoring effort to future forest thinning prescriptions. Applying monitoring lessons will most likely benefit the skipper across its range.

**Penland's Mosquito Range Mustard** – The PSICC continues assisting USFWS, BLM, and CNHP monitoring efforts for this plant. We are also providing input and comments on the draft recovery plan for the species.

### *3.1.3. Wildlife and Plant Species Monitoring*

**Bighorn Sheep** – The Forest assisted CPW with a bighorn sheep inventory. The inventory included adult and young counts. Abundance of sheep was determined in the designated areas and will be used to determine population trends.

**Bats –** In 2013, the Pike National Forest inventoried bat species via mist-netting at 6 sites on the South Platte Ranger District (SPLRD) and one site on the Pikes Peak Ranger District (PPRD). In total, 6 species were detected, including a species not previously known on the forest, the eastern red bat. Bat species and the districts were they were found are listed in table 4. All netting locations and capture results were reported to CPW.

**Table 4. Bat Species Inventoried**

| Common Name | Scientific Name | District |
|---|---|---|
| Big brown bat | *Eptesicus fuscus* | PPRD, SPLRD |
| Hoary bat | *Lasiurus cinereus* | PPRD, SPLRD |
| Eastern red bat | *Lasiurus borealis* | SPLRD |
| Silver-haired bat | *Lasionycteris noctivagans* | PPRD, SPLRD |

**Other Species (not sensitive): Osprey, Golden Eagle, Prairie Falcon, and Red-Tailed Hawk** Known nest sites for these birds were monitored on the Leadville Ranger District. Nests were visited numerous times throughout the nesting season to determine presence and reproductive success. Monitoring results are on file at the Leadville Ranger District Office in Leadville, CO.

**Mountain Plover, Swift Fox, Burrowing Owl, and Long-Billed Curlew** – Surveys were conducted across 3,600 acres on the Comanche National Grasslands 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. Volunteers were given road routes to drive near known ferruginous hawks, Swainson's hawks and loggerhead shrikes nesting sites. 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 Ranger District 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 Ranger District in Leadville, CO, the South Park Ranger District in Fairplay, CO, and the Salida Ranger District in Salida, CO.

**Northern Goshawk** – Surveys following the R2 Northern Goshawk Survey Protocol were conducted on more than 15,000 acres across the PSICC. Numerous active goshawk nests were located. On the Pikes Peak District, vocalizations of the northern goshawk alarm and wail calls were broadcast while hiking survey routes, resulting in the survey of about 3,030 acres within and adjacent to proposed vegetation treatment units. Additionally, historic nest sites were visited and monitored for occupancy and reproductive success. This effort resulted in the discovery of one new territory and confirmed the occupancy of three historic nest sites. Forest Service personnel also discovered a new active northern goshawk nest within the Waldo Canyon Fire burn area, for a total of five occupied sites

**Peregrine Falcon** – Known American Peregrine Falcon eyries/nests were monitored on the San Carlos Ranger District 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 Ranger District, when White-Tailed Ptarmigan monitoring surveys are conducted across the bird's winter use area they occur in March. Surveyors spread out approximately 30-50m apart and record 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. PSICC biology staff 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 recorded on 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. No surveys were conducted in 2013.

**Regional Forester's Sensitive Species Plants** – Surveys for various projects across the PSICC identified previously unknown sites for several species, and general rare plant survey discovered several additional rare plant sites as well.

**Northern Leopard Frog –**Daytime Northern leopard frog surveys were conducted on the Pikes Peak Ranger District. Northern leopard frog surveys are conducted by walking along edges/perimeter of streams, natural/man-made ponds and small lakes. Existing northern leopard frog populations were verified at Trout, Trail, and West Creeks.

**Black-Tailed Prairie Dog –** Surveys were conducted on both the Cimarron and Comanche National Grasslands in 2011 (Tables 5 and 6). No surveys were conducted in 2012 and 2013.

**Table 5. Acres of Active Black-Tailed Prairie Dog Colonies 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 | 5,342 | 5,115 |
| 2010 | 6173 | 1,014 | 7,187 |
| 2011 | 6720 | 1,014 | 7,734 |

**Table 6. Acres of Active Black-Tailed Prairie Dog Colonies on the Cimarron National Grassland, 1989–2011.**

| Year | Cimarron active colony acres |
|---|---|
| 1989 | 750 |
| 1992 | 1,082 |
| 1997 | 1,246 |
| 1998 | 1,298 |
| 1999 | 1,697 |
| 2001 | 2,439 |
| 2002 | 3,321 |
| 2003 | 4,008 |
| 2004 | 5,634 |
| 2005 | 5,793 |
| 2006 | 5,660 |
| 2007 | 2710 |
| 2008 | 1,337 |
| 2009 | 2,154 |
| 2010 | 3,066 |
| 2011 | 4164 |

1989–2010 survey results from the Cimarron 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 had a much greater impact.

**Lesser Prairie Chicken** – Lek surveys on the Cimarron and Comanche National Grassland were conducted in 2013. Sixteen birds were counted on the Comanche and three birds were counted on the Cimarron (Table 7).

**Table 7. Lek Counts for the Cimarron (Cim) and Comanche (Com) National Grasslands 1980-2013**. Missing years in the table indicate either 1) no surveys were conducted or 2) surveys were incomplete or used differing methodology.

| | 1980 | | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cim | | | | | | | | | | | | |
| Com | 122 | | 132 | 140 | 139 | 123 | 123 | 132 | 148 | 174 | 173 | 116 |
| | | | | | | | | | | | | |
| | 1994 | | 1995 | 1996 | 1997 | 1998 | 1999 | 2002 | 2003 | 2004 | 2005 | 2006 |
| Cim | | | *142* | *134* | *91* | *138* | *141* | | | | 131 | 139 |
| Com | 82 | | 65 | | | 96 | | | 78 | 77 | 39 | 46 |
| | | | | | | | | | | | | |
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | | | | | |
| Cim | 83 | 73 | 38 | 53 | 25 | 11 | 3 | | | | | |
| Com | 19 | | 25 | 39 | 33 | 19 | 16 | | | | | |

## *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. The amendment was established to update the MIS list. An updated list was needed to ensure better alignment with the 1982 planning regulations, to adequately serve the PSICC's management activities potential effects monitoring, and to ensure the appropriate monitoring is feasible, useful and not redundant.

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. Each plot is approximately 60 acres. The plots are divided into 256-1 square meter subplots; each subplot with Abert's sign is recorded. In total during 2013, 7,936 subplots were sampled and sign was detected on 529 (7%). 7 percent squirrel sign detection is generally consistent with previous years. Between 2006 and 2012 the average percent of sign varied between 3 and 11 percent. Abert's survey data are available at each district where squirrels were surveyed.

Pikes Peak Ranger District - Monitoring was completed on 4 plots or about 240 acres.

Leadville Ranger District - Monitoring was completed on 60 acres.

South Park Ranger District - Monitoring was completed on 720 acres.

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

**Brook Trout** – No monitoring was conducted in 2013. Data for previous surveys are on file at the Salida and South Platte District Offices.

**Greenback Cutthroat Trout** – No new monitoring was conducted in 2013. Monitoring protocols for two populations, Severy and Bear Creek, were developed in 2013 and will be implemented in 2014.

## 3.2.. Range Condition and Use

### *3.2.1 Range Condition*

In 2013, range allotment management implementation continued on the PSICC. 2013 implementation included vegetation monitoring and installation of critical range improvements (fencing, water developments). District and Forest Rangeland Management personnel emphasized grazing administration in response to severe drought conditions across the unit.

During the 2013 grazing season, Rangeland Management Specialists implemented 1984 plan direction, allotment management plans (AMP's), term grazing permits, grazing agreements, biological opinions, and other documents developed to guide livestock grazing on the PSICC. Rangeland Management Specialists administered 539,353 acres of rangeland to standard in 2013. Specialists also closely evaluated annual grazing use by permitted livestock. During annual grazing use evaluation Rangeland Management Specialists concentrated on collecting annual grazing effects indicators, and baseline data to asses long-term range condition trends. Parameters collected that are used to assess range condition include species composition, basal and foliage cover, percentage of bare ground, and range land production.

### *3.2.2. Permitted AUMs*

For the 2013 grazing year (March 1, 2013 through February 28, 2014), actual allowable use on both Forests and Grasslands was lower than authorized use due to long term severe drought. For the Pike and San Isabel National Forests, actual authorized use was 53% of permitted. Actual authorized use on the Cimarron and Comanche National Grasslands was 61% of permitted (INFRA Annual Grazing Statistical Report). 2013 actual annual authorized use reductions were implemented in coordination with permittees to address persisting drought conditions.

## 3.3. Forest Resources

### *3.3.1. Forest Condition and Use*

The 1984 Plan established an allowable sale quantity ceiling of 37 million board feet (MMBF) per year. Although not expected to reach that quantity in one year, the PSICC expected timber offer targets to gradually approach that level as more acres were put under management. In 1984, approximately 1,065,220 acres were considered tentatively suitable for commercial timber harvest. However, once the cost to commercially harvest timber regularly exceeded timber value, funding for the commercial timber program was curtailed to a level well below 1984 Plan projections. By Federal Fiscal Year 1994, 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 1.

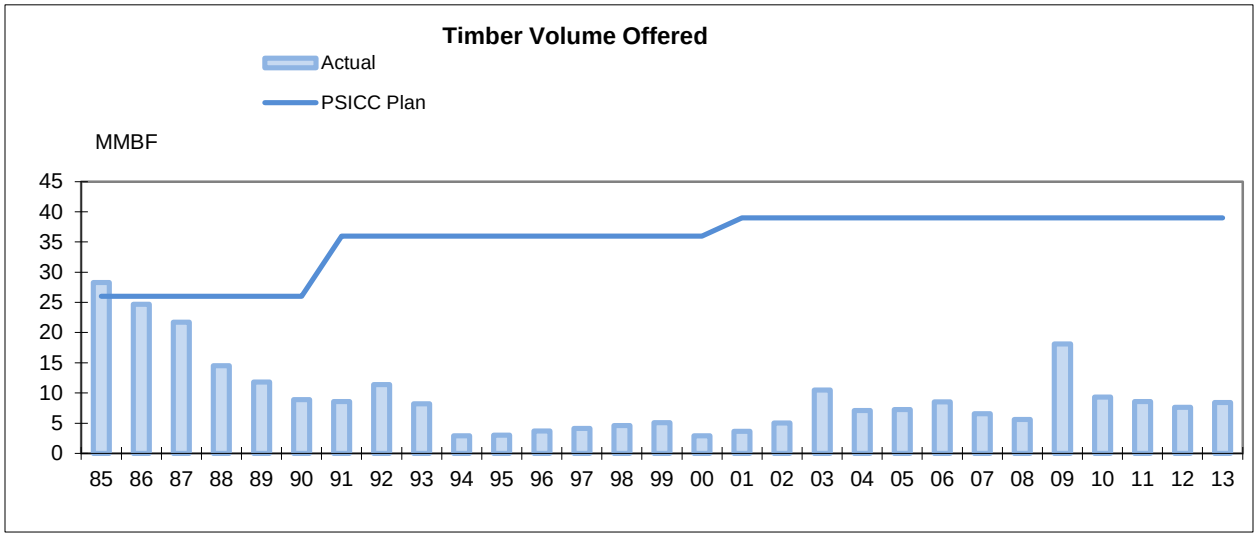


**Figure 1. Timber Volume Offered**

Figure 2 displays total forested acres treated. The vegetation treatment rate (actual) has not kept pace with the 1984 Plan (PSICC Plan) proposed treatment rate. As would be expected, by not completing 1984 Plan recommended vegetation treatments. The forest vegetation conditions described in the 1984 Plan are nearly the same. The only difference between 1984 and 2013 vegetation conditions is the trees are almost 30 years older.

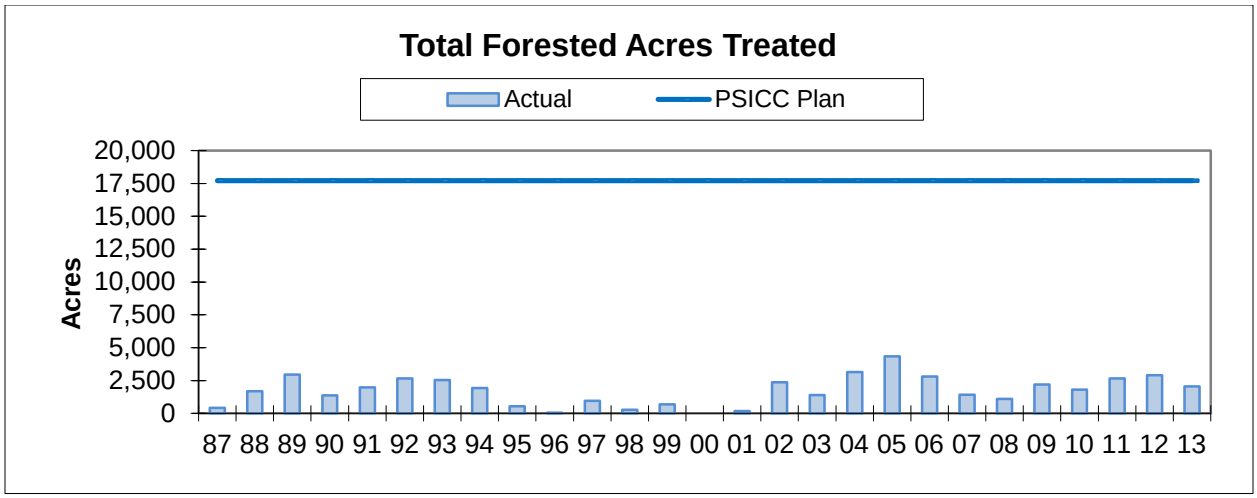


**Figure 2. Total Number of Forested Acres Treated**

The lack of vegetation management described above and displayed in figure 2, combined with recent drought conditions has accelerated insect and disease infestations, and produced excessive fuels build-up. Unmanaged forests leading to excessive fuel build-up along the Front Range are already responsible for several wildfires: Buffalo Creek, Hi Meadow, Hayman, Mason Gulch, Hayman, and Springer.

The following steps are being taken to reduce fuel build-up along the Front Range:

1. Hazardous fuels and restoration projects on the Pike National Forest through the CFLRP program.
2. Commercial timber sales to implement sanitation and salvage treatments in high bark beetle mortality areas.
3. Partnerships with water providers such Denver Water, Colorado Springs Utilities and City of Aurora.

These activities are discussed further in the Fuels Treatment section of this report.

### *3.3.2. Reforestation*

Reforestation activities are variable over time, as is shown in Figure 3. Funds for these activities are obtained primarily from timber sale revenues.

Reforestation rate increases between 1996 and 2013 result from restoration efforts following the 1996 Buffalo Creek Fire, and the large fires of 2002, including the Hayman fire that burned approximately 138,000 acres. The wildland fires between 1996 and 2002 created large areas of moderate to high burn severity. Wherever the burn severity is moderate to high, the natural seed source is lost. So in order 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, 1,102 acres in

2012, and 726 acres in 2013. In 2013 an additional 805 acres were planted in the Buffalo Creek burn area through the Denver Water partnership. As funding is received for cone collection, greenhouse expenses, and planting contracts, reforestation will continue in large burn areas. The National Arbor Day Foundation donated more than $700,000 toward reforestation in the Hayman fire burn area between 2003 through 2013, and the National Forest Foundation donated more than $20,000 over the last three years.

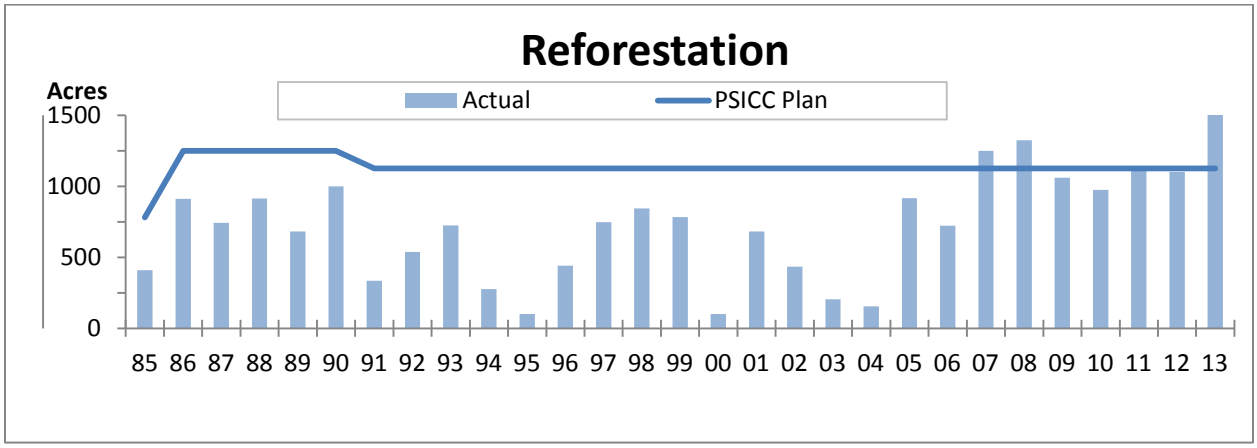


**Figure 3. Acres of Reforestation: Actual and PSICC Plan**

## 3.4. Fuels

### *3.4.1. Fuels Treatment*

Fire suppression, historic land use practices (such as widespread burning and logging in the late 1800s, heavy livestock grazing in the late 1800s and early 1900s, and tree planting in the early 1900s) and climatic variation over the last century have altered fire regimes and associated fuel loading. The changes in landscape composition, structure, and function across the Forest from human intervention, have increased the number, size, and severity of wildland fires. Historically, ponderosa pine ecosystems experienced low-severity fires that left the original stand intact. Now these ecosystems are experiencing large stand replacing fires that consume all the trees.

Recent examples of increasing wildland fire size and uncharacteristic severity in Colorado start with the 2000 fire season on the Pike and San Isabel National Forests. The 2000 fire season saw over 24,000 acres burned and 59 structures destroyed. The 2002 fire season proved even more destructive than 2000 when the Pike National Forest Hayman fire burned approximately 138,000 acres, and cost nearly $44.2 million to suppress. The more recent 2012 fire season again showed a destructive increase. The 2012 Waldo Canyon Fire burned into the Colorado Springs' northwestern wildland urban interface; destroying over 340 homes.

Over the past year the PSICC has added another strategy for a total of three hazardous fuel strategies. The strategies are 1.front range fuels treatment strategy, 2.integrated resource management, and 3. the Collaborative Forest Landscape Restoration Program (CFLRP). The Front Range Fuels Treatment Strategy emphasizes the need to identify, prioritize, and rapidly implement hazardous fuels treatment projects along Colorado's Front Range. Hazardous fuel treatment projects are identified through a large-scale rapid assessment of the hazardous fuel

conditions along the Front Range. The assessment identified 300,000 acres on the Pike National Forest alone that are in need of immediate treatment. The second hazardous fuels treatment strategy is the reintroduction of Integrated Resource Management (IRM) on the PSICC. IRM emphasizes 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. Fire cycle disruptions on the PSICC have increased the risk of severe wildland fires in fire prone and fire dependent ecosystems: Integrated Resource Management focuses on how an integrated approach to natural resource management s can improve forest health, and reduce wildland fire risks. The PSICC's IRM program looks at how the following 6 areas contribute to as well as prevent severe wildfires and manage them for wildfire prevention as well as their stated goal.

1. Hazardous fuel loadings.
2. Insect infestation problems.
3. Wildland fire impacts.
4. High value watersheds and wildlife habitat protection and restoration.
5. Ecosystem sustainability.
6. Sustainable communities in high hazard priority areas within the PSICC.

The third strategy is the Collaborative Forest Landscape Restoration Program (CFLRP). CFRLP 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 result of collaboration is a suite of treatments that satisfy identified fuels reduction, forest health and wildlife needs. The Upper Monument Creek Project on the Pikes Peak Ranger District is a CRLRP project. The Upper Monument Creek project consists of 67,000 acres of lower and upper montane forests west of Monument Colorado. A draft environmental assessment covering the Upper Monument Creek project is expected in the fall of 2015.

### *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 or local, county, state, and other federal agencies in support of specific treatment areas and types. Community, federal, state and county collaboration combined with the application of Wyden Amendment authorities and the Good Neighbor Policy will encourage and allow fuels treatment work across all jurisdictional boundaries. In five years the high priority treatment areas are 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 3% of these priority acres will be treated after five years, and 7% after ten years. The ability to treat areas is dependent on several factors. The most obvious factors are political will, community preparedness and budgetary prioritization.

Between 2009 and 2013 the PSICC used various forms of fire to manage approximately 23,000 acres. At 13,247 acres treated, broadcast burning exceeded all other fire management options. Table 8 displays the suite of PSICC fire management tools and the acres treated with each tool. As depicted in the low acreage accomplishments recorded for 2012, the use of these tools is

heavily dependent upon politics and weather. Prolonged drought and/or an intense fire season can curtail the use of these cost effective vegetation treatments.

**Table 8. Acres of Forest and Grassland Managed with Fire in FY 2012**

| Treatment Year | District | Broadcast Burning | Fire Use for Resource Benefit | Pile Burning |
|---|---|---|---|---|
| **2009** | **Comanche** | 5,751 | 0 | 0 |
| | **Cimarron** | 0 | 0 | 0 |
| | **Leadville** | 0 | 0 | 60 |
| | **Pikes Peak** | 0 | 0 | 25 |
| | **Salida** | 1,510 | 0 | 100 |
| | **San Carlos** | 950 | 38 | 20 |
| | **South Park** | | | |
| | **South Platte** | 35 | 0 | 54 |
| **2009 Total** | | 8,246 | | 259 |
| **2010** | **Comanche** | 0 | 0 | 0 |
| | **Cimarron** | 0 | 0 | 0 |
| | **Leadville** | 50 | 0 | 0 |
| | **Pikes Peak** | 200 | 0 | 200 |
| | **Salida** | 660 | 0 | 0 |
| | **San Carlos** | 0 | 975 | 0 |
| | **South Park** | 0 | 0 | 0 |
| | **South Platte** | 1,147 | 0 | 186 |
| **2010 Total** | | 2,057 | 975 | 386 |
| **2011** | **Comanche** | 0 | 0 | 0 |
| | **Cimarron** | 0 | 0 | 0 |
| | **Leadville** | 390 | 0 | 5 |
| | **Pikes Peak** | 0 | 0 | 0 |
| | **Salida** | 0 | 0 | 110 |
| | **San Carlos** | 164 | 1 | 68 |
| | **South Park** | 0 | 0 | 0 |
| | **South Platte** | 0 | 0 | 1,328 |
| **2011 Total** | | 554 | 1 | 1.511 |
| **2012** | **Comanche** | 0 | 0 | 0 |
| | **Cimarron** | 0 | 0 | 0 |
| | **Leadville** | 325 | 0 | 0 |
| | **Pikes Peak** | 0 | 0 | 0 |
| | **Salida** | 200 | 0 | 0 |
| | **San Carlos** | 0 | 0 | 0 |
| | **South Park** | 880 | 0 | 0 |
| | **South Platte** | 0 | 0 | 0 |
| **2012 Total** | | 1,405 | 0 | 0 |
| **2013** | **Comanche** | 0 | 0 | 0 |
| | **Leadville** | 0 | 0 | 175 |
| | **Pikes Peak** | 0 | 0 | 0 |
| | **Salida** | 55 | 0 | 100 |
| | **San Carlos** | 930 | 2,438 | 140 |
| | **South Park** | 0 | 0 | 590 |
| | **South Platte** | 0 | 0 | 0 |
| **2013 Total** | | 985 | 2,438 | 1,005 |
| **Total** | | 13,247 | 3,452 | 3,161 |

# 4. Social Components

## 4.1 Heritage Resources

### *4.1.1 Cultural Resources Compliance Surveys, Inventories and Site Recording*

The National Historic Preservation Act (NHPA) requires site inventories where ground disturbing activities are planned. 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 across the Forests and Grasslands.

Non-project related surveys (NHPA Section 110) and survey reporting continued in areas known to contain high cultural resources densities. These multi-year efforts include Trout Creek on the San Isabel National Forest and Guanella Pass west of Denver on the Pike National Forest.

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

4.1.2a Interpretive Efforts. 2013 interpretive efforts on the PSICC continued focusing on mining and transportation history, the significance of culturally modified trees, as well as early recreation developments in the Pikes Peak Region. PSICC interpretative efforts included installing interpretative signage at the Trout Creek prehistoric quarry on the San Isabel National Forest, and additional interpretation of the Santa Fe Trail and National Register and State listed properties in Picketwire Canyon on the Grasslands.

4.1.2b Protection Efforts. Protection efforts in 2013 were focused on sites across the Forests, as well as sites in the Picketwire Canyon on the Grasslands. Historic property assessment, repair, and restoration projects in 2013 were primarily focused on developing partnerships. Partnerships were developed with the PaleoCultural Research Group, HistoriCorps and a statewide site stewardship and monitoring program. The PaleoCultural Research Group is a 501.3C nonprofit that conducts Section 110 archaeological surveys across the PSICC, and catalogs archaeological artifact collections from the PSICC at the Monument Curation Facility. In 2013 the HistoriCorps volunteer partnership group completed historic preservation work at the AG Ranch, home of the Region 2 packstring. The site stewardship and monitoring program is a Colorado Statewide group that periodically checks the condition of archeological sites. The PSICC established a partnership agreement with this group to monitor hard to reach places such as the Picketwire and Picture Canyons.

4.1.2.c. Public Outreach. Public outreach efforts focused primarily on public presentations and hiking tours of archaeological sites. Numerous hiking tours were conducted on the Grasslands districts, and a Kids in the Woods Day was held at the historic AG Ranch.

Volunteer historians helped the PSICC with research and background documentation for historic properties.

The heritage program also assists with the annual guided auto tours of Picketwire Canyon on the Comanche National Grassland, sharing our nation's prehistoric heritage and the conservation ethic designed to protect such sites.

4.1.2d.Accomplishments. Accomplishments in resources interpreted and protected, and in public outreach opportunities, continued below 2010 and 2011 levels due to budget challenges. A summary of accomplishments dating back to 2006 can be found in Table 9.

**Table 9. Heritage Resources Accomplishments 2006-2013**

| Heritage Activity | FY06 | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY 13 |
|---|---|---|---|---|---|---|---|---|
| Heritage sites interpreted | 9 | 8 | 7 | 5 | 5 | 2 | 2 | 3 |
| Public participation projects | 7 | 7 | 7 | 8 | 8 | 3 | 1 | 1 |
| Number of properties recorded (cumulative) | 5,267 | 5,517 | 5,752 | 5,956 | 6,037 | 6,077 | 6,188 | 6,543 |
| Heritage sites preserved & protected | 142 | 140 | 136 | 136 | 146 | 135 | 135 | 103 |
| Heritage sites evaluated | 316 | 298 | 302 | 278 | 81 | 35 | 45 | 188 |
| Resource facilitation projects | 207 | 215 | 221 | 262 | 147 | 188 | 176 | 157 |
| Inventory/acres surveyed | 10,483 | 9,870 | 9,576 | 9,223 | 6,835 | 2,300 | 4,111 | 16,888 |

## 4.2. Recreation

### *4.2.1. PSICC National Visitor Use Monitoring*

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 (NVUM) system developed by the Forest Service monitors and estimates recreation visitor use on the PSICC. The NVUM 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 on the PSICC were randomly selected by the Forest Service to conduct interviews and complete traffic counts. Final results from this round of NVUM can be found at http://apps.fs.fed.us/nrm/nvum/results/A02012.aspx/Round2

NVUM uses standard monitoring protocol survey to record the public's use of, value of and satisfaction with National Forest System recreation opportunities. The 2001 and 2006 NVUM studies revealed a very large percentage of our visitors originate from the 303 (Denver), 719 (Colorado Springs, Pueblo) and 720 (Metropolitan Denver) area codes. The majority of our visitors are repeat visitors, some as many as 300 times per year. Table 10 displays the number of PSICC visitors in 2001 and 2006.

**Table 10. PSICC Visitor Use (2006 NVUM data)**

| **2001 and 2006 National Visitor Use Monitoring Data** | | |
|---|---|---|
| National Forests | | National Grasslands |
| Wilderness Visits | 220,000 | 0 |
| Special Events | 30,000 | 0 |
| All Other Single Site Visits | 4,281,000 | 46,000 |
| Total Greater than One Site Visits Per Trip 2001 | *4,406,348 | Combined with Forests |
| Total Greater than One Site Visits Per Trip 2006 | 4,985,000 | 103,000 |

*2001 numbers combined the Grasslands and Forests

Tables 11a, and 11b, list Forest and Grassland activity types and participation compiled from the FY 2011 NVUM report. The top five recreation activities are highlighted. The top five reasons for visiting the PSICC continue to be; viewing natural features, relaxing, viewing wildlife, driving for pleasure, and hiking or walking.

**Table 11a. 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 |

*Highlighted activities represent highest PSICC activity participation

**Table 11b. 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 | -- |

*Highlighted activities represent highest PSICC activity participation

PSICC visitor use satisfaction numbers remain high in all categories. Table 12 displays the values for user satisfaction at developed sites, user satisfaction with Forest and Grassland access, services and Forest and Grasslands user perceived safety while recreating on the Forests and Grasslands. Perception of safety scored the highest in all categories. The percentage of respondents that felt safe on the Forests and Grasslands ranged from 89 % at developed sites on the Grasslands to 100% in Forest Wilderness Areas. Overall, the percent satisfaction numbers ranged between a low of 72.9 percent satisfied with the lack of development in undeveloped areas to a high of 100% satisfaction with safety in Wilderness.

**Table 12. Percentage of User Satisfaction (from FY 2011 NVUM report)**

| Items Rated | Percentage of Satisfied Respondents | | | | | |
|---|---|---|---|---|---|---|
| | Developed Sites[b] | | Undeveloped Areas (GFAs) | | Designated Wilderness | |
| | 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 |

### *4.2.2. Developed Recreation*

Many recreation visits occur at developed facilities, particularly campgrounds, and day use areas (see Table 11a and 11b). Most developed recreation facilities on the PSICC are managed for the Forest Service by concessionaires. The PSICC has been using concessionaires since 1993. Two different companies manage over 100 developed recreation sites. In 2013 the two concessionaires generated approximately $1.76 million in revenue. Revenue and recreation visitation were both up from 2012. These two permits returned $185,000 in Granger-Thye fees to the PSICC.

Granger- Thye fees are typically spent on projects in PSICC developed facilities that are under permit. In the past funds were spent to repair water systems, buy new site furniture, (picnic tables and fire grates), replace traffic barriers, and install new bulletin boards, bear-proof dumpsters and food lockers. In recent years these monies have been used to partially fund the Salida sign shop. The sign-shop builds signs, bulletin boards and site number posts for use in PSICC campgrounds.

The Cimarron Recreation Area on the Cimarron National Grasslands, with group picnic facilities and a campground is the only site that generates revenue on the Cimarron National Grasslands. Several non-fee 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. .

We continue to implement the 2007 Recreation Facility Analysis (RFA), with plans to revise it in 2014. The RFA guides decisions on closing under-utilized facilities, and prioritizes spending of our limited Capital Improvement Program (CIP) and maintenance budgets.

### *4.2.3. Historic Cabin Program*

The PSICC continues offering Historic Cabins for rent. Five cabins were available in 2013. The cabin rental program generated approximately $29,000 in revenue in 2013. Historic cabin rental revenue is used to manage the program and fund improvements at other sites to expand the offerings. Of the five sites, one is open year round. The five cabins combined averaged a 51% occupancy rate in 2013.

All of the historic cabin rental 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 Black's Cabin, Schwartz Cabin and additional cabins at Lake Isabel to the program.

### *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. Downhill skiing and snowboard user counts are recorded in skier/snowboarder days. A skier/snowboard day is defined as one person visiting a ski area for all or any part of a day or night one time. This includes full-day, half-day, night, complimentary, adult, child, season and any other ticket type that gives one the use of an area's facility.

For the 2010/2011 the two resorts recorded 234,367 skier/snowboarder days, in the 2011/2012 season they recorded 186,504 skier/snowboarder days. Revenue from the two permits also decreased in the 2011/2012 season, coinciding with the year on year skier/snowboarder day decreases. The 2012/2013 season saw a rebound in skier/snowboarder visits to 213,000 skier/snowboarder days. Table 13 shows PSICC skier/snowboarder days and fees collected for the last ten years.

**Table 13. 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 |
| 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*

The PSICC's proximity to the Denver, Colorado Springs, and Pueblo metropolitan areas means there continues to be a large demand for dispersed and day-use recreation opportunities. Dispersed recreation opportunities such as hiking, riding, cross country skiing, and back-country camping constitute the largest share of total recreation use. The large demand for these recreation opportunities pushed visitor levels beyond 1984 Plan projections every year since 2011.

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 activities. 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 (tables 11a and 11b).

In the fall of 2005 the Chief of the Forest Service initiated a new Travel Management Rule. The 2005 Travel Management Rule provided USFS wide direction on how to determine appropriate trail and road location and type of use. In 2009 the PSICC completed the first round of Motor Vehicle Use Maps (MVUM.) MVUM maps depict publically available motorized roads and trails for each PSICC Ranger District. Additional information on the PSICC's travel management planning and implementation can be found in document section 4.3 Travel Management.

### *4.2.6. Wilderness*

The PSICC manages all or part of nine designated Wilderness Areas, which together total approximately 449,000 acres (Table14). Four of these Wilderness Areas cross Forest boundaries; the PSICC is the lead manager for three cross boundary wildernesses.

Senator Mark Udall introduced the Browns Canyon Wilderness Bill. Senator Udall's version of the bill combined Wilderness and National Monument designation. The bill split Browns Canyon into two different designations to allow existing motorized use to continue on lands proposed for National Monument status. The lands in Senator Udall's Browns Canyon Wilderness bill currently managed by the Bureau of Land Management (BLM) were proposed for National Monument status, and San Isabel National Forest managed lands were proposed for Wilderness.

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

**Table 14. 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<br>Lost Creek Wilderness addition | June 1980<br>January 1993 | Pike | 58,040<br>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 |
| Total Approximate Acres | | | 565,000 |

### *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, and others are part of summer home tracts containing as many as 25 cabins. Per the Cabin Use Fee Fairness Act (CUFFA) the permit fee for these cabins is 5% of the lot value determined by a 2009 appraisal. The PSI began phasing in the new fees in 2012. Full fee implementation will occur in 2014.

Permit category 121 “Isolated Cabins” is being curtailed. By the end of 2018 all 121 permitted cabins must be removed from National Forest System Lands. Currently five isolated cabin permits (121 permit category) exist on the PSICC. Three 121 permits in good standing on the South Platte Ranger District (SPT 457, 461 and 527) that are set to expire in 2018. One 121 Permit under permit number SAL285 on the Salida Ranger District which is in the process of being closed. Improvements associated with permit number SAL285 were partially removed in 2014. As soon as we get confirmation from the Salida Ranger District that the improvements are completely removed and the site is restored to PSICC requirements, this permit will be closed. One 121 Permit under permit number SAN549401 on the San Carlos Ranger District that expired in 2000. San Carlos District staffs continue working with cabin owners to resolve cabin removal.

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.

### *4.2.8. Scenic Resource*

Scenic quality continues to be maintained. Activities with the potential to adversely affect the scenic integrity are carefully designed to minimize potential scenery affects. The new Scenery Management System (SMS) will be implemented following Forest Plan Revision. Plan revision is scheduled to begin in 2017.

Direction in the Built Environment Image Guide (BEIG) is followed when new infrastructure is proposed on the PSICC. Guidance provided in the BEIG ensures that new buildings, signs, or other human-made features compliment natural and cultural settings.

## 4.3. Travel Management

Travel management is a topic of concern for the PSICC. Increasing population pressures and increased sales and use of off-highway vehicles result in greater resource impacts and increased user conflict. In 2003 unmanaged recreation was identified by the Chief of the Forest Service as one of the four major threats to long-term forest health, and off-highway vehicle use constitutes a significant component of this threat.

The PSICC conducted road analyses in several locations at the watershed and multiple-watershed scales, including the Hayman burn area. The PSICC also conducted Forest-scale roads analysis on the Grasslands in FY 2004 as part of the 1984 Plan revision effort. A Forest-scale travel analysis process (TAP) covering road maintenance levels 3 through 5 roads was completed in FY2010 for the Pike and San Isabel National Forests, in conjunction with the 1984 Plan revision. (See below for a description of road maintenance levels.) TAP's 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 were started in FY2013. The PSICC completed the Comanche NG TAP in September 2013 and the Cimarron NG and Salida Ranger District TAP's in early FY2014.

In FY 2009 the PSICC started the South Rampart Travel Management Plan and Environmental Assessment, a 122,000 acre consultant led analysis within the Pikes Peak Ranger District. When complete the analysis will complement the ongoing implementation of the North Rampart travel management plan and National Environmental Policy Act (NEPA) analysis, completed in July 2005. Completion of the South Rampart Travel Management Plan and its complementation of the North Rampart Travel Management Plan are currently on hold. The South Rampart Travel Management Plan will remain on hold until Wilderness Society legal action brought against the PSICC motor vehicle mapping process is settled.

Progress on travel management planning and implementation is dependent upon available funding. Available funding is divided among deferred maintenance, safety , capital improvement needs and travel management planning. Balancing transportation funding allocations between much need deferred maintenance and mandated travel management planning requirements will be fundamental in the coming year.

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 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. The PSICC is also working aggressively to improve signage consistency between each District's motorized use areas.

During FY2011, The Wilderness Society, along with four other Plaintiffs filed suit against the PSICC. The suit challenged the validity of a total of 782 Forest Service MVUM identified system routes, equaling approximately 839 miles of roads and motorized trails. It is expected the lawsuit will be resolved in 2015.

The PSICC is continuing an aggressive effort to identify and correct road and trail data errors and inaccuracies. The data correction effort includes correcting both tabular and geo-spatial data. Accurate tabular and geo-spatial data is important for travel analysis and planning work. Travel management planning and implementation will be a major component of the 1984 Plan revision. Better road and trail data will help speed up the 1984 Plan revision process.

The total number of miles of National Forest System Roads (NFSRs) on the PSICC is 3,706. Included in the total number of miles of NFSRs are five distinct road classifications, called Maintenance Levels (MLs):

- ML1 roads are closed to the public for motorized use, and generally are out of service. When not needed for PSICC management activities they are placed into a storage condition to minimize environmental effects (e.g., ripped and seeded). There are approximately 290 miles of ML1 roads on the PSICC. ML1 roads are not shown on the MVUM.
- ML2 roads are open for public use, but are maintained for high-clearance vehicles. At approximately 2,720 miles, most roads on the PSICC's inventory fall in this category.
- ML3 Roads are open and maintained for travel by prudent drivers in passenger cars. They are shown on the MVUM for public use. ML3 may have gravel or native surfacing. There are approximately 640 miles of ML3 roads on the PSICC.
- ML4 Roads are open and maintained for travel by prudent drivers in passenger cars. They generally have a higher degree of user comfort and convenience. They may be single or double lane, and may be gravel-surfaced or paved. They are shown on the MVUM for public use. There are approximately 30 miles of ML4 roads on the PSICC.
- ML5 Roads are open and maintained for travel by prudent drivers in passenger cars. They are shown on the MVUM for public use. They have the highest degree of user comfort and convenience. They usually are paved and double-lane. There are approximately 27 miles of ML5 roads on the PSICC.

Road maintenance budgetary constraints are resulting in additional miles of road becoming unsuitable for use by passenger cars and moved into a high-clearance vehicle standard. The change in road status on the PSICC follows a nationwide trend. The PSICC is targeting limited road maintenance funding towards its highest-priority roads, based on safety and level of use considerations.

# 5. Post-Implementation Project Level Monitoring

PSICC post-implementation project level monitoring provides an opportunity for NEPA ID team project specialist to review project outcomes. By coming together after project implementation, project specialists are able to see first-hand how their proposed design criteria (mitigation measures) influenced project implementation.

Forest Service NEPA analyses are increasingly burdened by long laundry lists of design criterion. Many times the exact design criteria proposed are already spelled out in Forest Plan Direction or included in USFS national Best Management Practice (BMPs) requirements. When design criteria are spelled out in Design Notices, Records of Decision and Decision Memos, the Forest Service can be held legally responsible for implementing them, whether they are needed or not. Being legally tied to potentially unnecessary project implementation design criteria, makes legally defending decisions that do not implement all the design criteria listed in a NEPA decision very difficult. Post project implementation monitoring identifies design criterion redundancies, and ferrets out well-meaning design criterion that proved faulty and unnecessarily burdened project implementation.

In 2013 the PSICC reviewed the Black Mountain Devils Hole project on the San Carlos Ranger District of the San Isabel National Forest. The project purpose was to "use prescribed fire and mechanical treatments to reduce the risk of high intensity wildfire, and restore and maintain healthy, diverse, fire adapted resilient and sustainable fire adapted ecosystems". Using these purposes as guiding principles, the project design focused on protecting private property, restoring and stimulating growth in areas currently shaded by trees that, once opened, will provide a diversity of habitat types and stages to support a range of historically occurring species.

In order to support the project purpose identified above, the Black Mountain Devils Hole Project needed to:

1. Return woodland and grassland interfaces to approximate historical condition.
2. Reduce hazardous fuels.
3. Reduce tree density by creating openings in the tree canopy.
4. Improve or maintain watershed condition as identified in the Inland West Watershed Inventory (IWWI).
5. Protect or restore sensitive, threatened and endangered species habitat.

The following specialist participated in the project level monitoring review team:

- Ed Biery, PSICC Ecologist;
- John Dow, PSICC Planner;
- Cathy Kamke, San Isabel National Forest Archeologist;
- Aaron Ortega, PSICC Fuels Specialist;
- Jeff Outhier, Rangeland Specialist;
- Dennis Page, San Carlos Ranger District Fuels Specialist;
- Mike Picard, San Isabel National Forest NEPA Coordinator; and
- Ron Torretta, San Carlos Ranger District Biologist.

•

Prior to meeting at the project site all participants reviewed the design criterion in the Black Mountain/Devils Hole EA. Participants were instructed to review the design criterion with an eye towards identifying design criterion redundancies with current Forest Plan Direction and required national best management practices (BMPs). The review team then met in the field to determine design criteria effectiveness, and identify potential design criterion streamlining opportunities and possible instances were proposed design criteria proved unnecessary.

The list of Black Mountain Devils Hole design criterion is significantly shorter than other similar projects. No cross-over between Forest Plan Standards and Guidelines were found, however clarification on how riparian treatment area design and implementation is conducted were suggested and included. The review team suggested replacing the riparian area specific avoidance criteria with a more general statement like; all vegetation treatments in riparian areas shall be low intensity and not stand replacing.

ID team specialists found no cross-over between BMPs and design criteria. However the possibility of reducing the specificity and number of design criterion in future projects by referencing national soil and water BMPs, rather than listing site specific water and soil design criteria was noted. The archeologist recommended dropping the standard archeological disturbance avoidance criterion. She realized that avoiding all treatment in identified archeological sites made the sites more visible and possibly more prone to exploitation. She suggested lighter hand treatment in future avoidance areas. She reasoned lighter hand treatments would blend with heavier mechanical treatment making identified archeological sites less visible and less susceptible to exploitation.

The proposed changes above are a subset of the actual changes suggested and included in the post-implementation monitoring report. The final Black Mountain\ Devils Hole Post-Implementation Monitoring Report is available at the PSICC Supervisor's Office in Pueblo, Colorado.

# 6. Economic Components

## 6.1. 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 Federal Fiscal Year 1992, CIP was primarily for roads and general purpose timber and recreation use. In Federal Fiscal Year 1992, program scope widened to include developed recreation areas and trail construction and reconstruction. The PSICC typically received between $250,000 to $500,000 from1991 to the present. 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.

## 6.2. Returns to the US Treasury

A wide range of activities generate revenues for the U.S. Treasury. Revenue generating activities 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 4, but are included in Appendix A of this report.

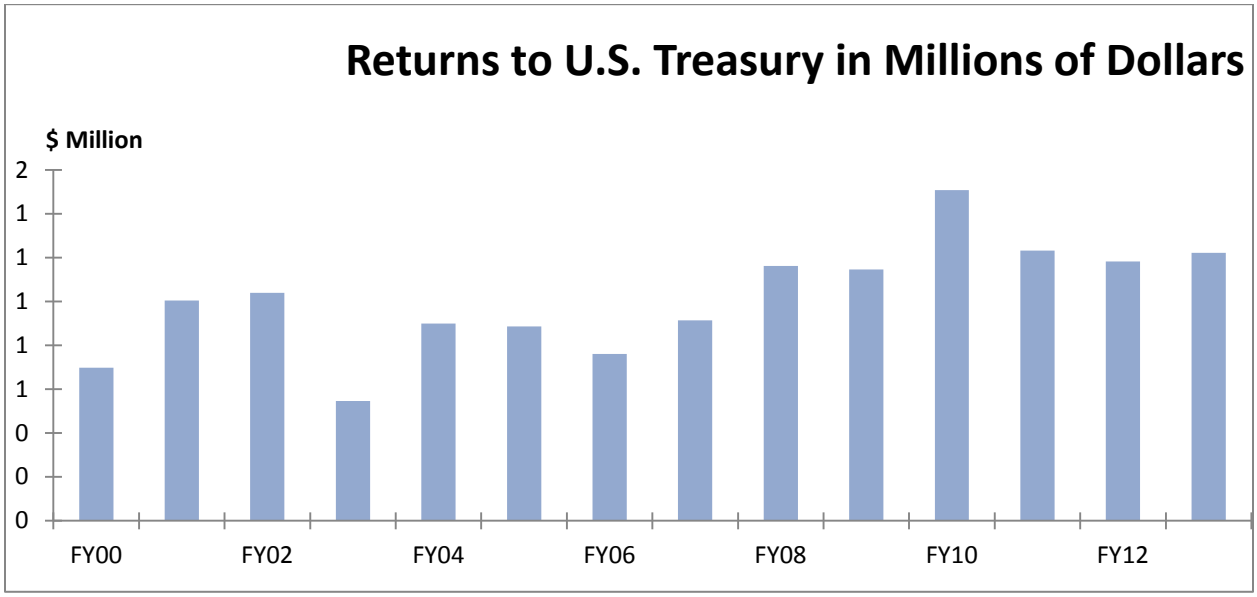


**Figure 4. 2013 PSICC Returns to US Treasury in Millions of Dollars**

## 6.3. Payments to Counties

The Secure Rural Schools Act gave states and counties payments for the years of (2008-2012). Payments are calculated using a formula that considers the amount of national forest system land in the county and revenues generated from national forest system lands. Counties designate a portion of the funds to projects reviewed by the resource advisory committee (RAC) and approved by the Designated Federal Official.

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 15. 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 15. 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.**

# 7. Amendments to the 1984 Land and Resource Management Plan

## 7.1. Existing Amendments

Table 16 lists the 32 existing1984 plan amendments. The last amendment occurred in 2009. For several years following approval of the 1984 Plan, it was believed that timber harvest schedule changes had to be reflected as amendments. When court decisions clarifying the purposes of land and resource management plans established that this practice was not required, amendments of this nature were discontinued.

**Table 16. 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 were changed to provide greater land management flexibility. |
| 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 (Utility Corridors) for certain lands within the Comanche National Grasslands and changed management area summary Table III-3 to show a change in the acreage of four management areas. |
| 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 and 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 Ranger District. |
| 15 | 01/1989 | Amendment drafted but not finalized. |
| 16 | 01/03/1989 | Established three-year timber sale and road construction and reconstruction scheduled (revised appendices A & C). (FSM 1920, R2 Supplement No. 8, 03/86 and FSH 1909.12, R2 Supplement No. 1, 08/88). |

| Amendment # | Date Approved | Summary |
|---|---|---|
| 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 National Forest (Salida Ranger 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 National Forest (Leadville Ranger District) – change from a 7D Management Area Prescription; 5,114 acres. |
| 20 | 12/06/1989 | Replaced three-year timber sale and road construction and 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 Isabel National Forest San Carlos Ranger 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). |
| 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 and 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 Visual Quality Objectives within Ski Cooper permit area to Modification. |
| 27 | 02/2001 | Establishes Stanley Canyon expansion to the Northfield Multi-User Communications Site. |
| 28 | 08/2001 | Amended suitable timber base and certain standards and guidelines in the area of the Upper south Platte Watershed Protection and Restoration Project. |
| 29 | 06/2002 | Amended the Forest Plan to establish the Dick's Peak Communication Site. |
| 30 | 08/2005 | Amended the Forest Plan to establish an updated list of Management Indicator Species (MIS) |
| 31 | 06/2004 | Amended 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. |

| Amendment # | Date Approved | Summary |
|---|---|---|
| 32 | 06/2008 | Amended 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 | Amended 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 | Amended 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. |

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

### *7.2.1. Amendments to the 1984 Plan*

In FY 2013 there were no new amendments approved for the 1984 Plan.

### *7.2.2. 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 2008 National Forest System Land Management Planning Rule (Planning Rule), was suspended following a court order enjoining the Forest Service from implementing the 2008 Planning Rule. The 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 with the 1982 Planning Rule and start plan revision under that rule. However after weighing all the options available, the PSICC 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. A new Planning Rule was promulgated on April 9, 2012. The PSICC is once again preparing for Forest Plan Revision in 2017.

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 in the 1984 Plan.

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 Leasing 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 an Environmental Impact Statement (NOI). The NOI was published on Monday May 30, 2013. In the fall of 2014 the PSICC Oil and Gas Leasing Analysis was put on hold in response to changing budgetary priorities.

# 8. Information Sources for the Annual Monitoring Report

The information in this FY 2013 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

# 9. Summary Evaluation and Conclusions

## 9.1. 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.

## 9.2. 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.

# 10. References


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Blakesley, J.A. 2008. Avian management indicator species on the Cimarron and Comanche National Grasslands. Supplemental Report M-MCB-USFS07-05 Rocky Mountain Bird Observatory, Brighton, CO. 6 p.

Cable. T.T. 2008. The birds of the Cimarron National Grasslands. 2008 Progress Report. Department of Horticulture, Forestry and Recreation Resources. Kansas State University, Manhattan, KS. 5 p.

Cully, J. F. and Johnson, T.L. 2002. Southern Grasslands Prairie Dog Colonies, 1999 – 2002. Final report for Challenge Cost-Share Agreement 01-CS-11030300-052 and 01-CS-11021200-112 between FS and Kansas State University. On file at the Cimarron Ranger District, Elkhart, KS and at the Comanche Ranger District, Springfield, CO.

Cully, J.F.; Johnson, T.L. 2005. 2005 Annual Report: A summary of black-tailed prairie dog abundance and occurrence of sylvatic plague. Challenge Cost-share Agreements 01-CS-11030300-052 and 01-CS-11021200-112. Unpubl, report on file at Comanche office, Springfield CO, and Cimarron office, Elkhart, KS.

Musselman, R.C. and Slauson, W.L., Water chemistry of high elevation Colorado wilderness lakes, Biogeochemistry 71: 387–414, 2004.

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U.S. Department of Agriculture—Forest Service. 2001. FS-710. The built environment image guide for the National Forests and Grasslands. Washington, D.C.

U.S. Department of Agriculture—Forest Service. 2007. FSH 2209.13. Grazing permit administration handbook. Chapter 10. p 69.

# 11. List of Preparers

This annual monitoring report was prepared and reviewed by staff and resource specialists on the PSICC. Table 17 displays Forest and Grassland report contributors..

**Table 17. List of Preparers by Program.**

| Program(s) | Program manager or specialist |
|---|---|
| Air | Steve Sanchez |
| Aquatic and riparian resources | Mike Welker |
| Budget and finance | Laura Cady |
| Fire and fuels | Aaron Ortega |
| Heritage | Jeremy Karchut |
| Hydrology, soils | Steve Sanchez/ Dana Butler |
| Land management planning | John Dow |
| Minerals and Energy Resources | John Brown |
| Range | Angela Safranek |
| 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 2000 to Present

| PSICC Revenues 2000 to Present<br>Revenue Category | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | National Forest Funds ($) | | | | | | Trust Funds ($) | | | | |
| FY | Timber Sales | Special Uses * | Mineral Leases ** | Recreation Revenue | Grazing Fees | Power | K-V Funds | Salvage Funds | Timber Purchase | Special Road Construction | Total $ |
| 00 | 78,324 | 327,975 | 203,661 | 138,361 | 48,044 | 26,416 | 63,402 | 16,083 | 0 | 0 | 902,266 |
| 01 | 73,083 | 468,512 | 4,133,042 | 242,038 | 66,276 | 27,979 | 102,839 | 20,462 | 403 | 2,700 | 5,137,334 |
| 02 | 60,338 | 516,540 | 4,189,001 | 185,654 | 68,160 | 30,993 | 116,416 | 47,634 | 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 | 2,713,797 |
| 04 | 25,077 | 476,212 | 22,159 | 189,276 | 20,903 | 42,627 | 38,357 | 106,214 | 0 | 0 | 920,825 |
| 05 | 38,539 | 489,468 | 29,222 | 198,937 | 33,020 | 40,512 | 35,762 | 49,794 | 0 | 0 | 915,254 |
| 06 | 22,779 | 551,960 | 4,806 | 7,034 | 27,021 | 41,560 | 44,958 | 65,927 | 0 | 0 | 766,045 |
| 07 | 26,737 | 645,646 | 35,432 | 3,748 | 24,016 | 43,187 | 62,142 | 62,223 | 0 | 45,690 | 948,820 |
| 08 | 21,391 | 938,684 | 26,310 | 0 | 28,414 | 44,531 | 73,118 | 56,527 | 0 | 0 | 1,188,976 |
| 09 | 7,747 | 919,846 | 21,508 | 0 | 27,169 | 46,327 | 89,469 | 55,948 | 0 | | 1,168,013 |
| 10 | 39,266 | 1,004,389 | 23,442 | 0 | 24,927 | 293,782 | 118,739 | 26,856 | 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 | 4,271,381 |
| 12 | 19,324 | 1,018,031 | 12,772 | 0 | 16,926 | 29,505 | 78,064 | 20,323 | 0 | 0 | 1,194,945 |
| 13 | 29,742 | 1,012,083 | 15,581 | 0 | 21,019 | 39,862 | 103,658 | 14,899 | 0 | 0 | 1,236,844 |

## 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 1984 Land and Resource Management Plan, but they are not required to meet the goals and objectives of the 1984 Land and Resource Management Plan.

Erin Connelly
Forest and Grasslands
Supervisor

10/19/15
Date