Carson National Forest
Southwestern Region

Carson Forest Plan Monitoring and Evaluation Report

Fiscal Year 2000

Forest Supervisor Certification of Forest Plan Sufficiency

The Carson Forest Plan is sufficient to guide management of the Forest over the next year. There are improvements that can be made as outlined in the recommendations section and will be scheduled as funding and personnel are available in FY 2001.

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MARTIN D. CHAVEZ, JR. Date
Forest Supervisor

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Monitoring Activities and Evaluation

Program Area	Summary of Monitoring Conducted and Evaluation
Biological Environment	
Wildlife & Fish	**Goals:** To manage for healthy ecosystems, provide goods and services in an environmentally sound fashion, use new knowledge, develop an integrated inventory, cooperate with other agencies, and promote awareness and appreciation of species. ▪ **Maintain habitat for viable populations** of all wildlife and fish species found on the Forest and improve habitat for selected species. This will be accomplished indirectly through intensive habitat management. *Merriam's turkey, squirrel, elk, and resident trout populations* are expected to increase because of improved habitat condition. *Ptarmigan and bighorn sheep habitat* will be maintained or improved to at least provide habitat for minimum viable populations. *Hairy woodpecker, plain titmouse and Brewer's sparrow populations* may decrease over time in specific areas impacted by management activities, but populations will be maintained at levels greatly exceeding minimum populations. *Habitat populations for state listed species* not included as indicator species will be maintained or improved as needed to keep them from being placed on Federal lists. *Sensitive plants*, and plants nominated for Federal protection will be monitored and protected as needed to keep them from being placed on Federal lists. ▪ **Support New Mexico Game and Fish Department** in meeting its objectives of the New Mexico Comprehensive Wildlife Plan and in the reintroduction of native wildlife and fish species. Favor native species over new exotic species in stocking and introductions whenever possible. ▪ **Maintain and/or improve habitat for presently listed threatened or endangered species** of animals and other species as they are classified as threatened or endangered. Work toward the eventual recovery and delisting of species by the year 2000. *Threatened and endangered species* populations and habitat will be protected and improved as necessary to aid in the recovery of the species. **Monitoring:** A summary of status and habitat trends for 34 **management indicator**

species (MIS) identified in the Carson Forest Plan (including all listed threatened, endangered and sensitive species thought to occur on the Forest by the US Fish and Wildlife Service) was initiated in FY 1999. Biologists on the Forest pooled their resources, providing MIS information from each district. Additional resources, literature and databases are being used to compile this assessment, which should be completed by January 2002. Its purpose is to provide an overall status of MIS populations and their habitats on the Carson National Forest.

Threatened, endangered and sensitive (TE&S) species are surveyed for project and program monitoring requirements (e.g., 1996 region-wide Amendment for Forest Plans), as well as to provide planning information during project analysis. Monitoring is ongoing (650 acres in FY 2000) for any TE&S species on the Forest. The primary species inventoried and monitored (if found) on the Carson are southwestern willow flycatcher, northern goshawk, American peregrine falcon, bald eagle, Mexican spotted owl and Rio Grande cutthroat trout. This type of inventory and monitoring provide the biologists information on the occurrence of TE&S species on the Forest, as well as, whether management activities (e.g., grazing, recreation, tree cutting, etc.) are a threat to a species' habitat or existence. Supporting documentation is located at each of the ranger stations.

In addition to conducting **Mexican spotted owl** (MSO) inventories (480 acres in FY 2000) for project proposals, the MSO recovery plan requires microhabitat monitoring to demonstrate that habitat across the range is stable or increasing. A protocol for implementation monitoring of MSO microhabitat was established and is being followed by the Carson NF. According to protocol, ?? plots were established and monitored in FY 2000. These plots were mostly located in areas where fuelwood and precommercial thinning were implemented to improve forest health by reducing tree density. Supporting documentation is located at the Camino Real, El Rito and Tres Piedras ranger stations.

In 2000, 120 acres were surveyed on the Carson National Forest for **northern goshawk**.

Annual counts of the recently (1994) reintroduced **Rock Mountain bighorn sheep** population in the Wheeler Peak Wilderness Area are conducted. This monitoring is performed in cooperation with the New Mexico Department of Game and Fish (NMGF) to determine the herd's reproductive and adaptive success. In 1999, there were in excess of 80 sheep in the Wheeler Peak or Columbine/Hondo areas. They have been successfully reproducing for the past six years. Evaluation as to whether some of the population should be transplanted to another location is still in the future. The target population for these areas is between 125 and 150 animals. Supporting documentation is located at the Questa ranger station.

Annual counts are made of the **elk** herds in the San Antonio Mountain area and Jicarilla Ranger District. In cooperation with the New Mexico Department of Game and Fish, approximately 111,000 acres were aerially inventoried in FY 2000 to determine reproductive and adaptive success. Supporting documentation for elk aerial monitoring is located at the New Mexico Department of Game and Fish State Office.

Program Area	Summary of Monitoring Conducted and Evaluation
	Forest-wide counts are made of **mule deer** populations. In cooperation with the New Mexico Department of Game and Fish, approximately 51,100 acres were aerially inventoried in FY 2000 to determine reproductive and adaptive success. Supporting documentation for deer aerial monitoring is located at the New Mexico Department of Game and Fish State Office. Point count transects for **neotropical migratory birds** (NTMBs) are accomplished annually (100 acres in FY 2000) on the Camino Real and El Rito ranger districts. Each transect is run several times during the summer. These counts provide trend data of NTMB migrations, as well as the increase in the cowbird population in **southwestern flycatcher** habitat. Supporting documentation is located at the Forest Supervisor's office. Although surveys to locate populations of the **Arizona willow** have been done in previous years, no surveys were performed on the Forest in 2000. Work is being done on Questa Ranger District in order to protect this sensitive species. The Arizona willow has not been found on any other districts. Baseline inventory and monitoring of **Rio Grande cutthroat trout** (RGCT) populations are ongoing throughout the Carson NF. The surveys are performed using the three-pass regression method and population estimates are calculated from the regression. Samples from populations are also collected for genetic analysis. In FY 2000, 4.7 miles of stream were inventoried for RGCT. These surveys are ongoing and help determine the level of management appropriate for the population. Supporting documentation is located at the Forest Supervisor's office. **Wild trout populations and macroinvertebrates** are also surveyed and monitored on the Carson NF. Supporting documentation is located at the Forest Supervisor's office. Analysis of the thermograph studies taken on Comanche Creek and its tributaries (Questa Ranger District) in 1998 is still being made. The water temperature data will provide information on fish habitat condition. Supporting documentation is located at the Forest Supervisor's office. Sikes Act projects, such as prescribed burning (1,014 acres for FY 2000) to improve the quality of habitat, are monitored after completion and continue over several years. Areas are visited to check implementation work, take photos and document project effectiveness. The NM Department of Game and Fish is a partner in Sikes Act project implementation monitoring and whether predicted results have been met. Supporting documentation is located at the Forest Supervisor's office. **Results:** A summary of status and habitat trends for 34 **management indicator species** identified in the Carson Forest Plan (including all listed threatened, endangered and sensitive species thought to occur on the Forest by the US Fish and Wildlife Service) will provide biologists a forest-wide evaluation of MIS habitat to use when analyzing a project's site-specific effects. The report will also be the basis for updating the Forest Plan's MIS list, allowing the district biologist to focus on those MIS that are appropriate for analyzing effects.

Program Area	Summary of Monitoring Conducted and Evaluation
	New species have been listed as **threatened or endangered** since Forest Plan implementation, and these species are being protected through project design features and mitigation measures. Recovery plans have been completed for several species and provide direction to enhance their habitats. Coordination with universities and the US Fish and Wildlife Service and proactive management have prevented the listing of several species, most notably the northern goshawk. Monitoring results in 2000 do not indicate significant alterations in occupied or potential habitat for TE&S species that could result in a downward trend of habitat condition or populations. **Mexican spotted owl** surveys did not identify any birds residing on the Forest. Inventorying of new areas and monitoring of known **northern goshawk** nesting areas have … Monitoring of the population of **Rocky Mountain bighorn** transplanted to the Wheeler Peak Wilderness from the Pecos Wilderness has shown that reproduction has been successful and the herd is growing better than anticipated. Monitoring of continued reproductive success may eventually lead to another transplant project, but not likely for another five to ten years. It is likely that sheep from the expanding herd in the Pecos Wilderness will be transplanted to the Latir Wilderness in 2001. **Elk** numbers have steadily increased over the past two decades with a large herd ranging yearlong on the Tres Piedras Ranger District. A significant migration also occurs to and from the Rio Grande National Forest in southern Colorado to the north and the Tierra Amarilla Grant to the west. Monitoring in recent years has indicated that the elk population on the Tres Piedras RD is fairly stable. On the Jicarilla Ranger District, data shows a steady or increasing population from 1981-1993, and a slightly decreasing population since then. It is estimated that the district has between 600 and 800 resident elk. Annually, the Forest Service, Bureau of Land Management and NM Department of Game and Fish jointly conduct elk surveys in January. These surveys are expected to continue. There is only one location with known occupied **southwestern willow flycatcher** habitat on the Forest. The status of this population appears to be stable. Forest activities do not point to having any negative effect on the individuals that occupy the suitable habitat. Neotropical migratory bird surveys along the Rio Grande del Rancho have served to also monitor cowbird populations in or near occupied southwestern willow flycatcher habitat. The results from annual monitoring over the past four years indicate an increase in the number of cowbirds along the river. Since livestock grazing on National Forest has not occurred in or near the area for several years, it is deduced that the gradual migration up the river corridor is from the concentrated livestock use in the Talpa area, southeast of Taos. At this point in time, no plans are in place to actively remove the cowbirds, a threat to the SWWF. The stabilization of **Rio Grande cutthroat** populations and the reintroduction of the species in a number of the Carson's stream reaches have progressed and monitoring is ongoing. ??? new populations have been located on the Carson NF. However, the threat of whirling disease contaminating New Mexico's trout fisheries is imminent. The RGCT is extremely susceptible to whirling disease. The disease has

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	been detected in several hatcheries in the state and infected fish have been found in the San Juan River in the northwestern corner of the state. How the disease will affect the RGCT and other trout is not yet known, but the consequences could be catastrophic. The installation of fish barriers and the improved condition of water quality in many of the Carson's mountain streams may be factors in warding off this devastating epidemic. Forest-wide, the trend is toward increasing fuel loadings, mortality and dense stands of trees. Management options for dealing with these issues are limited. Over the last five years the trend has been toward more restrictions on use of active management, both through application of restrictive standards and guidelines and through limitations outlined in appeals and litigation. Coordination with the NM Department of Game and Fish continues. The agency reviews the majority of environmental analyses conducted for project level proposals. Forest biologists have been active in assisting in bighorn transplants and Rio Grande cutthroat surveys of stream reaches that have not been recently inventoried.
Riparian	**Goals:** To improve the condition of riparian areas through direct treatment and improved resource management, indirectly benefiting fish and wildlife habitat diversity, water quality, and water oriented dispersed recreation. **Monitoring:** (1) Determine the response in riparian condition resulting from the implementation of the standards and guidelines and; (2) Monitor the activities and uses to insure they are within the Standards and Guidelines. **Results**: Allotment monitoring indicates movement towards the goals of providing forage for livestock and wildlife on a sustainable basis while managing grazing activities to meet Forest Plan prescriptions. Riparian health is key to a sustainable, healthy forest ecosystem. Historic railroad logging across watersheds and settlement activities (such as intensive grazing) in riparian areas, significantly altered these systems in the early 1900's. Although most of these systems have remarkably recovered, many still need improvement to regain their full natural function. Surveys are being completed to identify the location and condition of existing riparian areas. Properly functioning conditions are also being assessed. For key projects, baseline watershed quality information is being collected.
Special Areas (Management Area 19)	**Goals:** The proposed Arellano Canyon Research Natural Area, the Tres Piedras *Haplopappus microcephalus* Botanical Area, the Middle Fork Lake/Sangre de Cristo Pea Clam Zoological Area and other potential research natural areas will be maintained and protected. **Monitoring:** NEPA analysis of site-specific proposed actions include the evaluation of effects on special areas, to insure that they are not adversely impacted. An interdisciplinary team evaluates a proposal through the NEPA process and recommends restrictions or corrective actions if inspections reveal adverse impacts

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	on the potential RNA or endangered plants or animals. **Results:** In FY2000, there were no proposals within or adjoining a special area. No uses or activities on the Carson National Forest are causing adverse impacts to special areas.
Protection 3 Insect and Disease	**Goals:** To meet Federal regulation, ensure destructive insect and disease organisms do not increase to potentially damaging levels following management activities. **Monitoring:** Determine growth reduction and mortality caused by insect and disease infestations. **Results:** Aerial insect and disease surveys of the Forest are conducted annually. Supporting documentation is located at the Forest Supervisor's Office. Results for 2000 are as follows: ▪ Western spruce budworm defoliation decreased from 143,340 acres in 1999 to 86,645 acres in 2000. Defoliation was detected on the Camino Real (24,350 acres), Canjilon (40 acres), El Rito (1,950 acres), Questa (23,245 acres), Tres Piedras (19,160 acres) ranger districts; and Jicarilla Apache (3,925 acres) and Taos Pueblo (3,560 acres) tribal lands. ▪ Aspen defoliation decreased slightly from 15,505 acres in 1999 to 15,160 acres in 2000. Defoliated aspens were observed on the Camino Real (420 acres), Canjilon (1,055 acres), El Rito (725acres), Tres Piedras (1,120 acres) ranger districts; the Valle Vidal Unit (10,415 acres) administered by the Questa ranger district; and Jicarilla Apache (260 acres) and Taos Pueblo (20 acres) tribal lands. This defoliation was caused by on or a combination of the following: western tent caterpillar, large aspen tortrix, marssonina leaf spot disease and/or by abiotic agents (hail damage, etc.). ▪ Pockets of bark beetle caused tree mortality (polygons annotated with numbers of trees killed) were detected on the Camino Real, Canjilon, El Rito, Questa and Tres Piedras ranger districts; Valle Vidal Unit; and Jicarilla Apache and Taos Pueblo tribal lands. In the higher elevation spruce-fir forest cover type, spruce beetle-killed trees were detected on the Camino Real (285 acres), Canjilon (110 acres), El Rito (25 acres) and Questa (535 acres) ranger districts; and Taos Pueblo (170 acres) tribal lands. In the middle elevation mixed conifer cover type, Douglas-fir beetle-killed trees occurred on the Camino Real (20 acres) and Questa (20 acres) ranger districts; mountain pine beetle-killed ponderosa pines also occurred on the Camino Real (400 acres) and Questa ranger districts and Taos Pueblo tribal lands (20 acres). Several pockets of Ips beetle-killed ponderosa pines, totaling 340 acres were observed on the Jicarilla Apache tribal lands.
Protection 5 Fuels	**Goals:** Fuel treatment will follow the various timber activities as a means of reducing fire hazard and insect and disease potential. **Monitoring:** Maintain a fuel treatment atlas and record areas treated. Data is generated from field personnel who monitor and/or direct fuel treatment by Forest Service crews, logging companies, contractors, etc.

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	Results: With few timber sales implemented on the Forest, most of the fuel treatment is being conducted in wildland/urban interface areas. All communities adjacent to the Carson National Forest have been mapped for fire risk, thus focusing fuels reduction projects in areas where the fire risk is the greatest. Supporting documentation is located at the Forest Supervisor's office. Forest-wide, the trend is toward increasing fuel loadings, mortality and dense stands of trees. Management options for dealing with these issues are limited. Over the last five years the trend has been toward more restrictions on use of active management, both through application of restrictive standards and guidelines and through limitations outlined in appeals and litigation.
Physical Environment	
Soil and Water 1 Watershed Conditions	**Goals:** To improve unsatisfactory watershed conditions on 25,000 acres by 2020. As a result of this change, productivity of the land is expected to improve. **Monitoring:** Improvement of watershed on the Forest is based on certain activities that will increase or enhance ground cover and improving watershed condition. These activities include prescribed burning, converting sagebrush to native grasses and forbs, improving livestock distribution on grazing allotments, thinning densely stocked forested stands, installing sediment retention structures, and implementing proper grazing management. The Forest Plan monitoring plan identifies sampling of percent ground cover every three years as specified in *Terrestrial Ecosystem Survey Handbook*, Chapter 8 as the method for monitoring watershed conditions. Samples are to be taken randomly within the Forest. Each point sampled can fall into one of two classes (a) unsatisfactory watershed condition or (b) satisfactory or better watershed condition. This method was not used in FY 2000. **Results:** Activities that improved Forest watershed conditions were accomplished on over 960 acres in FY 2000. The trend in the types of projects proposed on the Forest is towards improving watershed conditions and being light on the land. Even the wildland/urban interface projects proposed in the coming year involve primarily thinning and prescribed burning. Supporting documentation is located at the respective ranger districts. <u>Camino Real Ranger District</u> ▪ Conducted an 88-acre prescribed fire in the Bear Mountain area. The objective of this burn was to reduce hazardous fuel loads and improve and enhance wildlife habitat conditions. ▪ Conducted a 125-acre prescribed fire in the Alamo Dinner area. The objective of this burn was to reduce hazardous fuel loads and improve and enhance wildlife habitat conditions. ▪ Constructed 4 earthen water tanks to improve livestock distribution on the Santa Barbara grazing allotment. ▪ Implemented the Canada Maria, Ruedas, Ojito, West Entranas, Entranas 2000

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	and P/J thinning projects. These projects seek to improve watershed conditions through thinning of overcrowded stands, increasing herbaceous vegetation, using prescribed fire to reduce fuel loadings and reduce the risk of catastrophic wildfire, and obliteration of un-needed roads and trails. These projects will improve watershed condition on approximately 500 acres. ▪ Range readiness and forage utilization monitoring was conducted on eight (8) allotments. This monitoring resulted in a deferred entry of the Luna-Chacon allotment and a change in rotation schedules for the Trampas and Rio Chiquito allotments. In addition, the Rio Pueblo allotment was stocked at 33 percent under capacity due to drought conditions and lack of available forage. <u>Canjilon Ranger District</u>: ▪ Type converted 350 acres of sagebrush in the Cebolla allotment (Huckaby Pasture) and 100 acres on the Canjilon allotment (Mesa Juan Domingo). These projects were accomplished with a brush hog and done in partnership with permittees on the allotment. ▪ Re-seeded 50 of the 350 acres brush hogged in the Huckaby Pasture with native seed. ▪ Re-seeded 60 acres brush hogged on Mesa Montosa (1999) with native seed. ▪ Constructed water bars and installed drainage structures on 2 ¼ miles of the Pipeline road to reduce erosion. ▪ Constructed three (3) silt traps along Forest Road 145N to capture sediment from this roadway. ▪ Cleaned out 2 earthen stock tanks on the Mesa allotment to increase capacity for water and sediment capture. <u>El Rito Ranger District:</u> ▪ Conducted prescribed burns on 175 acres district-wide. The objectives of these burns were varied, ranging from enhancement and improvement of vegetative diversity and herbaceous groundcover to hazardous fuel reductions. ▪ Type converted 50 acres of sagebrush in the El Rito/Lobato allotment and 50 acres on the Alamosa allotment. ▪ Installed a new drinking trough on Piñon Mesa. This trough serves the existing trick tank and will improve livestock distribution and use patterns. This project was done in partnership with allotment permittees. ▪ Installed an additional drinking trough at Comanche Trick Tank. This trough will improve livestock distribution and use patterns. ▪ Cleaned out 3 stock tanks on the Alamosa allotment and 2 stock tanks on the El Rito/Lobato allotment to improve livestock distribution. ▪ Thinned approximately 300 acres of overstocked pine and piñon/juniper stands to improve herbaceous cover. ▪ Installed a new cattle guard on the San Gabriel allotment and water barred the road to control and direct road runoff. ▪ Reconstructed a fence between the El Rito Campground recreation area and private land to the north to control access of cattle in the riparian area. A new cattle guard and culvert were also installed on Forest Road 559.

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	▪ Range readiness and forage utilization monitoring was conducted. This monitoring resulted in the adjustment of the entry date on the Alamosa, Cano, Escondido, Jarita Mesa, El Rito/Lobato East and West and San Gabriel allotments. Jicarilla Ranger District ▪ Constructed 10 sediment retention structures near gas well sites across the district as mitigation for land disturbance associated with this use. Questa Ranger District ▪ Conducted a prescribed burn on approximately 7,000 acres in the Valle Vidal Unit. Objectives were to reduce fuel loadings and improve the condition of herbaceous vegetation. ▪ Treated 100 acres of sagebrush with a brush hog to improve herbaceous groundcover. ▪ Maintained improvements put in place on the Lower Bitter Creek road in partnership with NMED-SWQB under a 319(h) grant. A contractor cleaned out debris and sediment that had filled the sediment retention area above Forest Road 77. ▪ Road improvements were initiated on the Cabresto Canyon road. The objective of this project is to define and improve road access to dispersed recreation sites, provide needed drainage structures on access routes, eliminate user created roads impacting Cabresto Creek and place barricades to control ORV use both along the main road and within the riparian area and meadows along Cabresto Creek. ▪ Coordinated with Taos Ski Valley and Red River Ski Area to implement their annual erosion control and improvement programs. ▪ Continued our coordination with MolyCorp Inc. to address water quality and sedimentation issues resulting from spring snowmelt and summer runoff from the Hondo Fire in Largo and Almagre Canyons. Runoff and sediment were managed to afford protection to MolyCorp's slurry pipeline. ▪ Reconstructed 5 miles of trail in Yerba Canyon, Long Canyon and Bull of the Woods Canyon. These projects sought to remove or reduce impacts from recreational use and provide needed drainage improvements. ▪ Paved the loop road in Columbine Campground and installed new culverts at two stream crossings on Columbine Creek. This improvement will reduce the amount of sediment delivered to Columbine Creek from this campground location. ▪ Completed improvements to the campground facilities along the Rio Hondo. Most of the work to date addresses existing erosion problems associated with foot and vehicle traffic. Surfacing of roads with a crushed rock and designating camp areas will enable the district to better manage recreational activities. A stairway was constructed at Cuchilla del Medio to prevent additional foot trails from being developed. ▪ Also in 1999, NMED conducted TMDL characterization and monitoring on the Rio Chama and Red River. There is an increasing focus on the Red River watershed, due to the potential for the Molycorp mine to be listed as a superfund site. ▪ Delayed entry date of permitted livestock on four (4) allotments. This was the

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	result of range readiness inspections, which indicated poor vegetative growth due to drought conditions. Nine (9) of the thirteen (13) active allotments on the District took non-use due to lack of forage from several seasons of drought.
Soil and Water 2 Best Management Practices	**Goals:** Production of water from forest lands will meet State water quality standards. **Monitoring:** Established designated qualified personnel check Best Management Practices (BMP) (i.e., seeding disturbed areas, water barring roads, etc.) for implementation on the ground. Best management practices monitoring follows Regional evaluation guidelines and procedures. **Results:** The application of BMPs is standard procedure with any ground disturbing activity undergoing environmental analysis. Implementation of BMPs is the responsibility of each district ranger. Field trips are taken to validate on-site BMP implementation. It is recommended that more emphasis be put on BMP training and the development of a BMP monitoring program to track actual implementation and effectiveness. Several water quality projects have been implemented on the Forest: ▪ Provided information related to project implementation, costs, and monitoring of BMP effectiveness for the draft report of accomplishment for "Lower Bitter Creek Restoration Project" (FY 94-B) authored by Michael Coleman of the NMED-SWQB. Provided comments to the draft version of the report. ▪ Baseline and existing condition information (primarily turbidity) are being collected in cooperation with the New Mexico Environment Department (NMED) for several creeks on the Tres Piedras Ranger District. Collected information will help determine whether these reaches should be removed from the State's 305b list for non-attainment. Supporting documentation is located at the Tres Piedras ranger station. ▪ In 1999, NMED determined total maximum daily load (TMDL) for the North Ponil Creek on the Questa Ranger District. Section 303(d) of the federal Clean Water Act requires states to develop TMDL management plans for water bodies determined to be water quality limited. Monitoring of water temperature (thermographs) was used to help determine the TMDL. A general implementation plan for rehabilitation activities to be established in the watershed is included in the NMED report. This report is located at the Forest Supervisor's office. ▪ NMED also conducted water quality surveys on the Cimarron River Basin, including the North Ponil Creek on the Carson NF. NMED found that the North Ponil exceeded State water quality standards for turbidity and total phosphorus. Also a level of stream bottom deposits and embeddedness were found to contribute to the reach's impairment. This NMED report is located at the Forest Supervisor's office. ▪ Identification of existing and potential non-point source water pollution on the Carson is ongoing and helps determine where watershed work would provide the most significant results. For example: The impacts of major rainstorm events in critical locations have been documented through turbidity sampling and photography on the Camino Real Ranger District.
Soil and Water 3 Roads	**Goals:** To assure that Best Management Practices (BMP) are implemented in all phases of road design, construction and maintenance to minimize erosion and maintain on-site productivity and water quality. Also to assure that density is not

Program Area	Summary of Monitoring Conducted and Evaluation
	exceeded. **Monitoring:** Road design, construction, maintenance and density. **Results:** BMPs are standard mitigation measures when any road construction is proposed. Analysis of the proposal and alternatives are usually conducted with the assumption that BMPs are integrated into the activities. No projects with new road construction were implemented in 2000. The Carson National Forest is moving away from proposing new roads. Much of the road maintenance performed on Forest roads is to apply BMPs (e.g., water bars, crowning, resurfacing, etc.) in order to minimize erosion and maintain on-site productivity and water quality. Supporting documentation is located at the respective ranger districts. Camino Real Ranger District ▪ Performed routine road maintenance on 77 miles of road district-wide ▪ Closed 9 miles of road district wide. ▪ Conducted trail maintenance on approximately 35 miles of the Santa Barbara Wilderness trail. Cleaning and maintenance of existing drainage structures and re-construction of water bars, and trail clearing were the primary improvements made. ▪ Conducted condition and maintenance needs inventory on approximately 75 miles of foot and ATV trail on the East side of the Carson National Forest. Supervisor Office personnel conducted this inventory. Canjilon Ranger District: ▪ Performed road maintenance on 65 miles of forest roads district-wide. ▪ Re-located 2 miles of Forest Road 337 in the Sanchez Creek drainage to improve road drainage and avoid small wetland areas. ▪ Obliterated 8 miles of road on Mesa de las Viejas. El Rito Ranger District ▪ Performed routine road maintenance on 87 miles of road district-wide. ▪ Obliterated 18 miles of road district-wide. Jicarilla Ranger District ▪ Re-surfaced 4 miles of forest roads (FDR 310 and 309B) with crushed sandstone to reduce erosion and maintenance needs. These improvements were made in partnership with the oil and gas industry operating well sites on the district. Tres Piedras Ranger District ▪ Performed routine road maintenance on 70 miles of road district-wide. ▪ Obliterated 10 miles of road district-wide. Questa Ranger District

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	▪ Gates were installed at the entrance to the Valle Vidal unit to control winter motorized use. ▪ Installed signing in areas north of Red River to address illegal ORV use. Law enforcement efforts were also increased to address this concern. ▪ Signs and barriers were installed along roads and trails north of the Town of Red River to address illegal ATV use. District personnel also invested considerable time working with representatives of the Town, outfitter/guide operators and local business owners to inform and educate ATV users. This project was a continuation of work initiated in 1998. ▪ Performed routine road maintenance on 156 miles of road district-wide. ▪ Obliterated 16 miles of road in the Valle Vidal, installed drainage structures (water bars) and seeded all disturbed ground.
Human Environment	
Facilities 1	**Goals:** To obliterate unnecessary roads to reduce maintenance costs, to control erosion, and to improve wildlife habitat. **Monitoring:** Road conditions are monitored by district personnel and the public on an annual basis. Condition surveys contain the necessary documentation to plan for maintenance, closures and obliteration. Many times, comments are received from the public on the effectiveness of road closures. Limited enforcement has resulted in more frequent road closure violations on the Forest. Supporting documentation is located at either the ranger stations or the Forest Supervisor's office. **Results:** In FY 2000, 52 miles of road were obliterated and 9 miles were closed. This number is below the Forest Plan objective to obliterate an average of 70 miles per year. Road obliteration and road closure have helped restore watershed function through soil stabilization and vegetation establishment. District personnel and public observations do much of the monitoring on an informal basis. Information and public feedback is evaluated, and changes to closure or obliteration techniques are determined.
Facilities 2	**Goals:** Travel management objectives will be developed for all Forest Development Roads (FDR) and travelways which will further determine and verify which are needed and should be included or remain on the FDR System, which are needed only periodically and should be closed, and which should be added to the obliteration list. New construction of Forest Development Roads is primarily for timber sales. Approximately 70% of these roads should be local terminal functional classification and should be closed promptly after resource management activities have ended. **Monitoring:** A schedule to complete an inventory of all roads on the Carson NF is in place. A revised transportation plan for the Carson will be put together upon completion of the inventory. In FY 2000, an inventory was performed on level 1 and 2 roads. Over ??? miles of road were inventoried, documenting conditions of road surface, drainage, sight distance and proper signing. It is planned to continue the inventory in FY 2001. Facility, road, bridge and dam maintenance monitoring is ongoing, although minimal. It is of a reactive nature, rather than a proactive one. **Results:** No new road construction or reconstruction occurred in 2000. Roads have

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	been moved out of meadows and canyon bottoms where feasible, and riparian function has been improved with structural and nonstructural improvements. The Forest is moving towards proposing projects that use primarily existing road systems (either currently open or closed), rather than building new roads to access areas on the Forest that need treatment. Supporting documentation is located at the Forest Supervisor's office.
Recreation 1	**Goals:** Provide the opportunity for the public to obtain a variety of recreation experiences by managing the natural resource setting and the activities that occur within it. Provide a spectrum of opportunities on the Forest from Semi-primitive to Urban, with emphasis on the less developed end of the spectrum. To offer a balanced level of developed and dispersed recreation experiences. Demand for dispersed recreation will be within capacity. Quality of experience will increase due to more intensive management. **Monitoring:** Effects on dispersed recreation are evaluated in the majority of environmental analyses for project proposals – whether or not they are recreation related. Changes to the Recreation Opportunity Spectrum (ROS) class are assessed and avoided if possible. **Results:** No decisions on site-specific projects in FY 2000 caused an analysis area's ROS class to change**.**
Recreation 2	**Goals:** The Forest will offer a wide range of opportunities for developed sites in the public and private sector to support recreationists, to provide barrier-free access, and to implement recreational strategies. **Monitoring:** Assessment of goal achievement for the recreation program is based on professional judgment by recreation specialists, public comments and information from Regional, Forest and District recreation managers. Customer satisfaction on how well we are managing the Forest is monitored through evaluation cards, newspaper articles and comments from recreation fee envelopes and walk-in visitors. Developed campgrounds and picnic areas are monitored at least on a weekly basis during the summer months by Forest Service law enforcement, district personnel, campground hosts and/or concessionaires, as well as through cooperative agreements with state and county law enforcement. These comments provide input on the conditions of developed recreation sites, the presence of user conflicts and public safety problems. Supporting documentation is located at each ranger station or in the Forest Supervisor's office. Taos Ski Valley (TSV) and Red River Ski Area (RRSA) operations are monitored at least once a week during the winter by the Questa snow ranger. Sipapu Ski Area operations are monitored at least once a month. Site inspections by Forest Service lift engineers are made at least once a season at each ski area. Supporting documentation for monitoring operations at TSV and RRSA is located at the Questa Ranger Station and at each ski area. Supporting documentation for monitoring operations at Sipapu is located at the Camino Real Ranger Station and at Sipapu Ski Area. Supporting documentation of lift inspections is located at the Southwestern

Program Area	Summary of Monitoring Conducted and Evaluation
	Regional office in Albuquerque. Recreation facility construction projects include reviews to ensure contract work meets specifications, environmental assessment requirements, and to monitor how well the design meets user needs. Such reviews have been performed at the Santa Barbara Campground, Echo Amphitheater Picnic Area and Hopewell Lake Campground. Supporting documentation is located at the Forest Supervisor's office. **Results:** Recreation use and demand appears to be experiencing a small, steady growth. Use is concentrated at developed sites, streams, rivers, lakes, wilderness and backcountry areas. Several nearly barrier-free recreational facilities have been provided in recent years at Santa Barbara Campground, Echo Amphitheater Picnic Area and Hopewell Lake Campground. For the past three years Hopewell Campground was closed for reconstruction. It was reopened for the 2000 summer season and the area experienced steady use. Santa Barbara Campground is still under reconstruction. Monitoring ski area operations has not exposed any noncompliance or safety violations. The 1999-2000 ski season brought 173,031 skiers to TSV, 98,351 skiers to Red River Ski Area and 10,555 skiers to Sipapu Ski Area. Enchanted Forest provided cross-country skiing opportunities for 2,126 skiers. With the exception of Red River, skier visits were down – most likely due to low snow pack. Overall, skiers are satisfied with the conditions of the four ski areas on the Carson, although a movement by the snowboarding community to open Taos Ski Valley to snowboarding surfaced in 1999. This decision has been left up to the ski area operator. Many comments from skiers approve of the Ski Valley's decision to remain closed to snowboarding.
Recreation 3	**Goals:** Help the public enjoy their Forest visit and instill an understanding of the resources and uses of their National Forests. Wildlife recreation use will increase by 183 percent by the end of the planning period. This, however, is within capacity for this type of use. **Monitoring:** No specific monitoring of wildlife recreation use has taken place on the Forest. The NM Department of Game and Fish regulates hunting and fishing on the National Forest System lands. **Results:** Inquiries and comments received at the ranger stations and the Forest Supervisor's Office verify that many visitors come to see wildlife through active bird watching, camping, hiking and cross-country skiing.
Recreation 4	**Goals:** All developments are high quality and well maintained. They fill the needs of the users. **Monitoring:** Assessment of goal achievement for the recreation program is based

Program Area	Summary of Monitoring Conducted and Evaluation
	on professional judgment by recreation specialists, public comments and information from Regional, Forest and District recreation managers. Customer satisfaction on how well we are managing the Forest is monitored through evaluation cards, newspaper articles and comments from recreation fee envelopes and walk-in visitors. Developed campgrounds and picnic areas are monitored at least on a weekly basis during the summer months by Forest Service law enforcement, district personnel, campground hosts and/or concessionaires, as well as through cooperative agreements with state and county law enforcement. These comments provide input on the conditions of developed recreation sites, the presence of user conflicts and public safety problems. Supporting documentation is located at each ranger station or in the Forest Supervisor's office. Recreation facility construction projects include reviews to ensure contract work meets specifications, environmental assessment requirements, and to monitor how well the design meets user needs. Such reviews have been performed at the Santa Barbara Campground, Echo Amphitheater Picnic Area and Hopewell Lake Campground. Supporting documentation is located at the Forest Supervisor's office. **Results:** Customer satisfaction on the condition of developed sites varies depending on the location and the age of the facility. The newest campgrounds, such as Agua Piedra and Hopewell are experiencing positive comments. On the other hand, Taos Canyon facilities are heavily used and sites closest to Taos are frequently vandalized. Next season, Taos Canyon will be managed under a local concessionaire and conditions in the area are expected to improve. Santa Barbara Campground is undergoing reconstruction to improve conditions and avoid/reduce natural resource damage made by users. It was closed during FY 2000.
Recreation 5	**Goals:** Establish a full spectrum of trail opportunities, considering all modes of travel, ranging from opportunities fro challenged and adventure to opportunities for people with disabilities, and give special emphasis to the protection, development and management of specially designated areas and trails. **Monitoring:** Assessment of goal achievement for the recreation program is based on professional judgment by recreation specialists, public comments and information from Regional, Forest and District recreation managers. **Results:** Non-ATV hunters have been complaining over the increasing use of ATVs on the Forest during hunting season. There is little enforcement of ATV use off designated roads and trails. Hunters on the Jicarilla RD complain of the disturbance caused by an increase in gas drilling activity and traffic in their favorite hunting spots. ATV use in unauthorized areas is becoming a significant problem on the Forest. The development of a transportation plan that designates the type of use on roads and trails is needed. Involvement of the public to resolve issues and educate users is an integral part of designing a new transportation plan. In addition, the following recreation projects were completed to provide a quality recreational experience on the Forest, while protecting natural resources. Supporting

Program Area	Summary of Monitoring Conducted and Evaluation
	documentation is located at the Forest Supervisor's office. Camino Real Ranger District ▪ Conducted trail maintenance on approximately 35 miles of the Santa Barbara Wilderness trail. Cleaning and maintenance of existing drainage structures and re-construction of water bars, and trail clearing were the primary improvements made. ▪ Conducted condition and maintenance needs inventory on approximately 75 miles of foot and ATV trail on the East side of the Carson National Forest. Supervisor Office personnel conducted this inventory. Tres Piedras Ranger District ▪ Re-construction of Hopewell Campground was completed. Roads and visitor use areas have been improved with access to parking, restrooms and picnic areas. Trails leading down to the lake have been improved and drainage structures installed to reduce runoff and potential sediment delivery to Hopewell Lake. New toilets (4) have been installed as well. Questa Ranger District ▪ Reconstructed 5 miles of trail in Yerba Canyon, Long Canyon and Bull of the Woods Canyon. These projects sought to remove or reduce impacts from recreational use and provide needed drainage improvements. ▪ Paved the loop road in Columbine Campground and installed new culverts at two stream crossings on Columbine Creek. This improvement will reduce the amount of sediment delivered to Columbine Creek from this campground location. ▪ Completed improvements to the campground facilities along the Rio Hondo. Most of the work to date addresses existing erosion problems associated with foot and vehicle traffic. Surfacing of roads with a crushed rock and designating camp areas will enable the district to better manage recreational activities. A stairway was constructed at Cuchilla del Medio to prevent additional foot trails from being developed.
Recreation 6	**Goals:** Potential wilderness characteristics will be maintained In Management Area 20, in order that the areas can be considered for multiple use or wilderness recommendation when a new plan is prepared in 10 -15 years. **Monitoring:** In 1999, the President of the United States initiated the Roadless Area Conservation analysis for all National Forest System (NFS) lands. The Carson National Forest's Management Area 20 includes all inventoried roadless areas identified in the Roadless Area Review and Evaluation II (RARE II), with the exception of a portion allocated for potential expansion of Sipapu Ski Area. The nation-wide Roadless Area Conservation Proposed Rule would prohibit any road building or timber harvesting in most RARE II inventoried roadless areas on NFS lands. **Results:** For the most part, the implementation of the Roadless Area Conservation proposal would duplicate protection for Management Area 20 already in place through Forest Plan standards and guidelines.

Program Area	Summary of Monitoring Conducted and Evaluation
Recreation 7	**Goals:** Trails will be reconstructed and maintained at a level that provides public safety and travel and resource protection. **Monitoring:** The assessment is based on professional judgment of recreation specialists, public comments, and information from Regional, Forest and District recreation managers. **Results:** Trail use is primarily by recreationists and grazing permittees. Use levels appear to be moderate to heavy with a slight increase depending on the location of the trail and trailhead. Some trailheads provide information about recreational opportunities. In FY 2000, 40 of the 639 miles of trail were maintained and 7 miles of trail were reconstructed. <u>Camino Real Ranger District</u> ▪ Conducted trail maintenance on approximately 35 miles of the Santa Barbara Wilderness trail. Cleaning and maintenance of existing drainage structures and re-construction of water bars, and trail clearing were the primary improvements made. ▪ Conducted condition and maintenance needs inventory on approximately 75 miles of foot and ATV trail on the East side of the Carson National Forest. Supervisor Office personnel conducted this inventory. <u>Questa Ranger District</u> ▪ Reconstructed 5 miles of trail in Yerba Canyon, Long Canyon and Bull of the Woods Canyon. These projects sought to remove or reduce impacts from recreational use and provide needed drainage improvements. Many trails do not meet trail standards (clearing, logging out, tread maintenance, signing, nonexistent trail logs, etc.) due to budget/staff limitations. Management decisions regarding acceptable limits, zoning, and resource emphases are often made informally, frequently lacking the support of coordinated plans or professionally established analysis methods.
Wilderness 1	**Goals:** Maintain an enduring high quality wilderness and provide a quality recreational experience. **Monitoring:** The assessment is based on professional judgment of recreation specialists, public comments, and information from Regional, Forest and District recreation managers. Volunteers and/or recreation specialists perform wilderness patrols several times during a summer. Patrols include inspections of trail conditions, dispersed camping areas and outfitter/guide permit use. Supporting documentation is located at each ranger station. **Results:** Wilderness use is primarily day-use by recreationists and grazing permittees. Wilderness use is increasing slightly and is primarily concentrated along trails in the Wheeler Peak and Pecos wilderness areas and Columbine-Hondo Wilderness Study Area. Most trailheads provide information about recreational opportunities and wilderness resource conservation issues.

Program Area	Summary of Monitoring Conducted and Evaluation
	Regular patrols are becoming more infrequent as the number of district employees is reduced each year. Public complaints about the presence/impacts of cattle grazing on aesthetics and ecosystems have occurred. Many trails do not meet trail standards (clearing, logging out, tread maintenance, signing, nonexistent trail logs, etc.) due to budget/staff limitations. Management decisions regarding acceptable limits, zoning and resource emphases are often made informally, frequently lacking the support of coordinated plans or professionally established analysis methods.
Wilderness 2	**Goals:** Maintain an enduring high quality wilderness trail system that is a source of minimal resource damage. **Monitoring:** The assessment is based on professional judgment of recreation specialists, public comments and information from Regional, Forest and District recreation managers. **Results:** Regular patrols are becoming more infrequent as the number of district employees is reduced each year. Wilderness use is primarily day-use by recreationists and grazing permittees. Wilderness use is increasing slightly. Use is primarily concentrated along trails in the Wheeler Peak and Pecos wilderness areas and Columbine-Hondo Wilderness Study Area. Most trailheads provide information about recreational opportunities and wilderness resource conservation issues. Public complaints about the presence/impacts of cattle grazing on aesthetics and ecosystems have occurred. Many trails do not meet trail standards (clearing, logging out, tread maintenance, signing, nonexistent trail logs, etc.) due to budget/staff limitations. Management decisions regarding acceptable limits, zoning and resource emphases are often made informally, frequently lacking the support of coordinated plans or professionally established analysis methods. Partnership with Rocky Mountain Youth Corps? Did they do any work on trails in FY2000? Supporting documentation is located at each ranger station.
Wild and Scenic Rivers	**Goals:** Conduct a Wild and Scenic River eligibility assessment on all river and stream segments on the Carson National Forest and maintain and enhance the outstandingly remarkable values and free-flowing conditions of eligible and designated Wild and Scenic Rivers. **Monitoring:** Eligibility assessments have been conducted on all ranger districts with the exception of Canjilon Ranger District. These assessments involved an analysis team of field personnel – a biologist, hydrologist/soil scientist, recreation specialist, archeologist and technicians – familiar with the district. A representative from the NM Department of Game and Fish also participated. Rivers were sectioned into logical segments for evaluation. Each member of the team reviewed each segment and determined whether it supported any outstandingly remarkable values. Discussions were generated when there were differences of opinion and final determinations were based on consensus. The Bureau of Land Management monitors the wild and scenic designated portions of Rio Grande and Rio Chama that are on National Forest System lands.

Program Area	Summary of Monitoring Conducted and Evaluation
	Results: Sixty-five river segments have been identified as eligible for Wild and Scenic designation. Supporting documentation is located at the Forest Supervisor's office. The outstandingly remarkable values for which each segment was deemed eligible will be protected until a suitability study has been completed or Congress designates it as a Wild and Scenic River. Supporting documentation is located at the Forest Supervisor's Office. The outstandingly remarkable values of the Rio Grande and Rio Chama are being maintained.
Lands	**Goals:** Successfully complete, process or administer planned land exchanges, title claims, purchases, donations, withdrawal reviews, property boundary locations, special uses, memorandums of understanding, and the acquisition of needed rights-of-ways, to meet other program output needs (timber sales, range projects, recreation operations etc.) and the needs of other agencies, private parties and corporations. **Monitoring:** Conditions to be monitored are dictated by individual projects, applications, annual programs, etc. **Results:** A total of 600 Special Use Permits related to real estate are administered on the Carson National Forest. In 2000, 70 new permits were processed and 200 permits (approximately 35%) were administered to standard. Supporting documentation is located at the Forest Supervisor's Office.
Protection 1 Drinking Water	**Goals:** Comply with state health and sanitation - codes to protect public health. AII public potable water supplies will be in compliance with the Safe Drinking Water Act and applicable state laws. Wastewater treatment will comply with state laws. **Monitoring:** Monitor all potable water systems open to public use. **Results:** Water samples are taken once a month from all campgrounds (when open) and Forest Service administrative buildings (year-round). In 2000, tests found that water at both Canjilon Lakes and Duran campgrounds had repeated positive coliform counts. Water has been shut off at both sites. Supporting documentation is located at the Forest Supervisor's office.
Protection 2 Fire Suppression	**Goals:** Provide effective fire suppression to reduce or minimize fire risk as the projected increase in population is realized. **Monitoring:** Determine the effectiveness of fire suppression by -- 1. Periodic inspections and reviews by specialists to determine if fire control organization is effective in controlling fire losses within acceptable limits. 2. Fire reviews of selected fires. **Results:** The 2000 fire season was undoubtedly one of the most challenging on record. As of early October, more than 6.8 million acres of public and private lands burned—more than twice the 10-year national average. Just on the Santa Fe

Program Area	Summary of Monitoring Conducted and Evaluation
	National Forest, which the Carson shares the same boundary to the south, over 76,000 acres were consumed by the Cerro Grande and Viveash wildfires combined. Many of the Carson's personnel contributed to the national fire fighting effort during the summer of 2000. Insert info on the Carson for 2000. The magnitude of these fires is the result of two primary factors: a severe drought, accompanied by a series of storms that produced thousands of lightening strikes followed by windy conditions; and the long-term effects of almost a century of aggressively suppressing all wildfires that has led to an unnatural buildup of brush and small trees in out forests and rangelands.
Protection 4 Law Enforcement	**Goals:** Law enforcement efforts by the Forest Service, and aided by cooperative agreements with local sheriffs' departments, are adequate and commensurate with the goods and services produced on the Forest and Grasslands. **Monitoring:** Professionally evaluate trend in law enforcement effectiveness based on reviewing caseloads, solution rates and public compliance. The evaluation will be based specifically on a review of 1) protection of cultural resources; 2) changes in ORV damage; 3) changes in fuelwood theft; 4) changes in the dollar cost of vandalism; 5) trends in user protection; and 6) recurrent law enforcement problems at developed recreation sites. **Results:** ▪ Installed signing in areas north of Red River to address illegal ATV use. Law enforcement efforts were also increased to address this concern. ▪ Signs and barriers were installed along roads and trails north of the Town of Red River to address illegal ATV use. District personnel also invested considerable time working with representatives of the Town, outfitter/guide operators and local business owners to inform and educate ATV users. This project was a continuation of work initiated in 1998.
Resource Management Programs	
Protection 6 Visibility – Class I Areas	**Goals:** Class I areas will retain good visibility to meet Class I standards. Visibility will be retained in form, line, texture and color of characteristic landscapes. **Monitoring:** Determine baseline condition of visibility and determine if any visibility degradation is occurring in the Class I areas. **Results:** After nearly 20 years of photo documentation of the Wheeler Peak Wilderness to detect changes in air quality of a Class I airshed, it has been determined that photo comparisons are qualitative data that do not provide substantive results in determining whether quantitative standards for air quality have been exceeded. Late in 2000, a new air quality monitoring station has been installed in the Taos Ski Valley to monitor air quality in the Wheeler Peak wilderness area using quantitative data, such as percent particulate matter. As of yet, no reliable baseline data has been collected from the station. It is anticipated that the station will

Program Area	Summary of Monitoring Conducted and Evaluation
	provide consistent data in the next two to three years. In the mean time, photo documentation will continue. A summary of visibility data for 2000 found that uniform haze was observed ??% of the time and ground based haze was observed ??% of the time during the operating period (July through August). There were no observations of elevated layered haze, multiple layers, target concealed haze or target concealed by weather.
Timber 1	**Goals:** Achieve a more balanced age class distribution, appropriate growing stock levels, appropriate rotations and provide wildlife habitat and other resource needs. Ensure that – 1) Rotation age and CMAI assumptions are correct -- silvicultural prescriptions follow management areas standards; 2) Silvicultural prescriptions precede vegetative treatments; 3) Silvicultural prescriptions are practical and achieve desired results. **Monitoring:** Determine age class distribution, growing stock levels, rotations and wildlife/resource needs through stand database reports; Timber Management Information System; silvicultural prescriptions; Eva's; Staff field reviews of 5% of treatment projects. **Results:** Forest Plan goals for forest health, especially treatment of mid-seral vegetation to improve diversity, have not been met, but the few small projects accomplished each year continue to move the Forest towards its desired condition. Mixed conifer and ponderosa pine forests on the Carson still contain large areas of small, densely growing trees. These conditions pose a threat of catastrophic wildfire over extensive landscapes. Vegetation treatments on the Tres Piedras and El Rito ranger districts receive post-treatment monitoring by the Forest silviculturalist to assess their effectiveness. Supporting documentation is located at the Tres Piedras ranger station. Periodic field visits to project areas by sale administrators, specialists and/or line officers usually result in informal monitoring and evaluation of the application of best management practices or actions needed. Documentation is captured through specialist notes, sale administration inspection reports and/or photo points located at the ranger stations.
Timber 2 Timber Assumptions	**Goals:** Timber plans and projections support a sustained yield of forest products and achievement of multiple-resource objectives. Validate timber assumptions: volume, productivity, Management Area descriptions and acres harvested. **Monitoring:** Through sale review, EA's, cruise summaries, TMIS, compartment exams, stand database (use the same conversion ratios as used in Plan calculations), ensure that: ▪ board foot/cubic foot ratios are correct;

Program Area	Summary of Monitoring Conducted and Evaluation
	▪ volume/acre yield Is correct; ▪ management area descriptions are correct; ▪ schedule of acres harvested is correct. **Results:**
Timber 3 Sawtimber and Products	**Goals:** Annual sale offerings will be made on a sustained yield basis. Meet Federal regulation, measure output; assure allowable sale quantity is not exceeded. **Monitoring:** PAMARs or other annual reporting systems and programmed harvest reports. **Results:**
Timber 4 Fuelwood	**Goals:** Green wood sales will continue on a sustained yield basis. Dead/dry firewood will continue to be available through timber-sale residue and natural mortality. **Monitoring:** Review annual total of firewood sale reports, total firewood advertised but not sold, free use and administrative or other use. **Results:**
Timber 5 Openings	**Goals:** Improve wildlife habitat through timber harvest by manipulation of stand sizes, methods of cut and juxtaposition of stands. **Monitoring:** Insure stand size of other harvest areas is appropriate through EA, presale and administrative reviews, and post sale reviews/project area. **Results:**
Timber 6 Practices and Assumptions	**Goals:** All lands harvested for timber production as part of the allowable sale quantity are adequately restocked within 5 years after final harvest. **Monitoring:** Assure that regeneration is obtained within 5 years after -- final harvest cut, and scheduled planting is accomplished through Annual Reforestation/TSI needs report, plantation survival surveys, silvicultural prescriptions, post sale administrative review, Timber Management Information System (TMIS), Stand Data Base/Acres. **Results:** Areas of natural regeneration are inspected by the Forest silviculturalist for rate of success. Supporting documentation is located at the Tres Piedras ranger

Program Area	Summary of Monitoring Conducted and Evaluation
	station.
Timber 7 Unsuitable Timberlands	**Goals:** Meet Federal regulations to periodically re-examine lands identified as not suited for timber production to determine if they have become suited and could be returned to timber production. **Monitoring:** Evaluate the accuracy of suitable timberlands classification through -- 1) Review new or updated soil survey data. 2) Review development of better technology for regeneration establishment. 3) Stand exams. 4) Timber Inventory and planning results. The data monitored will be used as the basis for an evaluation to determine which lands are suited to timber production. **Results:**
Minerals	**Goals:** To meet the requirements of the law, regulations, contract obligations, fiscal accountability, protection of surface resources and successful reclamation. The expected future conditions should be specified in the documentation of the approval of the activity, project, lease, sale, etc. **Monitoring:** The mineral program will be monitored through a combination of the MAR data reporting system, systems designed for individual project quality control, field examinations by Forest Staff personnel and the Activity review system. Management of the minerals activities: Environmental Assessments, bonds, bond justifications, response times for applications and plans of operations, quality of resource coordination, field checks for compliance of the terms of the operating plans, reasonableness of resource protection requirements, mineral sales program, pit plans, accountability, documentation, and reclamation. **Results:**
Range 1 Unsatisfactory Range	**Goals:** Bring unsatisfactory ranges to satisfactory condition through increasing management intensity levels, constructing structural range improvements, adding nonstructural range improvements. **Monitoring:** Use allotment analysis data to update Grazing Statistical Report. **Results:**
Range 2 Range Condition and Trend	**Goals:** Range conditions will be improved at 2030 by decreasing unsatisfactory range to 68,883 acres; and increasing satisfactory range 753,244 acres. **Monitoring:** Conduct range analysis per Regional standards by qualified Range

Program Area	Summary of Monitoring Conducted and Evaluation
	Conservationists. **Results:** Improved range conditions have resulted from implementation of structural and nonstructural improvements, and more intensive management developed in allotment management plans. Continued NEPA analysis on all of the Forest's allotments will help sustain this type of improvement.
Range 3 Management Plans	**Goals:** Prepare or update grazing allotment or unit management plans on 75 percent of the National Forest allotments. **Monitoring:** Track allotment management plans through PAMARS. **Results:**
Range 4 Range Development	**Goals:** To move toward balancing range use with capacity, the structural and nonstructural improvements will be added or reconstructed based on the allotment management plans and funding levels. **Monitoring:** Track data on completed range improvements (fences, waters, revegetation, etc.) through the existing RAMIS system and the annual grazing statistical report. **Results:**
Range 5 Permitted Use	**Goals:** Through increased management and additional structural and nonstructural range improvements, range capacity is expected to increase from the present 119,000 AUM's to 136,000 AUM's in the fifth decade. **Monitoring:** Track through data generated from grazing permits and displayed in Grazing Statistical Report. **Results:**
Range 6 Grazing Capacity	**Goals:** Grazing capacity is expected to exceed permitted use through the fifth decade. **Monitoring:** New analysis data updates Annual Grazing Statistical Report. **Results:**
Cultural Resources	**Goals:** All National Register eligible resources are protected from project-derived ground-disturbing activities and from willful or negligent damage including vandalism and recreation.

Program Area	Summary of Monitoring Conducted and Evaluation
	Monitoring: Conduct sample inspections of project areas for ten percent of all in-service projects ten percent of all out-service projects under 100 acres in size and all out-service projects over 100 acres in size. Identify recreation impacts to cultural properties and establish test sites and inspection schedules to monitor site conditions. In cooperation with Forest and Zone law enforcement, identify areas and properties with high probability for vandalism. Provide support to law enforcement as required. **Results:** No ground disturbing resource activities will be permitted until an archeological clearance survey is completed and mitigating requirements developed. Protective actions will be undertaken if vandalism or recreational activities threaten site integrity.
Visual Quality 1	**Goals:** Prevent acres with visual quality objectives of Retention or Partial Retention from being reduced more than 20% by. **Monitoring:** The Visual Resource Management System will be used as a basis of the monitoring activity. **Results:**
Visual Quality 2	**Goals:** Visual Quality levels will be maintained or enhanced. **Monitoring:** Projects involving vegetative treatment or manipulation, road or trail construction and major development will be evaluated through the NEPA process to enhance or maintain visual quality levels. Results:
Forest Plan Implementation	**Goals:** Assure compliance with and implementation of the Carson Forest Plan in accordance with its stated mission, goals, objectives and standards and guidelines. **Monitoring:** This will be done in light of funding or any other constraints **Results:**

Baseline/Inventory Monitoring

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- A *Draft Removal Preliminary Assessment* (RPA) was completed for Bitter, Pioneer and Placer subwatersheds, three tributaries of the Red River on the Questa Ranger District. The report assesses if there are any potentially hazardous substances generated from the 30 or so abandoned or inactive mines present on National Forest lands in the three drainages. The objective of the RPA investigation is to collect readily available information and conduct a site and environs reconnaissance to determine if the site poses any threat to human health and the environment that may require further investigation. Impacts suspected or observed include acid rock drainage from abandoned adits and tailings and water quality and aquatic habitat degradation from metals and sedimentation. This assessment is located at the Forest Supervisor's office.
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- Vegetation data are being collected on each ranger district. This information is being used to determine existing conditions for wildland urban interface and forest health projects, salvage sales, Mexican spotted owl thresholds and old growth at the landscape level, and Forest Plan Revision preparation. Vegetation conditions are recorded on maps and tracked in the RMRIS database and GIS. Photo history is also used to document changes in vegetation composition, structure and health. Much of this data determines where management activities are needed on the Forest to help reach a desired condition. Supporting documentation is located at the ranger stations and the Forest Supervisor's office.
- The amount of timber and wood products offered each year are documented through the Periodic Timber Sale Accounting Report (PTSAR) located at the Forest Supervisor's office.
- Program oversight and quality control are provided by the Forest archeologist by reviewing all heritage resource clearances. The purpose of this type of monitoring is to gain overall knowledge of new sites found on the Forest and the course of action taken to protect them. Supporting documentation is located at either the ranger stations or the Forest Supervisor's office.

Implementation Monitoring

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- Fuelwood monitoring includes field checking for "leave" trees and assessing how the public is harvesting. Monitoring information is considered when determining cleanup efforts needed for fuelwood areas. Cleanup efforts are also monitored. Recommendations and actions are normally documented and are located at the ranger stations.
- Precommercial thinning and salvage sale activities include post-sale inspections. Areas are examined to ensure contract requirements are met and results are documented in the RMRIS database. Supporting documentation is located at each of the ranger stations.

- Forage utilization is monitored periodically in grazing allotment pastures to determine whether overutilization is occurring. Supporting documentation is located at each of the ranger stations.
- Range readiness is monitored on an annual basis to determine the time livestock can be released onto an allotment pasture. Current drought conditions have resulted in later than normal turn-outs. Supporting documentation is located at each of the ranger stations.
- Archeological and heritage surveys are completed prior to the implementation of any ground disturbing proposals to assure protection or mitigation of cultural and/or historic sites. Supporting documentation is located at the Forest Supervisor's office.

Effectiveness Monitoring

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- Prescribed fire treatments are monitored through on-site visits. Usually "before and after" photos are taken for burn projects to determine whether the anticipated objectives have been attained (i.e., has the palatability of the oak browse noticeably improved?). Recommendations and follow-up actions are determined. Supporting documentation is located at each of the ranger stations.
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- Numerous public field trips are taken each year on the Carson to areas where projects have been implemented. These trips result in informal monitoring of the effectiveness of actions taken and provide excellent opportunities for the public to express their opinions about a type of project. Line officers are also involved in these trips. Supporting documentation is located in the NEPA project documentation at each of the ranger stations.
- Damage, erosion and changed conditions of prerecorded heritage resource sites are documented. Project areas are inspected upon project completion to verify that flagged archaeological sites have been avoided. Site monitoring forms are kept on file in the Forest Supervisor's office.

Certain assumptions made in the Carson Forest Plan are continually being validated by many of the monitoring activities listed above. Amendments, such as the 1996 region-wide amendment for the Mexican spotted owl, northern goshawk and old growth, can significantly change how we meet our goals and objectives, but not necessarily the assumptions or desired conditions made in the Forest Plan. Since the Forest Plan primarily focuses on desired condition rather than how to get there, we can be flexible in finding and determining better ways of moving toward our desired condition.

Upon reviewing Chapter 5 (Monitoring Plan) of the Carson Forest Plan, much of the Carson's monitoring activities are closely linked to the items listed in Chapter 5. Formal evaluation and documentation of these monitoring activities is limited, given the emphasis and budget constraints put on the specialists. The information generated from these monitoring efforts achieves the intent of the majority of monitoring items found in Chapter 5 of the Forest Plan.

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Monitoring Results

Description

This chapter presents the monitoring results that are tied to the monitoring strategy outlined in the LRMP (see Appendix for list of monitoring required in the LRMP, 36 CFR 219.11(a)). This chapter may also include forest/grassland-related results from multi-forest, regional or national monitoring, if applicable.

Include monitoring results and comparison to thresholds, reference conditions, or desired conditions for individual monitoring items.
See Chapter 3 for synthesis of important evaluation results. Chapter 3 pulls the significant evaluations from Chapter 2, and makes recommendations as needed. These could be adverse or positive evaluation results.
Reference (hyperlink when possible) to more detailed monitoring data and information sources.

Introduction

Specifically this year, what has happened on the forest/grassland or externally that has affected the forest/grassland such as natural changes, social and economic changes, and management actions?

Fire season

Describe monitoring results and organize by the following GPRA goals where practicable.

Ecosystem Health

Key, applicable forest/grassland monitoring items

What were the results of our management activities and how did they compare to our planned level of accomplishments?

Multiple Benefits to People

Key, applicable forest/grassland monitoring items
What were the results of our management activities and how did they compare to our planned level of accomplishments?

Scientific and Technical Assistance

Key, applicable forest/grassland monitoring items
What were the results of our management activities and how did they compare to our planned level of accomplishments?

Effective Public Service

Key, applicable forest/grassland monitoring items
What were the results of our management activities and how did they compare to our planned level of accomplishments?

The most significant change that has taken place in moving toward our desired conditions over the past several years has been the involvement of people -- as a part of the ecosystem and playing an active role in refining desired conditions. A good illustration of this is with Camino Real Ranger District's (CRRD) emphasis on collaborative stewardship. For example, to reach the desired condition the district has planned and implemented small projects to thin forested stands with the help of the local residents and small businesses. Even with limited funding, the program is gradually expanding, adding new and progressive aspects. The concepts are now being incorporated into the urban interface projects designed to reduce wildfire hazards near forest communities. The CRRD is currently working with the communities of Loma Linda, Fort Burgwin and Valle Escondido. Over 200 homes will have fire hazards reduced as a result of these projects. Dangerous fuels are being removed and/or burned. These projects have and continue to use community interaction through community volunteers and labor to achieve some of the work. The district is also providing personal use products as a part of these projects. The most significant achievement of collaborative stewardship has been designing projects that improve forest health, while meeting the needs of the public.

The success of Camino Real Ranger District's collaborative stewardship program was recognized by being selected as one of this year's ten best Innovations in American Government. This prestigious award, sponsored by the Ford Foundation and Harvard

University's Kennedy School of Government, includes a $100,000 grant to replicate collaborative stewardship within the agency and beyond. Engaging the public in developing desired conditions and implementing activities to move toward those conditions are keys to any progress we make toward accomplishing the Forest's goals and objectives.

The ecosystem analysis process implemented on three of the Carson's ranger districts has resulted in desired condition descriptions that are more detailed and focused. We are now looking at new ways of describing desired conditions, both objectively and subjectively. Vision statements, such as those found in *Forests Forever* (Southwest Forest Alliance), provide us with more understanding of what people focus on when describing their forest. We are listening to what the local public feel is important to them when describing a desired condition. A desired condition is usually described in text form. We are working with various computer programs (such as *Adobe Photoshop*) to provide photographs and/or drawings to depict a desired condition in our ecosystem analysis, NEPA documents or in public places, such as our reception areas.

Cumulatively, many management activities have moved the Forest toward its desired conditions, but progress has not been adequately quantified. As existing information is integrated into GIS, the Carson can better measure its progress toward meeting desired conditions for road density, vegetation structure and composition (including old growth), riparian vegetation condition, visual quality, watershed condition, fisheries habitat, range condition and recreation. Vegetation, topographic and soils layers were completed in GIS in 1999.

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- Overall, Carson customers have been satisfied with the services they have received on National Forest. There are still a few members of the public who complain about having to pay for dead and down fuelwood (a $10/2 cord fee for dead and down went into effect two years ago), but most fuelwood gatherers have been very accepting of the fee system.
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- Two years of monitoring the Los Pinos, San Antonio and Tusas rivers and their tributaries have revealed turbidity levels below the threshold listed for a system sustaining a high quality, coldwater fishery. The results indicate that these river systems ought to be reconsidered for listing as impaired in the next 305b report from the NM Environment Department.
- Other rivers or streams on the Carson that have been identified as having exceeded State water quality standards for turbidity are continuing to be monitored. Projects are also being planned to reduce or eliminate the source of sediment. Proper road maintenance of National Forest System roads could dramatically improve water quality in nearby watercourses.
- The *Removal Preliminary Assessment* for Bitter, Pioneer and Placer subwatersheds will likely result in some clean-up efforts at some abandoned mining sites. An evaluation of what should be cleaned up will be completed in 2000.

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The Carson continues to find creative ways of accomplishing labor-intensive work (mostly thinning of small diameter trees) as cost effectively as possible. With the constant decline in budgets, this is becoming more and more of a challenge. Last year a Camino Real RD proposal was approved for one of the Forest Service's Forest Management Program Reinvention Pilot projects. A business plan for the Picuris/Truchas Land Grant Project has been developed to address the problem of dense stands of mid-aged trees. Other projects such as this one are also being proposed on other districts.

- Range condition and trend is monitored and analyzed on several allotments on the Carson each year. The results on range analyses provide a basis for developing a proposed action for NEPA documentation for range permit issuance.
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- Current drought conditions have resulted in later than normal turnouts on range allotments. Range readiness is monitored on annual basis to determine the time livestock can be released onto an allotment pasture. If conditions continue to remain dry, turnouts are predicted to be later in the spring of 2000.

Emerging Issues

Human Dimension

Demographic trends indicate an increase of people migrating to the Southwest from other parts of the country. Although this trend includes an overall transition from a public that desires emphasis on commodity-oriented products and services, to a public that wants programs and program delivery to be amenity-oriented, there are still many small mountain communities dependent on the Carson National Forest for basic subsistence. A delicate balance exists of meeting the local needs for fuelwood, building materials, forage for livestock, water for irrigation, and those who have just come into some of these communities wanting to see a greater number of recreational opportunities, equal access, and possess an ever-increasing sensitivity to macro- and micro-environmental issues.

Some of these very diverse demands can be met simultaneously. There are a few special interest groups that don't want the harvesting of trees over 16 inches DBH in National Forests. Most of the products that local communities need are less than 16 inches. But there is no doubt a battle raging over the proper use of public lands that will shape the development of a forest plan revision in the future.

On average, the budget for the Carson National Forest has declined 25 percent over the past five years. In contrast, demands on the Forest are increasing as more people with diverse values use it.

Declining budgets have prompted the Forest to develop more partnerships with groups and organizations tied to monitoring. For example, the Quivira Coalition is funding the Jornada Experimental Range out of New Mexico State University to monitor certain aspects of the Santa Barbara Watershed Restoration project, on the Camino Real Ranger District. They

will be documenting and analyzing changes in soil productivity and ground cover composition prior to, during and after the project implementation. The Carson will focus on such changes as to the Mexican Spotted Owl microhabitat, such as canopy cover and structural diversity.

The Carson will also continue to work closely with the NM Department of Game and Fish in monitoring populations – primarily big game.

Physical/Biological Dimensions

The evolution toward an ecosystem management approach has renewed the Carson's sensitivity to ecological issues. Coupled with human dimension trends, this situation has brought needed Forest Plan modifications to the forefront. An increase in the number of threatened and endangered plants and animals, increased knowledge of the function, processes, and interrelationship of ecosystems, and recognition that thresholds exist beyond which those systems may no longer be sustainable are foundation concepts upon which Plan Revision will be built.

Issues Being Litigated

Although there were no court cases related to the Carson in 1999, the Forest continues to operate under a court order related to the Vallecitos Federal Sustained Yield Unit.

Challenges to grazing on public lands will continue to be a primary focus for the Forest Service in the Southwestern Region.

Issues Being Appealed

Administrative appeals relating to decisions being made on the Carson are primarily regarding permit issuance on grazing allotments and timber sales.

It goes without saying that almost all allotment decisions are being appealed by Forest Guardians. These appeals focus on 1) not completing a grazing suitability analysis and 2) not completing a cost/benefit analysis.

Since the 1996 Amendment of Forest Plans, the Carson has moved from large, commercial sawtimber sales to much smaller, small diameter local sales. These smaller sales are oriented toward creating a desired condition versus producing products, and apply a much lighter harvest level.

Recent decisions for harvesting timber on the Carson have been made with a Decision Memo, categorically excluded under category 4. In September, 1999, category 4 (FSH 1909.15 Chapter 30, section 31.2(4)) was declared “null and void” by a District Judge in

Illinois (*Heartwood v. USFS*, No. 98-CV-4289-JPG (S.D. Ill.). The Carson had four decisions affected by this court decision.

The approach that the Forest is taking with the four proposals is to either 1) change the proposed action so that no commercial logging is included and then making a decision under another categorical exclusion or 2) proceeding with an environmental assessment.

Other Issues

Endangered Species Act consistency relative to Forest Plans was challenged and a proposal to amend Land and Resource Management Plans (Plans) for the Southwestern Region of the Forest Service was the result. The proposed amendments will add standards to protect habitats for threatened and endangered species. The Southwestern Region of the Forest Service proposes to amend the eleven plans for the forests and grasslands. The amendments would add new standards that strengthen direction for the protection of federally listed threatened and endangered species. The only species included in the proposal that would affect habitat management on the Carson is the southwestern willow flycatcher. The amendment would apply to all subsequent project-level resource management decisions that will include site-specific environmental analysis and appropriate public involvement. The draft environmental impact statement for the amendment is expected to be available in the spring of 2000.

Improving wildland-urban interface is an issue, especially after the substantial property losses caused by the 1996 Hondo Fire. Improving the wildland-urban interface is an issue which is being addressed now, and will continue. Forests that are at high risk of catastrophic wildfire, especially after experiencing several years of drought, surround the mountain communities such as, Red River, Angel Fire, Penasco, Tres Ritos, Canjilon, Vallecitos and others. Public awareness programs are ongoing and implementation strategies are being developed. Safely restoring natural fire into adjacent ecosystems is a part of long-term solution that needs to be developed. Ecosystem analyses for the Camino Real, El Rito and Canjilon ranger districts, as well as, the Red River and Hondo Fire areas have been completed. Priority treatment areas were identified.

Forest health is an issue related to historical activities on the Carson National Forest that have resulted in unnaturally dense conditions, reducing the biological diversity across an expansive landscape. Thousands of acres need to be thinned in order to move toward a more natural and healthy forest. It is essential to reestablish the large tree/old growth component important to many wildlife species and, eventually, a sustained yield of larger products. Government downsizing has reduced the number of employees and funding. This, in turn, limits the treatment of acres needed to significantly improve forest health.

Collaborative stewardship is a priority issue of the Chief's. New relationships with partners and members of the public are breaking some traditional barriers. Collaborative stewardship is helping to address such emerging issues as:

- identifying and addressing needs of growing communities in and adjacent to the Carson National Forest.
- continuing to deliver programs which balance amenity, commodity and lifestyle needs.
- creating effective relationships with the local Native American tribes.
- developing a common understanding of desired condition.

Listening to people, however, requires a significant amount of employee time. There has to be time left over to administer the work on the ground. The time limitation also takes its toll on incorporating the stewardship concepts to the myriad of programs and issues across the Forest. For example: reaching consensus on forest roads and transportation systems or resolving conflicts between recreation user groups such as all terrain vehicle enthusiasts and archery hunters.

In reality the downsizing and decreasing budgets, along with the conflicts and discontent, helped to stimulate or necessitate collaborative stewardship - a new way of doing business. Ironically, downsizing and budget cuts are now the limitations on implementing the program in all facets of the Forest's responsibilities. In the past several years, the Carson has experienced over a 30 percent reduction in the permanent workforce. Restricted resources limits our ability to serve the public and care for the land.

Ecosystem management -- the emphasis to become an "ecosystem management driven" organization instead of a "timber driven" organization fits well with the shift to *Collaborative Stewardship*. However, doing the "right thing" does not always produce significant revenue for the US Treasury. The government appropriation system still largely ties funding to outputs. This makes sense if you are in the business of selling a product. It creates problems when you are in a stewardship role, maintaining a healthy, fully functioning ecosystem. Products do result from management, but they are not the driving force and may not be the "high volume" producers.

The President's Roadless Initiative will likely become an issue in the forefront of Forest planning over the next several months, as the public and the agency learn more about what is being proposed and how it might affect programs associated with the Carson Forest Plan.

The Proposed Planning Rule will likely attract more attention and interest, if it is incorporated as Forest Service regulation. The final rule, based on the *Committee of Scientists Report*, may be what guides the Carson through a Forest Plan revision.

Related Issues Emerging on the Carson

Water is the lifeblood of the West and northern New Mexico is no exception. Issues related to water on the Carson include:

- water quantity
- identifying and managing water rights
- restoring fisheries functions where appropriate (the treat of whirling disease)
- water quality

Access to and within the Carson National Forest is an issue that continues to become more complex. Transportation issues include:

- improving accessibility to all users through better road and trail systems management.
- addressing the needs of off-highway vehicle use.
- increasing need for higher maintenance levels and better signing of Forest roads.
- private development of lands adjacent to the Forest boundary, especially around Taos, Red River, Angel Fire and Tres Piedras. Traditional access to the Forest is being denied along some interfaces where residential subdivisions are developed.
- increasing demand for rights-of-way across National Forest lands.
- effects that a National Road Management Policy might have on the Carson is unknown right now.

Barriers To Effective Monitoring

The predominant barriers overriding effective monitoring and evaluation have been higher priority work and lack of funding. Congressional and budget intent comes to us functionally, and is still tied to targets. In addition, user groups want us to produce a "product" (wilderness experience, firewood, forage, clean campgrounds, etc.) for them. Few are asking for monitoring results. In order to show responsiveness toward the public and accomplishments to Congress, we maintain focus on products and targets. Often any internal or external interest there may be in monitoring is focused on the "gotcha" versus the adaptive management of learning. People or special interest groups are more interested in using our deficient documentation of monitoring activities as a way of demonstrating that we are not following regulations.

Another barrier has been the perception that monitoring can only be complex, scientifically designed, and rigorously evaluated activities. Many of the monitoring activities we have institutionalized are not even recognized internally as monitoring. These perceptions are compounded by the absence of Forest, Regional, or National strategy clearly and efficiently linking existing efforts or identifying stratified actions that could serve multiple organizational or resource levels.

The ecosystem analysis process that was implemented on three of the Carson's districts included a monitoring schedule that the employees prepared for the next 4-5 years. The schedule addressed the monitoring that would be needed for the list of proposed activities that came out of the EM process. Many of the activities have been implemented, but the monitoring has not been documented and districts have not updated the schedule. There is simply little incentive to accomplish monitoring.

4

Evaluation and Action Plan

What does it mean and what should be done about it?

This chapter is the evaluation of the year's monitoring and the action plan based on this evaluation. Evaluation draws from Chapter 2's findings of individual monitoring questions, and is a synthesis of results, interpreted to draw conclusions about whether or not we are moving toward forest goals and desired conditions. The forest/grassland-wide action plan identifies the key commitments being made in response to the evaluation.

Guidance:
This chapter will address only monitoring and evaluation discussed in chapters 1 & 2.
By responding to the forest plan and strategic plan we will be addressing sustainability and the seven criteria.
Use information and knowledge from sources other than forest plan monitoring in the evaluation of outcomes, if applicable.

Synthesize and *interpret* individual monitoring results into a "Story –Telling" narrative under each of the four GPRA goals:
Ecosystem health
Multiple benefits to people
Scientific and technical assistance
Effective public service

What has been the forest/grassland's progress toward achievement of desired conditions within the plan area?

What has been the plan area's contribution to the achievement of applicable outcomes of the Forest Service's national strategic plan?

Has management or other changes (including the effects of litigation, national policy, new TES, natural disturbance events, etc.) moved the forest toward or away from the LRMPs Goals or desired conditions?
Are LRMP goals and objectives still valid?

Did we achieve intended outcomes, properly target our investments, and achieve results in the most cost effective way?

Action Items, possibly including:
Amendments to or revision of LRMP
Management practices
Monitoring needs and changes (data gaps, protocols, etc.)
Training needs
Organizational needs
Budget
Research needs
Partnership and relationship needs
Follow up on past planned actions

- Develop and issue correction pages for the Forest Plan to incorporate the changes in standards and guidelines made through the June, 1996 Record of Decision (ROD) for Amendment of Forest Plans. This region-wide amendment includes direction for the Mexican spotted owl, northern goshawk and old growth. Currently the ROD is used as a separate document to the Forest Plan.
- Complete the eligibility and classification analysis for wild/scenic/recreational river designation for the Forest and amend the Forest Plan to add eligible river sections to Management Area 18. This will protect these areas until a suitability assessment can be done.
- Issue correction pages for the Vallecitos Federal Sustained Yield Unit section of the Forest Plan to comply with two court settlements (March, 1996).
- Compose a white paper that assesses the status and habitat trends for 44 management indicator species (MIS) identified in the Carson Forest Plan (including all listed threatened, endangered and sensitive species thought to occur on the Forest by the US Fish and Wildlife Service) to provide biologists a forest-wide evaluation of MIS habitat to use when analyzing a project's site-specific effects. The report will also be the basis for updating the Forest Plan's MIS list, allowing the district biologist to focus on just those MIS that are appropriate for analyzing effects.
- Compose a white paper analyzing the cumulative effects of current projects for each ranger district. Each paper would address and analyze the effects of past, present and foreseeable future projects for increasing number of smaller projects each district is proposing. These projects are being implemented over a shorter period of time than past projects, which were designed and implemented at a much larger scale over a longer time frame and cumulative effects were more intensively analyzed through the EA or EIS process.
- Review the Forest Plan and eliminate extraneous information. Renumber the pages to eliminate confusion with current "section numbering". Consider reformatting to create a more "user friendly" document.
- Amend the Forest Plan to incorporate any resulting direction from the region-wide Record of Decision for Amendment of Forest Plans for plant and animal species listed as either

threatened or endangered since the approval of the Carson Forest Plan (1986). The EIS for the region-wide ROD has not yet been completed.

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Status of Previous Year's Recommendations and Current Year's Recommendations

Recommendations for FY 2000 are the same as those in FY 1999, with the addition of the MIS white paper.

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Research Needs

The following are questions about relationships, processes and species about which more or better information would enhance management of the Forest:

- Current standards and guidelines are tied to single wildlife species. How does one develop a more holistic ecological perspective that addresses the processes of all animal and plant species on the Carson?
- What was the historic spatial arrangement of mature Douglas-fir?
- What bat species are found on the Carson and where?
- What other native fish are found on the Carson besides the Rio Grande cutthroat trout?
- Where are range lands depleted, as they relate to historic overgrazing?
- What research documentation is there that describes the possible effects of the management practices most commonly proposed in current projects?
- What are the impacts on the environment of increasing elk herds on the Carson? Where and how much forage is utilized by elk? What is the season of use for elk?
- What are the effects of forest activities on the lifestyles of people living in rural mountain communities in or near the Carson National Forest?
- What affects do existing roads have on extending drainage networks? Timing? Peak flows? Patterns of interception and rerouting?
- What is the best grazing system to apply to high mountain areas where forage is limited?

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8

Public Participation Plan

In order to involve people, they must want to participate in the process. The only way to accomplish this is to find a mutually acceptable avenue to work with people in a rational, planned manner. Just as critical as the process, is the way we approach people. A public involvement strategy for monitoring the Forest Plan needs to be developed using a framework to help build a strong and continuous relationship with the public.

Preparation of a public involvement strategy for Forest Plan monitoring using a basic framework will force the Forest or participants to look at monitoring at a broad scale, helping to insure appropriate public involvement and realistic time frames. Public review of this strategy will bring participants aboard early in the process.

The strategy is made up of five questions:

1) What are the objectives for involving the public in Forest Plan monitoring?

- To build credibility and trust with our public by making sure we do what we say we were going to do.
- To maintain relationships with community members that have been with us through the NEPA process and project implementation.
- To share our increased knowledge base.
- To illustrate the "can to" of project implementation (implementation monitoring).
- To achieve monitoring – ensure that it will happen.
- To find ways to accomplish monitoring programs where time and money is limited.
- To report the monitoring results back to those who are interested.
- To validate our assumptions that were communicated to the public during site-specific analyses.

2) What is the operating environment that might affect involving the public or meeting the PI objectives for Forest Plan monitoring?

- Forest Service, public and/or stakeholder burnout on the project and process.
- Funding and commitment for monitoring.
- New information on what we need to monitor.

3) Who are the stakeholders / audience that need to be involved help meet the PI objectives for Forest Plan monitoring?

- Stakeholders, who may or may not have been involved in the forest planning process thus far, but want to monitor and recognize the importance of monitoring.
- Those who are vested for the long term in the landscape and process.
- Both internal and external stakeholders. Different roles are played by Forest Service responsible officials and employees, other federal agencies, tribal governments, Congress, special interests, academia and the general public.

4) What methods will be used to reach stakeholders and meet PI objectives for Forest Plan monitoring?

- Put together a volunteer work group to do a monitoring.
- Direct mailings to those interested of on-going survey data.
- Worldwide Web (real time access to monitoring results).

5) How well were the PI objectives for Forest Plan monitoring met? (Can we validate our PI assumptions?)

- Have the results of monitoring helped us to communicate with the public on resource issues and validating our assumptions?
- Has sharing implementation of the monitoring process and the results of monitoring, helped us gain credibility and reduce uncertainty (augment trust or the publics comfort level) with our stakeholders?
- Have we increased the public's willingness to defer to our judgment.

It is important to keep in mind when applying this framework that the method and depth of public involvement used will depend upon the kind of monitoring that needs to be done (the problem), the people who are interested and/or affected and how the responsible official wants to involve the public in monitoring.

A Public Participation Plan must be in line with the budget, while not changing the process. In preparing to involve the public in Forest Plan monitoring we must look ahead to expenses incurred by employees time, equipment, mailings, written and presentation materials, travel and monitoring evaluation.