DRAFT 5/24/05

AMENDED LAND AND RESOURCE MANAGEMENT PLAN for the SAN JUAN NATIONAL FOREST (Plan), Rocky Mountain Region, USDA, Forest Service, April 1992

The San Juan National Forest (Forest), located in southwestern Colorado, is an administrative unit of the Rocky Mountain Region of the Forest Service, U.S. Department of Agriculture. Portions of this Forest lie within La Plata, Montezuma, Dolores, San Juan Archuleta, San Miguel, Hinsdale, Mineral, Conejos and Rio Grande Counties. (See Figure 1-1.) The total population of the five-county area including La Plata, Montezuma, Dolores, San Juan and Archuleta Counties, surrounding the Forest was approximately 50,000 people in 1992. Less than 500 people lived in those portions of San Miguel, Conejos, and Rio Grande Counties that are within the Forest boundary.

TABLE OF CONTENTS

APPENDICES

MAPS

LIST OF TABLES WHICH RELATE TO WATER ISSUES Pages

PREFACE AND CHAPTER I: PURPOSE OF PLAN: This Plan guides all natural resource management activities and establishes management standards and guidelines for the San Juan National Forest (Forest) for up to 15 years and describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management. It also serves to inform prospective users, as well as other interested publics, that any occupancy or use of the lands within the Forest must be consistent with the management requirements listed in the Plan. The analysis that supports the Plan is contained in the 1983 Final Environmental Impact Statement (FEIS). The Plan and FEIS are companion documents. The FEIS describes alternatives considered in arriving at the proposed Plan and assesses environmental effects of implementing the plan and its alternatives. In about 1992, an environmental analysis in a Final Supplemental EIS (SEIS) were prepared for Plan Amendments 1 -13. Specifically, aspects of the Plan that may apply to water issues establish: (1) Forest-wide goals and objectives [36 CFR 219.11(b)] and management requirements (standards and guidelines) to fulfill requirements of NFMA applying to future activities (resource integration requirements of 36 CFR 219.13 to 219.26 and requirements of 36 CFR 219.27); (2) MArea direction (prescriptions) applying to future management activities in each MArea [36 CFR 219.11(c)]; (3) monitoring and evaluation requirements [36 CFR 219.11(d)]; and (4) provides

nonwilderness multiple-use allocations for roadless areas that were reviewed under 36 CFR 219.17 and not recommended for wilderness designation;

In some instances, the Plan provides project and activity level decisions if specifically identified in the Record of Decision (ROD) and the Plan. The projected multiple-use objectives and rates of implementation are estimates and are dependent on the annual budgeting process.

Management direction established in the Plan will ordinarily be reviewed (and updated, if necessary) every 5 years, and revised on a 10-year cycle (36 CFR 21 9.10(G)). The Plan may be revised/amended whenever the Forest Supervisor determines that conditions or demands in an area covered by the Plan have significantly changed.

Activities and projects continue to be planned and implemented to carry out the direction in the Plan, with environmental analyses performed on these projects and activities using data and evaluations in the Plan, FEIS, and SEIS as the basis. Frequently additional or more specific information is needed. Documentation of project level analysis is tiered to the FEIS and SEIS accompanying the Amended Plan. Tiering, which means that environmental analyses prepared for projects arising from the Plan refer to the FEIS and final SEIS and associated documents rather than repeat information. The environmental documents for specific projects can, therefore, concentrate on issues unique to the projects.

Long-Range Planning: Long-range planning occurs at the national, regional, and local levels as required in applicable laws and implementing regulations. National planning includes the Resources Planning Act (RPA) Assessment and RPA Program. Regional planning includes the Regional Guide. Local planning includes the Forest Plans within the National Forest System, Research Plans within the Research Work Units assigned to Experiment Stations and the Forest Products Laboratory, and State Forest Resource Plans for the State and Private Forestry System.

Short-Range Planning: Short-range planning implements long-range planning. Analysis and evaluation can lead to amendment or revision of Forest Plans, project planning, and project implementation. Short-range planning achieves the goals and objectives of the Forest Plan. This level involves site-specific analysis to meet National Environmental Policy Act ("NEPA") requirements for decision-making. Forest Service managers must involve the public and comply with many site-specific requirements of the applicable laws, regulations, and the direction set forth in the Plan.

Making Project Decisions: Forest Plans and accompanying Environmental Impact Statements ("EIS's") do not normally have sufficient detail in them to make site-specific decisions for individual projects and activities. Making project specific decisions requires further analysis of the proposed practices: analysis and evaluation is necessary to bridge between Plan decisions and project decisions. The results of the analysis and evaluation are documented in project files and appropriate NEPA disclosure and decision documents: EIS, Environmental Assessment (EA), Categorical Exclusion (CE), Record of Decision (ROD), Decision Notice (DN), and Decision Memo (DM).

LEGISLATIVE BACKGROUND EVOLUTION OF NATIONAL FOREST SYSTEM

PLANNING

Preparation of the Plan is required by the Forest and Rangeland Renewable Resource Planning Act (RPA) of 1974, as amended by the National Forest Management Act (NFMA) of 1976. Assessment of its environmental impacts is required by NEPA and the implementing regulations of NFMA [36 Code of Federal Regulations (CFR) 219]. The Plan replaces all previous resource management plans, such as the 1976 Timber Management Plan, prepared for the Forest. Upon approval of the Plan, all subsequent activities affecting the Forest, including budget proposals, must comply with the Plan. In addition, all permits, contracts, and other instruments for the use and occupancy of NFS lands must conform with the Plan.

There are numerous legal bases for management of NFS lands. The following are some of the more significant laws which must be considered in planning uses for the NFS lands. These and other laws are included in the Department of Agriculture Handbook entitled The Principal Laws Relating to Forest Service Activities.

Creative Act of March 3,1891 (26 Stat. 1103, 16 USC 471; repealed by 704(a) of FLPMA, 90 Stat. 2792). Allows the President to set apart and reserve National Forests from the public domain.

Organic Act of June 4, 1897 (30 Stat. 35), states "No National Forest shall be established, except to improve and protect the Forest within the boundaries, or for the purpose of securing favorable conditions-of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States," (16 USC 475). The Secretary (Interior) "shall make provision for the protection against destruction by fire and depredations upon public forests and National Forests... and he may make such rules and regulations and establish such service and will insure the objects of such reservations, namely, to regulate their occupancy and use and to preserve the Forests thereon from destruction"(16 USC 551).

Transfer Act of 1905 (33 Stat. 628.16 USC 472). Transferred the Administration of the National Forests to the Secretary of Agriculture.

Multiple Use-Sustained Yield Act of 1960 States the "National Forests are established and administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes" (16 USC 528). The Secretary of Agriculture is directed to develop and administer the renewable surface resources of the NFS lands for multiple use and sustained-yield of the several products and services obtained therefrom. In the administration of the NFS lands due consideration must be given to the relative values of the various resources in particular cases. The establishment and maintenance of areas of wilderness are consistent with the purposes and provisions of section 528 to 531 of this title, (16 USC 529). The Secretary is authorized to cooperate with State and local governmental agencies in management of National Forests, (16 USC 530).

Wilderness Act of 1964 (16 USC ii 31-1136). Provided for establishment and administration of the National Wilderness Preservation System to be administered for the use and enjoyment of the American people in such a manner as will leave the system unimpaired for future use and enjoyment as wilderness.

Wild and Scenic Rivers Act of 1968 (16 USC 1271 -1287). Provides for designation as "Wild," "Scenic" or "Recreational" and preserves portions of designated rivers from development. Management of rivers within the System is directed toward preserving the scenic, recreational, geologic, historic, or other value that justified its inclusion in the System.

NEPA of 1969 (42 USC 4321-4335). Declares a National policy of "productive and enjoyable harmony between man and his environment," (42 USC 4321). The detailed statement requirement of NEPA was designed to disclose to the public, President, Congress and agency decision-maker the environmental consequences of implementation of a proposed action and alternatives to it. It applies to major federal actions significantly affecting the quality of the human environment.

Federal Land Policy and Management Act of 1976 (90 Stat. 2743). Range management and rights-of-way were dealt with for both NFS and public domain lands. For the most part, the statute is directed at lands managed by BLM.

RPA, as amended by NEMA (16 USC 1600-1 614). A comprehensive framework and primary source of direction to the Forest Service to fulfill its mandate to manage the NFS lands. The central element of the Act is the institution of land and resource management planning as a basic means to achieve effective use and production of renewable resources and a proper balance of the use of NFS lands. Section 6 of the Act requires the Secretary of Agriculture to prescribe NFS land and resource management planning regulations. The standards and guidelines in these regulations must be incorporated into NFS land and resource management plans. Direction in Forest Plans must comply with Acts of Congress enacted to protect any of the individual resources, such as air, water, threatened or endangered species, cultural, or historic resources.

KEY CHANGES FROM 1983 PLAN WHICH APPEAR TO INVOLVE WATER ISSUES

The management emphasis for the 38,740 all lands allocated to MArea 9B (Increasing Water Yield) was changed to MArea 3A (Semi-primitive Non-motorized Recreation) and MArea 7E (Wood Fiber Production and Utilization). In the Plan, 9B lands are designated as follows:

The standard and guideline changes, in general, emphasize the importance of establishing a desired future condition for management areas based on a landscape perspective.

CHAPTER II: MANAGEMENT SITUATION

A section of this chapter supplements information in Chapter II of the 1983 Plan, focusing on timber related changes that have occurred since the original Plan's publication. For sections of Chapter II, for issues not directly related to water matters, only headings are listed below. The full text is provided for sections of Chapter II related to water issues. The 1983 and 1992 headings and text are integrated. Those texts updated in 1992 are asterisked.

THE PRESENT

Physical and Biological Setting
- Vegetation

***Social and Economic Setting**
- Area of Influence
- Population
- *Employment and Income
- Social Resource Units
- Human Resource Units
- Montelores HRU
  - Life Style
  - Attitudes, Beliefs, Values
  - Social Organization
  - Population and Land Uses
- Animas HRU
  - Life Style
  - Attitudes, Beliefs, Values
  - Social Organization
  - Population and Land Users
- Pagosa HRU
  - Life Styles
  - Attitudes, Beliefs, Values
  - Social Organizations
  - Population and Land Use

PAST AND CURRENT MANAGEMENT AND SUPPLY POTENTIAL

Current Management
- Demand Trends
- Supply Potential -- Maximum Resource Output
- Forest Plan Objective

RESOURCE ELEMENTS

The discussion portrays the management situation as it relates to the various resource elements individually. Although resource elements are discussed individually, management of the Forest occurs on an integrated resource basis. Management activities affect a variety of resources, and decisions are made only after considering the entire set of ramifications involved. Similarly, single management activities are actually designed to serve a variety of resource objectives.

Timber harvests, for example, are designed not only to remove timber in the most cost-effective manner, but also to increase water yield in appropriate areas. Water developments are designed to serve the needs of certain wildlife species as well as domestic livestock.

RECREATION

Regional Objectives

***Recreation Demand:** Recreation is one of the major uses of the Forest. An estimated 1.18 million recreation visits occurred in 1980, which provided approximately 1.62 million recreation visitor days (RVDs).

***Dispersed Recreation:** Specific dispersed recreational opportunities available on the San Juan National K Forest include hiking, backpacking, picnicking, camping, gathering forest products, trail-biking, driving for pleasure, fishing, hunting, boating, rafting, mountain climbing, swimming, horseback riding, general leisure and sightseeing, crosscountry skiing, snowmobiling, snowshoeing, ice fishing, snow play, sledding and tobogganing.

Developed Recreation
Ski Areas
Cultural Resources
Visual Resources
Wilderness
Existing Wilderness
Wilderness Study Areas
***Unroaded Areas**

FISH AND WILDLIFE

***Current Condition**

Wildlife

***(1992) Fish:** The Forest's aquatic wildlife (fisheries) resources consist primarily of common trout species such as brook, brown, rainbow and cutthroat. Non-game fish species include suckers, dace and sculpin and occur in a variety of aquatic habitats. Aquatic and semi-aquatic macroinvertebrates are an integral part of the aquatic resources and provide the major food source for the fisheries resources throughout the Forest.

In 1987, cold water fishing on the Forest accounted for 130,000 recreation visitor days (RVD's) and made up about 9 percent of the total recreation use of the Forest.

Approximately 281 perennial fishing streams totaling about 1,080 miles, 94 natural lakes and 10 reservoirs are present on the Forest. Many of the stream habitats are of low fish productivity because of steep gradients and high annual fluctuation of flow. Most of the natural lakes on the Forest are in wilderness areas, thus providing limited opportunities to improve cold water fish habitat due to remoteness and restrictions on the use of mechanized equipment.

The general assumptions concerning future fishery management on the Forest are as follows:

-- As more people fish on the Forest, fishing pressure will continue to increase and specific fish habitats in the wilderness will become over-used.

-- More uniform distribution of fishing pressure on fish habitats will be needed to effectively use the habitats' limited potential.

-- The Forest Service will be called upon to provide quality fisheries in low elevation ponds and lakes.

(1983) Fish. - In 1980, cold-water fishing on the Forest provided 136,700 RVD's. Total fish-

related recreation made up about nine percent of the total recreation use of the Forest.

There are presently 16 species of fish on the Forest, of which seven are classified as game-fish. These are brook, rainbow, brown and cutthroat trout, kokanee salmon, and northern pike

There are approximately 1,215 miles of perennial fishing streams, 94 natural lakes and 10 reservoirs on the Forest. A majority of stream habitat is of poor quality because of steep gradients and high yearly fluctuation of flow. Current inventories indicate approximately 236 miles of stream where improvement of habitat could be accomplished on an cost-effective basis. The majority of the natural lakes on the Forest occur in wildernesses. There are only a few opportunities to improve cold-water fish habitat in lakes or ponds.

In the future, the Forest Service will probably be called upon to provide fish habitat in low elevation, highly productive ponds and lakes. Fishing pressure likely increase beyond supply, especially on waters outside wildernesses. As fishing pressure continues to increase, specific fish habitats in wilderness may become over-utilized because of their limited production potential.

***Wildlife and Fish Demand**

Table 11A-6 displays historical hunting, fishing, and non-consumptive wildlife and fish recreation use levels, and the revised trends for these activities. Projections are based on a combination of national trend data, local use figures, and statewide information on hunting and fishing. The revised trends for wildlife and fish related recreation are lower than the levels projected in the 1983 Forest Plan FEIS, Chapter III. The Forest Service decreased the big game hunting projections only slightly and reduced the projections of other wildlife and fish related activities by approximately 35 percent from the sizable increases predicted in the 1983 FEIS.

***Range**
- ***Range Demand**
- ***Range Supply**

***Timber**
- ***Mature and "Old Growth" Timber Stands**
- ***Timber Demand**

WATER
(1992) Water Demand

A 1986 study by the Bureau of Reclamation, *USBR depletion schedule, simulation model demand input data*, provides updated predictions for 1990 and 2000 consumptive use requests for Colorado Basin water based on historical use and expected future use in light of legal entitlement, current and expected delivery capacity, and expected development of water-using projects. Additional quantities expected to be requested by the Metropolitan Water District in California and the Central Arizona Project were added to Reclamation's estimates of water requested under existing legal entitlements. Table IIA-14 summarizes the Bureau of Reclamation's projected annual requested consumptive use depletions by use type for the years 1990 and 2000.

Table IIA-14: Projected Annual Consumptive Use Depletions

Basin and Use Type	Requested Depletion (1000 acre feet) 1990	2000
Upper Basin	3,893	4,453
Lower Basin	8,828	8,919
Mexico	1,515	1,515
Total	14,236	14,887

Brown, et. al. (1988) concluded that additional water produced from the Forest would be used for local consumption, downstream consumption, hydropower production and salt dilution. The results of the study conducted by Brown, et. al. ("Marginal Economic Value of Runoff From the San Juan National Forest" May 19,1988) are summarized in Chapter III of the Supplemental EIS.

Timber harvest levels should not result in an increase in total water outflow from the Forest. In fact, indications are that outflows will decrease through time as additional water yields created through past timber harvest are reduced. The demand for water far exceeds the Forest's potential to increase water production.

(1983) Water: Watersheds on the Forest generate approximately 15 percent of the flow of the Colorado River as measured at Lee's Ferry, Arizona, although they occupy only three percent of the drainage area. Nearly 80 percent of the flow of the San Juan River at Bluff, Utah originates on the Forest. Total average annual yield is 2.5 million acre-feet.

The Forest's riparian and aquatic zones were identified in the stream type classification process and are the flood-prone areas of the Forest covered by Executive Order 11988, Flood Plain Management. New development or other concentration of activities is limited to areas where impacts on floodplain/wetland resource values can be mitigated.

The Forest provides water for 18 irrigation reservoirs within or adjacent to its boundaries. Many of the streams of the Forest are impacted by diversions and are drying up.

Vegetation treatment and snow management structures are often feasible means of increasing stream flow. Cloud seeding with silver iodide crystals in the San Juan Mountains as a method of augmenting snowpacks and water yield is again being studied by the Bureau of Reclamation. A permit has been issued to the Bureau of Reclamation for electronic monitoring of limited cloudseeding being performed by private consultants in cooperation with various local water and snow users. Changes in stream flow timing can be obtained through reservoir construction and control of peak flows through vegetation treatment. As more funds become available, additional snow fencing can be utilized to provide increased stream flow from the high elevation watersheds. Existing yield increases, about one percent of current total water yield, have resulted from timber management activities and other vegetation reducing activities, such as roads, powerlines, pipelines, and fires.

Demand for water presently exceeds supply, a trend that is expected to intensify in the future. Water yields from the Forest can be increased by approximately 87,000 additional acre-feet per year above pristine baseline without degrading water quality. The primary method for increasing water yield on the Forest is through vegetation treatment using both commercial and non-commercial methods.

***Summary of Demand Projections**
Table IIA-15 provides a summary of the previously discussed demand or consumptive use trends by resource.

MINERALS AND GEOLOGY

Locatable Minerals
Leasable Minerals
Salable Minerals
Human and Community Development

CETA Programming
College Work-Study Programs
YCC
Volunteers in National Forest Program
Senior Community Service Employment Program

Forest Plan Objectives - The estimated levels of resource uses and outputs to be provided over time by implementation of the Forest Plan.

Consumptive and non-consumptive uses of wildlife resources are expected to increase and to meet or exceed supply.

Threatened and Endangered Species - The Endangered Species Act of 1973 requires that all Federal agencies protect and manage threatened and endangered species and their habitats. The Forest has the following Federal or State designated threatened or endangered-wildlife species:

Timber harvests are designed to achieve multiple use objectives, including water yield, range, wildlife habitat and visual quality improvement, fuel reduction, and insect and disease control. Regeneration systems called-for in the 1976 Timber Management Plan include clearcut and shelterwood in the spruce-fir and Douglas-fir types and clearcutting in the ponderosa pine and aspen types.

Special land use applications are increasing. Eighty-eight non-recreational documents were issued prior to 196; 183 were issued from 1960 to 1969; and 205 were issued from 1970 to 1980. There are also 133 recreation-related special use permits operational at present.

Special land uses with significant impacts on the Forest include corridors for . . . water transmission lines and ditches (104.3 miles) . . ..

Demand for special uses will increase substantially and issuance of special use occupancy documents will become more difficult due to increasing conflicts with other Forest management

activities.

Support Elements
Lands
Special Land Uses

Land Ownership - Land and Water Conservation Funds (L&WCF) have been used to purchase a number of private lands for outdoor recreation purposes, but this program has been the only source of funding for land purchase.

There are an increasing number of subdivision developments adjacent to NFS lands. Owners of adjacent properties often desire land exchanges with the Forest Service to reduce subdivision costs, resolve access difficulties, and reap investment benefits. Exchange activity has been low due to uncertain funding and the small number of proposed exchanges which would benefit the public.

Rights-of-Way - The intermingled public and private lands within the boundaries of the Forest have resulted in many public road and trail access problems. Many areas are unavailable for public use because of insufficient access. More access to the Forest is a major public issue. The current emphasis is to acquire ROW's which provide access for commodity uses.

Withdrawals
License and Permits
Utility and Communication Facilities
Special Areas
Research Natural Areas

Wild and Scenic Rivers - The 1975 Wild and Scenic Rivers Act designated three rivers on the Forest for potential addition to the National W&SR System: the Dolores River, the Piedra River, and the Los Pinos River, for which the Forest has completed W&SR Study Reports and EIS. All three studies, along with the Administration's recommendations, have been submitted to Congress for action. The recommendations were: 1) Dolores River - 105 miles should be designated as a component of the National System of Wild and Scenic Rivers; 2) Piedra River - 28.4 miles should be designated as a component of the National System of Wild and Scenic Rivers ; and 3 Pine River - 54 miles, all within the Weminuche Wilderness, should be designated as a component of the National System of Wild and Scenic Rivers.

The Forest was also directed to make evaluations of the San Juan River and Animas River for possible inclusion in the National System of W&SR. Neither river was determined to be eligible. (See Appendix I of the final EIS - 'Determination of Animas and San Juan Rivers for W&SR Eligibility')

The demand to protect and maintain free flowing rivers will increase.

Chimney Rock Archaeological Area

Soils
Facilities
Roads
Trails
Protection
Fire
Integrated Forest Management
Air Quality
Law Enforcement

FOREST PLAN OBJECTIVES EXPRESSED AS AN AVERAGE ANNUAL YIELD

Activity	Units	Decade 1 1989-98	Decade 2 1999-2008	Decade 3 2009-18	Decade 4 2019-28	Decade 5 2029-38
WATERSHED						
Augmented Water Yield (Current 23 MMAF)		21	17	14	11	9
Watershed Improvement	Acres	170	170	170	170	170
LANDS						
Purchase and Acquisition	Acres	100	100	100	100	100
Land Exchange	Acres	500	500	500	250	250
Rights-of-way Acquisition	Number of cases	3	3	3	3	2
Land Line Location	Miles	45	45	45	45	45

THE FUTURE

***SOCIAL AND ECONOMIC ENVIRONMENT**
***RESEARCH NEEDS**

Recreation

Wildlife and Fish

-- Improve fish habitat on suitable streams and low elevation ponds and lakes.

Timber

Soil and Water

The majority of existing information relating to soil productivity and its capability comes from agricultural research. More information on forest soils is needed to help answer the following:

-- How do management activities affect soil productivity?
-- How much erosion is acceptable for the soils on the San Juan National Forest?
-- Is compaction a problem on the Forest? If so, what is the best way to prevent or mitigate it?
-- What soil features should we monitor to evaluate changes in soil productivity?

Protection (Includes Prescribed Fire)

CHAPTER III: MANAGEMENT DIRECTION

IMPLEMENTATION
***FOREST DIRECTION**
GOALS

Vegetation
Recreation, Cultural, Visual
Wilderness

-- Provide the opportunity for additions to the National Wilderness Preservation System.
-- Manage wilderness to preserve the wilderness character and provide for compatible human use and enjoyment through indirect control methods.

Wildlife
Range
***Timber**
Soils and Water

-- Protect soil and water productivity so that neither will be significantly or permanently impaired.
-- Protect streams, lakes, riparian areas, and other bodies of water through management activities.
-- Improve water quality by allowing those watershed presently below water quality standards to recover.
-- Increase water yield through land treatment measures consistent with other resource objectives and water quality standards.

Minerals
Lands
Facilities
Human and Community Development
Protection

***OBJECTIVES**

***CHART OF FOREST PLAN OBJECTIVES, EXPRESSED AS AVERAGE ANNUAL YIELD**

MANAGEMENT REQUIREMENTS

The following discussion in the 1983 Plan charts Management Activities (MA), General Direction (GD) and Standards and Guidelines (S&G). We have listed below only the information in the three categories (or the two categories if there is no S&G category) for water-related issues. For non-water related issues, we have listed only the MA.

<u>MA - Diversity in National Forest and National Grasslands (A00)</u>
<u>MA - Wild and Scenic River Management: ((F02) GD</u>

1. Protect river segments that have been determined eligible for potential addition to

the National Wild and Scenic Rivers system from activities which could diminish or change the free-flowing character, water quality, or the scenic, recreational, fish and wildlife, and other values which make the river eligible for designation.

a. Request that Federal lands which constitute the bed or bank, or which are within one-quarter mile of either bank, be temporarily withdrawn from appropriation and entry under the mining laws. Withdrawal should continue until the river segment is: a) found to be ineligible b) not recommended for inclusion in the National system, or c) added to the system by Act of Congress.

b. Safeguard the values of the river area by appropriate conditions and stipulations in leases, permits, and licenses, including prospecting, issued under terms of the mineral leasing laws.

c. Extraction of salable, common-variety minerals from the river or the study area shall not be authorized until the study is complete and recommended actions are enacted.

d. Prohibit construction of roads within the river study area if it would have direct and adverse effects on the values which make the river eligible for potential inclusion into the system.

e. Maintain current motorized access character and avoid any changes to the potential wild and scenic river classification.

f. Maintain free-flowing characteristics and water quality during the study and Congressional review period.

g. Manage tree stands within the study area to maintain or enhance potential wild and scenic river values. Protect scenic values by sizing and shaping timber harvest units to achieve a natural appearance and to harmonize with the surrounding landscape.

h. Prohibit special uses or permitted land uses which degrade or have directly adverse effects on values which make the river segment eligible.

i. None of this direction shall abrogate any existing privileges or contracts affecting NFS lands held by any private party without consent of said party. Activities affecting the applicability of U.S. mining and mineral leasing laws are subject to valid existing rights. (0004) (FDR)

<u>MA - Cultural Resource Management (A02)</u>
<u>MA - Visual Resource Management (A04): GD</u>

(03) Enhancement of landscape through addition, subtraction or alteration of elements of the landscape, such as vegetation, rock formations, water.

<u>MA - Recreation Site Construction and Rehabilitation (A05 and 06): GD</u>

(04) Facilities proposed for construction or reconstruction which lie within identified 100-year floodplains will be evaluated aw to the specific flood hazards and values involved with the site. Viable alternatives will be thoroughly evaluated. (0728) (FDR)

S&G. Follow procedures and guidelines in FSM 2527.04c.(5532)(FDR)

(05) Past and probable flood heights in inventoried 100-year floodplains will be posted to provide visible warnings to the using public about possible periodic flooding. (0730) (FDR)

S&G. Follow procedures and guidelines in FSM 2527.6. (6634) (FDR)

MA - Management of Developed Recreation Sites (A08, 09 11 and 13)
MA - Dispersed Recreation Management: (A14 and 15) GD

(04) Prohibit camping within a minimum of 100 feet from lakes and streams unless exceptions are justified by terrain or specific design which protects the riparian and aquatic ecosystems. (0353) (FDR)

MA - Recreation Management (Private and Other Public Sector) (A16)
MA - Wilderness Area Management: GD (B02)

(08) Prohibit recreational stock along lake shores and streambanks except for watering and through-travel. (0204) (FDR)

MA - Wildlife and Fish Resource Management (C01): GD

(02) In addition to the above, [deer, elk, and all federally-listed endangered or threatened plant and animal species]. (0458) (FDR) use indicator species that represent the following: (a) Riparian area dependent species, wetland dependent species. (0459) (FDR); (b) Wetland dependent species; (c) Gamefish

(03) MAINTAIN HABITAT FOR VIABLE POPULATIONS OF ALL EXISTING VERTEBRATE WILDLIFE SPECIES (0289) (FDR)
S&G. HABITAT FOR EACH SPECIES ON THE FOREST WILL BE MAINTAINED AT LEAST AT 40 PERCENT OR MORE OF POTENTIAL (6289) (FDR)

(05) Manage waters capable of supporting self-sustaining trout populations to provide for those populations (0290) (FDR)

(06) Manage and provide habitat for recovery of endangered and threatened species as specified in the Regional Forester's 1920 (2670) letter dated June 25, 1982. (0740) (FDR)

MA - Wildlife Habitat improvement and maintenance (COR. 04 05 and 06) - GD

(02) Improve habitat capability through direct treatments of vegetation, soil, and

waters. (0337) FDR)

MA - Wildlife and Fish Cooperation with Other Agencies (C12)
MA - Range Resource Management (D02)
MA - Range Improvement and Maintenance (D03, 04, 05 & 06)
MA - Silvicultural Prescriptions (E03, 06 & 07)
MA - Reforestation (E04)
MA - Timber Stand Improvement (E05)
MA - Riparian Area Management (F03)

(01) See Management Prescription 9A for riparian area management (0404) (FDR)

(02) Design and implement activities in management areas to protect and manage the riparian ecosystem (0401) (FDR)

S&G. Maintain all riparian ecosystems in at least an upper mid-seral successional stage based upon the R2 Riparian Ecosystem rating system (6147) (FDR)

(03) Manage riparian areas to reach the latest seral stage possible within the stated objectives (0402) (FDR)

(04) Prescribe silvicultural and livestock grazing systems to achieve riparian area objectives (0403) (FDR)

(05) Locate and construct arterial collector roads to maintain the basic natural condition and character of riparian areas (0087) (FDR)

(06) Incorporate structures which provide for fish passage in all new roads and trails crossing perennial streams which support a fishery (3001SJ) (FDR)

MA - Water Uses Management (F04)

(01) Determine and obtain rights to instream flow volumes to protect and maintain stream channel stability and capacity and to accomplish any proposed increase in use or resource activity (0009) (FDR)

(02) Protect water rights applications of others when such uses will lower streamflows below levels acceptable for Forest uses and purposes (0602) (FDR)

(03) Special Use Permits, easements, rights-of-way and similar authorizations for use of Forest lands shall contain conditions and stipulations to maintain instream or bypass flows necessary to fulfill all Forest uses and purposes (0604) (FDR)

MA - Water Resource Improvement and Maintenance (F05 and 06): GD

(01) Maintain instream flows and protect public property and resources (0010) (FDR)

(02) Improve or maintain water quality to meet State water quality standards.

However, where the natural background water pollutants cause degradation, it is not necessary to implement improvement actions. Short-term or temporary failure to meet some parameters of the State standard, such as increased sediment from road crossing construction or water resource development may be permitted in special cases. (0005) (FDR)

(03) Develop a schedule of water yield treatments within fourth-order watersheds which attains desired water yield increases while maintaining stream channel stability. (0606) (FDR)

S&G: a. Provide mitigation measures necessary to prevent increased sediment yield from exceeding "threshold limits" (as determined by "State of the Art: modeling HYSED: or actual measurements) identified for each (fourth-order) watershed. (6320) (FDR)

b. The total percent of each fourth-order watershed that could be in a clearcut condition, including roads, is shown below in terms of the perennial stream riparian capability are type (see Planning Criteria, Planning Action Two for definitions) at the mouth of the major stream or streams in the watershed.

Riparian Capability Area Types	% Clear-Cut
H3N, 12N, 13N, E2M, E2N, E3N	35
M2N, H1M, H1N, H2M, H2N, I1N	25
M1M, M1M, M1N, S1N, S3N, EIM	20
S1M, S2N	15

The above restrictions may be modified on the basis of more detailed analyses of specific watersheds. (8401SJ) (FDR)

(04) Rehabilitate disturbed areas that are contributing sediment directly to perennial streams as a result of management activities to maintain water quality and re-establish vegetation cover (0676) (FDR)

S&G. Reduce to natural rate any erosion due to management activity in the season of disturbance and sediment yields within one year of the activity through necessary mitigation measures such as water-barring and revegetation. (6606) (FDR)

(05) Limit use of herbicides, insecticides, rodenticides, or other chemical agents as part of management activities to times and places where possible transport to or by surface water has a low probability of occurrence. Follow all label requirements concerning water quality protection.

MA - Minerals Management (G00)
MA - Mining Law Compliance and Administration (G01)
MA - Minerals Management: Oil, Gas and Geothermal (G02 & 04)
MA - Minerals Management: Coal, Leasable Uranium and Non-Energy Common Minerals Materials (G03, 05, 06 & 07)
MA - Special Use Management (Non-Recreation) (J07)
MA - Rights-of-Way and Land Adjustments (J02, 13, 15, 16, 17 & 18) GD

(02) Insure floodplain and wetland values are approximately equal on both offered and selected tracts in proposed land exchanges or that values are in favor of the U.S. (0006) (FDR)

MA - Property Boundary Location (J06)

MA - Soil Resource Management (KA1)

(01) Maintain soil productivity, minimize man-caused soil erosion and maintain the integrity of cross-related ecosystems.

e. Prevent livestock and wildlife grazing which reduces the percentage of plant cover to less than the amount needed for watershed protection

g. Provide permanent drainage and establish protective vegetative cover on all new temporary roads or equipment ways, and all existing roads which are being removed from the transportation system.

(02) Identify at the project level, upland areas that are immediately adjacent to Riparian (Prescription 9A) MAreas with the potential for directly affecting the condition of the adjacent Riparian MArea. The magnitude of effects is dependent upon slope steepness, and the kind, amount, and location of surface and vegetation disturbance within the adjacent upland unit.

S&G. a. The following is a guide to identify the approximate extent of adjacent upland areas (6698))FDR):

Slope gradient of upland areas adjacent to Riparian MA/% Slope Range	Upslope distance from boundary of Riparian MA/Feet
0-20	100
20-30	180
30-40	280
40-50	400
50-60	520
60-70	640
70-80	760
80-90	880
90-100	1000
100-150	1000-1300

b. Reduce, through designed management practices and appropriate erosion mitigation and vegetation/restoration measures, the project caused on-site erosion rates (calculated with appropriate Universal Soil Loss Equation Methodology) by 75% within the firs year after disturbance. (6700) (FDR)

c. Design continuing mitigation/restoration practices and follow-up maintenance activities to insure that 80% original ground cover (vegetation) recovery occurs within five years after disturbance (6702) (FDR)

MA - Transportation System Management (L01 & 20)

MA - Arterial and Collector Road Construction and Reconstruction (L02-L09, L16-L18)
MA Local Road Construction and Reconstruction (L11 thru L13)
MA - Road Maintenance (L19)
MA - Trail System Management (L23)

(02) Maintain all trails to the following minimum requirements:

b. Maintain drainage structures to prevent unacceptable resource damage, and

c. Remove hazards from trails to allow safe passage for specified class of users. . . .

A hazard is a marked ford with holes deeper than the normal channel. A deep ford with a consistent steam bed is not a hazard.

MA - Trail System Construction and Reconstruction (L22)
MA - Fire Planning and Suppression (P01)
MA - Escaped Fire Suppression (P09)
MA - Fuel Treatment (P11 thru P14)
MA - Vegetation Treated by Burning (P15)

(02) Limit use of prescribed fires on areas adjacent to riparian areas to protect riparian and aquatic values. (0102) (FDR)

MA - Air Resource Management (P16)
MA - Insect and Disease Management/Supervision (P35)

MArea DIRECTION/PRESCRIPTIONS (MArea Prescripts or Ps)

MArea Ps represent the Area Direction applicable to specific land traits. These prescriptions, and others, were used as the basis for developing the alternatives analyzed in the EIS. A MArea P number was assigned to each MArea to link the prescription to the land area. The location of an MArea is illustrated on the MArea map inside the back cover of the Plan. Wilderness Study Areas are an exception to the general application of prescriptions including both the Piedra (41,500 acres) and West Needle (15,800 acres) Wilderness Study Areas (MArea P 8B, 8C and 8D). Until Congress acts, both areas are being managed to maintain the qualities which make them possible for inclusion in the National Wilderness Preservation System (NWPS). The map of South San Juan Wilderness Expansion Study Area (32,900 acres) identified as unsuitable for wilderness designation, shows several MAreas, which include prescriptions which will not be implemented unless Congress designates this area as non-wilderness. In the interim, this area is being managed to maintain the qualities which make it possible for inclusion in the NWPS.

Each MArea includes a prescription summary and asset of management requirements. Management requirements are presented as MA, CD and S&G. MAs are work processes conducted to produce, enhance, or maintain levels of outputs, or to achieve administrative and

environmental quality objectives, identified by a code number and title defined in the Management Information Handbook (FSH 1309.11) dated July 1980. In some cases, MAs are grouped under one activity. Because not all MAs need management requirements, when there are no management requirements listed for an MA, the Forest Direction or direction in laws, regulations, executive orders, or USFS directives adequately cover the activity.

Management	Emphasis	1992 Forest Plan Acres
1A	Developed recreation sites (acres area contained within other management areas)	562
1B	Winter sports sites	13,042
1D	Utility Corridors (acres were not calculated and are contained within other management areas)	- -
2A	Semi-primitive motorized recreation opportunities	94,627
2B	Rural and roaded-natural recreation opportunities	61,569
3A	Semi-primitive non-motorized recreation opportunities	396,561
4B	Wildlife habitat for management indicator species	95,070
5B	Big game winter range	150,110
6B	Livestock grazing	314,626
7C	Management of forested areas for wood fiber production and utilization	0
7E	Management of forested areas for wood fiber production and utilization on gentle slopes	268,000
8A	Pristine wilderness opportunities	318,273
8B	Primitive wilderness opportunities	43,671
8C	Semi-primitive wilderness opportunities	41,951
8D	Limited areas of wilderness providing for high density day use Maintenance of the qualities of an area which make it possible for inclusion in the NWPS; to be used on all Wildnerness Study Areas, regardless of the Plan's recommendation, until Congress acts. (Acres are shown within other management areas)	8,461 (90,100)
9A	Riparian area	38,413
9B	Increased water yield	0
10A	Research Natural Areas	2,302
10C	Chimney Rock Archaeological Area, increased public use	3,160
10D	Wild and Scenic River corridors	18,221

PRESCRIPT SUMMARY FOR MArea 1(A) - (Provides for existing and proposed development recreation sites): Management emphasis is for developed recreation in existing and proposed campgrounds, picnic grounds, trailheads and water-based support facilities. . . . sites scheduled for development in the Plan are managed to maintain the site attractiveness until they are developed.

PRESCRIPT SUMMARY FOR MArea 1(B) - (Provides for existing and potential winter sports sites): Management emphasis provides for downhill skiing on existing sites and maintains selected inventoried sites for future downhill skiing recreation opportunities.

Silvicultural Prescriptions (E03, 05, 06 & 07)

(06) The combined water yield effects of type conversion on ski runs and increased on-site water from stand re-generation must be determined. Do not exceed threshold limits of water quality and drainage system stability deterioration.

07) For management purposes of forested areas between ski trails or other permanent openings, a cut-over area is considered an opening until such time as: . . . increased water yield drops below 50% of the potential increase. (0501) (01B) . . .

S&G. a. When the Visual Quality Objective of an area is partial retention, the regenerated stand shall meet or exceed all of the following characteristics before a cut-over area is no longer considered an opening:

Forest Cover Type	Minimum Stocking Level (Trees/Acre)	Tree Height 1/% of the adjacent mature stand height)
Inland Ponderosa Pine	190	25
Mixed Conifers	190	25
Lodgepole Pine	150	25
Engelmann Spruce-Subalpine fir	150	25
Aspen	300	25

Forest Cover Type	Grown Closure (Percent)	Distribution 2/
Inland Ponderosa Pine	30	70%
Mixed Conifers	30	75%
Lodgepole Pine	30	75%
Engelmann Spruce-Subapline fir	30	75%
Aspen	30	75%

1/ Applies to trees specified as minimum stocking level
2/ Percent of plots or transects that are stocked

PRESCRIPT SUMMARY FOR MArea 1(D) - (Provides for utility corridors): Management emphasis is for major oil and gas pipelines, major water transmission and slurry pipelines . . .

MA - Wildlife Habitat Improvement and Maintenance (G02, 04, 05 and 06)

(01) Manage wildlife and fish habitat consistent or compatible with adjacent management areas. (0296) (FDR)

S&G. Limit right-of-way clearing width to a maximum of 600 feet to prevent adverse

effects on wildlife (7254SJ) (01D)

PRESCRIPT SUMMARY FOR MArea 2(A) - Management emphasis is for semi-primitive motorized recreation opportunities such as snowmobiling, four-wheel driving and motorcycling both on and off roads and trails.

MA Silvicultural Prescript (E03, 06 & 07) GD (05) and S&G same as under MArea 1(B) Silvicultural Prescript (07)

PRESCRIPT SUMMARY FOR MArea 2(B) - (Empasis is on rural and roaded-natural recreation opportunities)

PRESCRIPT SUMMARY FOR MArea 3(A) (PIII-130) - (Emphasis is on semi-primitive non-motorized recreation in roaded or non-roaded areas)

MA - Silvicultural Prescriptions (E03, 06 & 07) GD (06) Same as MArea 1(B) Silvicultural Prescript 07.

PRESCRIPT SUMMARY FOR MArea 4(B) - (Emphasis is on habitat or one or more management indicator species)

MA Silvicultural Prescript (E03, 06 & 07) GD (05) and S&G same as under MArea 1(B) Silvicultural Prescript (07)

MA Transportation System Management (L01 & 20)

(01) Allow new roads in the MArea only if needed to meet priority goals outside the MArea or to meet big game goals on the management area. Obliterate temporary roads within one season after planned use ends.

S&G: Manage the area for a low density (zero to one-half mile/square mile) of constant roads. (9334SJ) (05B)

PRESCRIPT SUMMARY FOR MArea 5(B) - (Emphasis is on big game winter range in forested areas): Management emphasis is on forage and over on winter ranges.

MA Silvicultural Prescript (E03, 06 & 07) GD (05) and S&G same as under Prescript for MArea 1(B)) Silvicultural Prescript (07)

PRESCRIPT SUMMARY FOR MArea 6(B): (Emphasis is on livestock grazing): Range condition is maintained through use of forage improvement practices, livestock management, and regulation of other resource activities.

MA - Range Improvement and Improvement and Maintenance (D03 - 06)

(01) Invest in cost-effective grazing management and rangeland productivity improvements. Where improvements include water developments, a water right in the name of

the United States must be obtained.

S&G: a. Structural improvements will not adversely effect big-game movement. (6182) (06B)

MA - Silvicultural Prescript (E03, 06 & 07) GD (04) same as Silvicultural Prescript GD (07) under MArea 1(B)

MA - Water Resource Improvement and Maintenance (F05 & 06)

01) Prolong streamflow, increase water yields and meet State water quality standards. (0145) (06B)

S&G. a. Use snow fencing in montane meadows or alpine where snow deposition will occur in protected areas. Structures should be constructed with: (8426SJ) (06B)

1. Ridge crest locations with at least 500 feet of upwind contributing area

2. Perpendicular orientation to prevailing winds

3. Northerly to northeasterly exposure of resultant snow drift

PRESCRIPT SUMMARY FOR MArea 7(C) - (Emphasis is on management of forested areas on steep slopes): Management emphasis is to develop and maintain healthy tree cover on forested slopes greater than 40%.

MA - Silvicultural Prescriptions (E03, 06 & 07) GD 04 same as Silvicultural Prescription (07) under MArea 1(B))

PRESCRIPT SUMMARY FOR MArea 7(E) - (Emphasis is on wood-fiber production and utilization): Management emphasis is on wood-fiber production and utilization of large roundwood of a size and quantity suitable for sawtimber.

MA - Silvicultural Prescriptions (E03, 06 & 07) GD 04 same as under MArea 1(B) Silvicultural Prescription (07)

PRESCRIPT SUMMARY FOR MArea 8(A) - (Provides for pristine wilderness opportunities) - Management emphasis is for the protection and perpetuation of essentially pristine bio-physical conditions and a high decree of solitude for both wildlife and humans with no perceptible evidence of past human use.

PRESCRIPT SUMMARY FOR MArea 8(B) - (Provides for primitive wilderness opportunities) - Management emphasis is to provide for the protection and perpetuation of natural bio-physical conditions. On-site regulation of recreation use is minimal.

PRESCRIPT SUMMARY FOR MArea 8(C) - (Provides for semi-primitive wilderness

opportunities): Management emphasis is to provide for the protection and perpetuation of essentially natural bio-physical conditions.

PRESCRIPT SUMMARY FOR MArea 8(D) - (Provides for limited areas of high-density day-use): Management emphasis is to provide for the protection and perpetuation of essentially natural bio-physical conditions inside wilderness boundaries which are adjacent to and accessed from urban or rural developments or heavily used developed recreation sites.

MA 8(D) - Range Resource Management (D)

(02) Manage meadows and lakeshores in "good" range condition. Limited areas of "fair" are permissible in areas of user concentrations. However, "fair" areas must be exhibiting an upward trend.

S&G. Base range condition on the standards in Range Analysis Handbook (FSH 2209.21) (6156) (08D)

PRESCRIPT SUMMARY FOR MArea 9(A): GD AND GOALS:

Emphasis is on the management of all of the component ecosystems of riparian areas, including the aquatic ecosystem, the riparian ecosystem (characterized by distinct vegetation), and adjacent ecosystems that remain within approximately 100 feet measured horizontally from both edges of all perennial streams and from the shores of lakes and other still water bodies. All of the components are managed together as a land unit comprising an integrated riparian area, and not as separate components.

The goals of management are to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water-body shorelines. The aquatic ecosystem may contain fisheries habitat improvement and channel stabilizing facilities that harmonize with the visual setting and maintain or improve wildlife or fish habitat requirements. The linear nature of streamside riparian areas permits programming of MAs which are not visually evident or are visually subordinate.

Forest riparian ecosystems are treated to improve wildlife and fish habitat diversity through specified silvicultural objectives. Both commercial and non-commercial vegetation treatments are used to achieve multi-resource benefits. Clearcutting is used to regenerate aspen clones. Other forest cover types are treated with either small-group or single-tree selection methods.

Livestock grazing is at a level that will assure maintenance of the vigor and regenerative capacity of the riparian plant communities. Vehicular travel is limited on roads and trails at times when the ecosystems would be unacceptably damaged. Developed recreation facility construction for overnight use is prohibited within the 100-year floodplain.

The MA over which this prescription is to be applied will also be affected by several MAs in the Forest-wide direction, most notably the direction involving upland zones, in the Water Resource

Improvement and Maintenance MA and elsewhere.

MA - Diversity on National Forests and National Grasslands (A00)

(01) Manage for natural succession unless specific vegetation treatment is necessary to meet other resource objectives or for insect and disease control.

MA - Cultural Resource Management (A02)-GD

(01) Allow recreation and non-recreation use of suitable cultural resource properties to the extent that such uses to not conflict with riparian and aquatic values. Limit interpretation to low cost developments such as interpretive signing. (0539SJ) (09A)

MA - Visual Resource Management (A04) - GD

(01) Design and implement management activities which sustain inherent visual values of riparian areas and blend with the surrounding natural landscapes. (0656) (09A)

S&G Do not exceed an Adopted Visual Quality Objective (VQO) of Partial Retention (6135) (09A)

MA - Dispersed Recreation Management (A14 and 15) - GD

(01) Semi-primitive nonmotorized, semi-primitive motorized, roaded natural and rural recreation opportunities can be provided. (0445) (09A)

(02) The recreation opportunity provided as an overall objective will generally be that opportunity being emphasized on the management area adjacent to, or bisected by, the riparian management area. (0542SJ) (09A)

S&G (Did not include lengthy S&G at pp. III 251-253)

(05) Close riparian areas to motorized vehicles operating off roads except at designated right angle crossings. This does not apply to over snow vehicles operating on snow. (4760SJ) (09A)

MA - Wildlife Habitat Improvement and Maintenance (G02, 04, 05 & 06) - GD

(01) Provide habitat diversity through vegetation treatments, in conjunction with other resource activities, designed to maintain or improve wildlife or fisheries habitat. (0658) (09A)

(02) Provide habitat for viable populations of all native vertebrate species of fish and wildlife. (0750) (09A)

(03) Manage riparian areas to reach the latest seral state possible within the stated objectives. (0402) (09A)

S&G Maintain all riparian eco-systems in at least an upper mid-seral successional stage based upon the R2 Riparian Eco-system Rating System (6147) (09A)

(04) Manage riparian areas identified as essential habitat for indicator species by retaining suitable habitats.

S&G a. Beaver: Introduce and control beaver populations in suitable riparian/aquatic areas with the assistance of State wildlife agencies, where such actions

would be beneficial to riparian management.

b. Cutthroat, Rainbow, Brown, and Brook Trout: Implement structural and non-structural improvements to maintain or improve fisheries habitat in aquatic ecosystems. In streams and rivers, develop habitat that will provide protective cover for trout during low water and escape and feeding cover during periods of low flow.

c. River Otter: Manage river otter habitat under guidelines and trapping regulations jointly agreed to between San Juan National Forest and Colorado Division of Wildlife. (1537SJ) (09A)

(05) Plan lake and stream habitat improvement projects with the assistance of state wildlife agencies, where aquatic habitats are below productive potential. Plan those improvements that harmonize with the visual setting. (0660) (09A)

(06) Maintain a current fish habitat inventory in cooperation with state wildlife agencies. (0662) (09A)

(07) MAINTAIN INSTREAM FLOWS IN COOPERATION WITH STATE WILDLIFE AGENCIES TO SUPPORT A SUSTAINED YIELD OF NATURAL FISHERIES RESOURCES. (0664) (09A)

MA - Range Resource Management (D02) - GD

(01) Maintain proper stocking and livestock distribution to protect riparian ecosystem. (0666) (09A)

(02) Prohibit trailing of livestock along the length of riparian areas except where existing stock driveways occur. Rehabilitate existing stock driveways where damage is occurring in riparian areas. Relocate them outside riparian areas if possible, and if necessary to achieve riparian-area goals. (0108) (09A)

(03) Where groundcover standards are not met or other riparian ecosystem degradation is occurring from grazing:

S&G. a. Implement intensive management systems (rest-rotation, deferred-rotation or rotation) which remove grazing from riparian areas at least part of the year, or;

b. Reduce stocking to a level that will allow degraded areas to recover, or;

c. Use temporary site specific exclusion fencing.

(04) Favor utilization of non-riparian forage over riparian by developing off-stream water sources and placement of salt blocks out of riparian areas. (2041SJ) (09A)

MA - Silvicultural Prescription (E03, 06 & 07) - GD

(01) Manage forest cover types to perpetuate tree cover and provide healthy stands, high water quality and wildlife and fish habitat. (0088) (09A)

(02) Manage Forest Cover Types using the following harvest methods:

- Clearcut in aspen, and
- Selection (Group or Single tree) in all other cover types. (0486) (09A)

S&G: a and b not listed here.

(03) Timber will be available on a low yield basis, although sustained non-declining timber yield is not planned. Harvest timber to meet wildlife, visual, and other resource needs Timber production will not be considered a primary management objective in riparian areas. (2540SJ) (09A)

(08) Prohibit log landing and decking areas within the riparian area. (0670) (09A)

(09) Reduce debris jam potential by cutting stumps to near ground level in the 100-year floodplain. (0672) (09A)

(10) Same as Silvicultural Prescript (07) MArea 1(B)

MA - Water Resource Improvement and Maintenance - GD

(01) Prevent or remove debris accumulations that reduce stream channel stability and capacity. (0001) (09a)

(02) Proposed new land-use facilities (roads, campgrounds, buildings) will not normally be located within floodplain boundaries for the 100-year flood. Protect present and all necessary future facilities that cannot be located out of the 100-year floodplain by structural mitigation (deflection structures, riprap, etc.) (0488) (09A)

S&G Implement mitigation measures when present or unavoidable future facilities are located in the active floodplain to ensure that State water quality standards, sediment threshold limits, bank stability criteria, flood hazard reduction and instream flow standards are met during and immediately after construction. (6604) (09A)

(03) Prevent stream channel instability, loss of channel cross-sectional areas, and loss of water quality resulting from activities that alter vegetative cover (0007) (09A)

(04) Maintain sediment yield within threshold limits. The effects on water and sediment yields from vegetation manipulation and road construction projects will be determined through the use of appropriate modeling and/or quantification procedures to determine sediment yield threshold limits and water yield increase potentials. (0632) (09A)

S&G. a. Limit changes in channel rating or classification scores to an increase of 10% or less. Use channel stability criteria established by Cooper, 1978 and Pfankuck, 1975. Use channel classification criteria established by Rosgen 1980. (6001) (09A)

b. Prescription-induced water yield increases should not exceed prescribed thresholds of allowable increase nor should the total yield of water and sediment exceed maximum allowable amounts as stated in the above references. (6060) (09A)

c. Maintain at least 80% of potential ground cover within 100 feet from the edges of all perennial streams, lakes and other waterbodies, or to the outer margin of the riparian ecosystem, where wider than 100 feet.

(05) Avoid channelization of natural streams. Where channelization is necessary for flood control or other purposes, use stream geometry relationships to re-establish meander, width/depth ratios, etc. consistent with each major stream type. (0680) (09A)

(06) Treat disturbed areas resulting from MAs, to reduce sediment yields to the natural erosion rates in the shortest possible time. (0684) (09A)

(07) Stabilize streambanks which are damaged beyond natural recovery in a reasonable time period with appropriate methods or procedures that emphasize control by vegetation. (0686) (09A)

(08) Design and locate settling ponds to reduce down-stream sediment yield and to prevent washout during high water. Locate settling ponds outside of the active channel. Restore any channel changes to hydraulic geometry standards for each stream type. (0688) (09A)

(09) Include wildlife and fish habitat, aesthetic, or safety goals when planning projects that result in vegetation type conversion. (0690) (09A)

(10) Require concurrent monitoring to ensure that mitigative measures are effective and in compliance with state water quality standards. (0692) (09A)

MA - Soil Resource Management (KA1) - GD

(01) Rehabilitate disturbed soils areas where adverse impacts would occure according to the following priorities: (0091) (09A)

-- Aquatic ecosystems
-- Riparian ecosystems
-- Riparian areas outside of aquatic and riparian ecosystems.

(02) Prevent soil surface compaction and disturbance in riparian ecosystem Allow use of heavy construction equipment for construction, residue removal, etc., during period when the soil is least susceptible to compaction or rutting. (0003) (09A)

(03) Maintain or enhance the long-term productivity of soils within the riparian ecosystem. (0694) (09A)

MA - Mining Law Compliance and Administration (G01) - GD

(01) Minimize detrimental disturbance to the riparian area by mineral activities. Initiate timely and effective rehabilitation of disturbed areas and restore riparian areas to a state of productivity comparable to that before disturbance. (0706) (09A)

S&G a. Prohibit the depositing of soil material from drilling, processing, or site preparation in natural drainageways. (6612) (09A)

b. Locate the lower edge of disturbed or deposited soil banks out-side the active floodplain. (6614) (09A)

c. Prohibit stockpiling of topsoil or any other disturbed soil in the active floodplain. (6618) (09A)

d. Prohibit mineral processing (milling) activities within the active floodplain. (6618) (09A)

e. Discontinue heavy equipment use when soil compaction, rutting, and puddling is present. (6620) (09A)

(02) Locate mineral removal activities away from the water's edge or outside the riparian area. (0708) (09A)

S&G. a. Locate drilling mud pits out-side the active floodplain unless alternate locations are more environmentally damaging. If location is unavoidable, seal and dike all pits to prevent leakage. (6624) (09A).

b. Drain and restore roads, pads, and drill sites immediately after use is discontinued. Revegetate to 80% of ground cover in the first year. Provide surface protection during storm-flow and snowmelt runoff events. (6626) (09A).

(03) Design and locate placer mine settling ponds to prevent washout during high water. Locate settling ponds outside of the active channel. Restore any channel changes to hydraulic geometry standards for each stream type. (0710) (09A)

S&G. Permit diversion activities within the riparian zone where technology is available to maintain water quality standards, sediment threshold limits, and instream flow standards. (6622) (09A)

(04) Confine heavy equipment use to areas necessary for mineral extraction. (0712) (09A)

(05) Locate mining camps outside the active floodplain. (0716) (09A)

(06) Require concurrent monitoring to ensure that mitigative measures are effective and in compliance with State water quality standards. (0714) (09A)

MA - Transportation System Management ((L01 & 20)

(01) Locate roads and trails outside riparian areas unless alternative routes have been reviewed and rejected as being more environmentally damaging. (0718) (09A)

S&G a. Do not parallel streams when road location must occur in riparian areas except where absolutely necessary. Cross streams at right angles. Locate crossings at points of low bank slope and firm surfaces. (6628) (09A)

b. Maintain the natural width-to-depth ratio of the stream at channel crossing.

(9342SJ) (09A)

(02) Continue the adjoining road and trail standards for transportation/travel management through riparian zones when feasible. (4761SJ) (09A)

MA - Local Road Construction and Reconstruction (L11,12 & 13) - GD

(01) Create artificial sediment traps with barriers where the natural vegetation is inadequate to protect the waterway or lake from significant accelerated sedimentation. (0720) (09A)

(02) Minimize detrimental disturbance to the riparian area by construction activities. Initiate timely and effective rehabilitation of disturbed areas and restore riparian areas so that a vegetation ground cover or suitable substitute protects the soil from erosion and prevents increased sediment yield. (0724) (09A)

S&G a. Establish vegetation groundcover on disturbed areas (excluding the running surface) to at least 60% within two years. On low productivity sites, establish to at least 40% ground cover. (9343SJ) (09A)

(03) Stabilize fill around road crossings and culverts. (4762SJ) (09A)

(04) Schedule construction activities during dry periods, low water period, or during frozen conditions. (4763SJ) (09A)

(05) Establish fords only under conditions which will not cause significant streambank erosion. These conditions are where:

a. Stream channel and bank are bedrock, rubble or gravel.

b. Bank slopes are low with firm surface. (4765SJ) (09A)

MA - Fire Planning and Suppression (P01) - GD

(02) Rehabilitate all firelines prior to demobilizing the fire. Include water bars and seeding. (5028SJ) (09A)

(03) Discourage location of fire camps in riparian areas. If they are necessary, provide sanitation facilities to avoid surface or groundwater pollution. (5028SJ) (09A)

MA - Fuel Treatment (P11 - 14) - GD

(01) Accomplish fuel removal primarily by hand crews to prevent water quality degradation and to avoid disturbance from dozer-constructed fuel breaks. (5029SJ) (09A)

PRESCRIPT SUMMARY FOR MArea 9(B) (Emphasis is on increased water yield through vegetation manipulation) - Management emphasis is on increased water yield and improved timing of flow through manipulation of forest vegetation. . . . Livestock grazing occurs but not to the point that regeneration of forested areas or water-yield objectives are impaired.

MA - Wildlife Habitat Improvement and Maintenance (C02, 04, 05 & 06) - GD

(02) Limit investments in wildlife habitat projects to those that do not cause immediate or long-term reductions in water quantity. Favor indicator species through timber management activities where possible. (1533SJ) (09A)

S&G a. Deer, Elk and Bear: Restrict disruptive human activity in calving and fawning area during the last two weeks of May and the first two weeks of June. (7233SJ) (09B)

b. Hairy Woodpecker and Mountain Bluebird: Protect ad/or provide 20 snags/10acres in all forested types. Also provide for snag replacement . (7227SJ) (09B)

c. Goshawk: Prohibit disruptive management activities within 300 feet of any occupied raptor nests during the period May 1 through July 31. (7231 SJ) (09B)

MA - Range Improvement and Maintenance (D03 - 06)

(01) Construct and maintain allotment boundary fences, short drift fences and water developments necessary to implement management systems. (2033SJ) (09B)

MA - Silvicultural Prescriptions (E03, 06 & 07) - GD

(01) Harvest forest cover types by clearcut harvest method (0265) (09)

S&G (b)(1)* The largest increase in water available for stream flow results when 30 to 40 percent of a drainage is harvested in small clearcut patches (3 to 10 acres) dispersed throughout the area of a watershed. (Leaf and Alexander FS Re. Pap. RM 133)

(03) Same as 1(B) MArea Prescript (07)

MA - Water Resource Improvement and Maintenance (F05 & 06) - GD

(01) Prolong streamflow, increase water yields and meet State water quality standards. (0145) (09B)

S&G a. Use snow fencing in montane meadows or alpine where snow deposition will occur in protected areas. Structures should be constructed with:

1) Ridge crest locations with at least 5600 feet of upwind contributing area.

2) Perpendicular orientation to prevailing winds.

3) Northerly to northeasterly exposure of resultant snow drift. (8426SJ) (09B)

(02) See the "Silvicultural Prescriptions" MA for specific vegetation treatment for increased water yield. (3026SJ) (09B)

S&G a. In areas not managed for timber production, treat clearcut areas in all forest cover types except aspen every 20 years to keep in equivalent clearcut condition. (8430SJ) (09B)

MA - Local Road Construction and Reconstruction (L11, 12 & 13) - GD

(01) Construct roads to the minimum standards required for activities that accomplish the water yield objectives. (4751SJ) (09B)

S&G a. Construct or reconstruct local constant roads with gravel support needed for timber operations and hauling. (9332SJ) (09B)

b. Construct local intermittent roads with no gravel support unless needed to extend logging seasons. (9328SJ) (09B)

MA - Road Maintenance (L19) - GD

(01) Maintain roads as necessary to accomplish water yield objectives (4794SJ) (09B)

S&G a. Maintain local constant roads to maintenance level three. (9329SJ) 09B)

b. Maintain local intermittent roads to maintenance level two when open for project activities. (9330SJ) (09B)

PRESCRIPT SUMMARY FOR MArea 10(A) - (Provides for research natural areas): Emphasis is on research, study, observations, monitoring and educational activities that are non-destructive and non-manipulative, and that maintain unmodified conditions.

MA - Water Resource Improvement and Maintenance (F05 & 06) - GD

(01) Limit the construction of water developments to the minimal research facilities needed to measure quality, quantity and other hydrological characteristics. (3027SJ) (10A)

PRESCRIPT SUMMARY FOR MArea 10(C) - (Provides for special interest areas): Emphasis is on management of areas of unusual scenic, historical, geological, botanical, zoological, paleontological, or other special characteristics to protect and where appropriate, foster public use and enjoyment of these areas.

PRESCRIPT SUMMARY FOR MArea 10D (Provides for Wild and Scenic Rivers): Management emphasis is on river segments designated as a component of the National Wild and Scenic River System and those recommended for designation. "Wild Rivers" are managed to be free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted. "Scenic Rivers" are managed to be free of impoundments with shorelines or watersheds still largely primitive and shorelines largely undeveloped but accessible in places by roads. "Recreational Rivers" are managed to be readily accessible by road or railroad, and to maintain developments that may have occurred along the shoreline and impoundments or diversion that may have occurred in the past.

MA - Diversity on National Forests and National Grasslands (A00) - GD

(01) Manage for natural succession in wild and scenic segments. Provide diversity in recreational river segments through harvest treatments specified under management activity "Silvicultural Prescriptions." (1037SJ) (10D)

MA - Cultural Resource Management (A02) - GD

(01) Allow low-intensity development of cultural resource properties as compatible with river designation; for example, interpretive and protective signing and stabilization of

historic structures. Encourage non-recreation use (research, etc.) to the extent that such use enhances the recreation experience or does not present unsolvable conflicts with designation purposes. (0555SJ) (10D)

MA - Visual Resource Management (A04) - GD

(01) Meet state visual quality objective. (0125) (10D)

S&G a. Do not exceed an Adopted visual Quality Objective (VQO) of:

-- Retention on wild and scenic segments

-- Partial retention on recreational segments (6431SJ) (10D)

MA - Dispersed Recreation Management (A14 & 15) - GD

(01) Provide the following recreation opportunities in the respective river segments:

-- Wild river segments: Semi-primitive non-motorized recreation in an unmodified setting.

-- Scenic river segments: Semi-primitive motorized recreation in an essentially unmodified setting.

-- Recreational river segments: Roaded natural recreation in a generally unmodified setting. (0556SJ) (90D)

MA - Recreation Site Construction and Rehabilitation (A05 &06) - GD

(01) Provide facilities to meet the overall objective of the various segments.

a. Wild river segments: Provide rustic or rudimentary facilities when needed to protect existing camping sites; otherwise, allow no new campgrounds, picnic area, and trailheads in river corridors.

b. Scenic river segments: Provide rustic or rudimentary facilities at existing camping sites, or devleop new sites when needed for protection of the site rather than for the comfort of the user. Such sties must be screened from view. Sites may also be provided for boater on boatable segments which are otherwise inaccessible by trail.

c. Recreational river segments: Provide contemporary/rustic facilities at new sites such as campgrounds, picnic areas, trailheads, parking and boat launching areas for the comfort of users as well as for site protection. Such sites may also be provided for boaters on boatable segments which are otherwise inaccessible by trail. (0557SJ) (10D)

MA - Wildlife Habitat Improvement and Maintenance (C02, 04, 05 and 06)

(01) Permit investments in wildlife habitat projects that do not cause adverse impact to the scenic qualities of the river corridor. (1545SJ) (10D)

MA - Range Resource Management (D02) - GD

(01) Allow domestic livestock to graze within corridors, but decrease grazing where adverse impacts on river banks and vegetation occur. Exclude cattle from sensitive sties and reduce numbers or period of use in areas where grazing degradation has occurred. (2046SJ) (10D)

(02) Prohibit trailing (driving) of livestock within the river corridor except for established stock driveways. (2047SJ) (10D)

MA - Range Improvement and Maintenance (D03 - 06) - GD

(02) Limit investments in structural improvements to those needed for proper distribution and river area protection. Control bank trampling. (2049SJ) (10D)

MA - Silvicultural Prescriptions (E03, 06 & 07)

(01) Timber will be available on a low yield basis, although sustained non-declining timber yield is not planned. Harvest timber only to maintain healthy stands and to enhance visual, wildlife, and other values of the corridor. (2545SJ) (10D)

(02) Manage forest cover types using the following harvest methods:

- Clearcut in aspen
- Selection in conifer cover types. (2546SJ) (10D)

S&G a. Silvicultural Standards:

1) Aspen: Patch clearcut in units of one to three acres

2) Conifer cover types: Remove no more than 30 percent of the basal area in any one cutting period (30) years with selection harvest methods. (8061SJ) (10D)

MA - Rights-of-Way and Land Adjustments (J02, 13, 15, 16, 17 & 18) - GD

(01) Do not dispose of National Forest lands within corridor. All private land within the established river corridor boundary is subject to the scenic easement or acquisition program. (4241 SJ) (10D)

MA - Transportation System Management (L01 & 02) - GD

(01) Manage motorized vehicle use on the respective segments as follows:

-- Wild river segments: Prohibit motorized vehicle use (including snowmobiles) off Forest System roads and trails. Close existing trails to motorized vehicle use.

-- Scenic and Recreational river segments: Prohibit motorized travel off development roads and trails except for oversnow vehicle use. (4779SJ) (10D)

MA - Fire Planning and Suppression (P01)

(01) Provide a level of protection from wildfire that is cost efficient and that will meet management objectives. (5032SJ) (10D)

S&G: b. Do not allow tractor use for fire suppression within river corridors. (9637SJ) (10D)

CHAPTER IV: MONITORING AND EVALUATION

Monitoring and evaluating the implementation of he Forest Plan provides the decisionmaker with information on the progress toward achieving the goals, objectives, and management requirement of the Forest Plan.

Monitoring will determine:

- if management area prescriptions are applied as directed
- if management requirements are being followed
- if the Forest Service is achieving the objectives of the Plan
- if application of management area prescriptions are responding to public issues and management concerns
- if effects of implementing the Forest Plan are occurring as predicted
- if costs of implementing the Forest Plan are as predicted
- if management practices on adjacent or intermingled non-National Forest lands are affecting the Forest Plan goals and objectives
- the effects of implementation of the Forest Plan on other agencies

An annual monitoring action program will be prepared as part of the total San Juan National Forest annual program of work. This annual monitoring program will include the details of the amount and location of monitoring to be accomplished based on the approved program of work and funds available for monitoring. Specific locations, intensity of sampling, person days required, and costs will be identified in the annual monitoring program.

Evaluation of results of the site-specific monitoring program will be documented in an annual review. The significance of the results of the monitoring program will be analyzed by the San Juan National forest interdisciplinary team and reviewed for action by the management team.

Based on the analysis, any nee for further action is recommended to the Forest Supervisor by the management ream. The recommendations can include:

- no action needed, monitoring indicates goals, objectives, and management requirements are achieved;
- refer recommended action to the appropriate line officer for improvement of application of management area prescriptions;
- modify the management area prescription as a Forest Plan amendment;
- modify the allocation of a management area prescription as a Forest Plan amendment;
- revise the project schedule of outputs; or
- initiate revision of the Forest Plan.

The documented file of the Forest Supervisor's decisions resulting from monitoring and review is maintained for future use in amending or revising the Forest Plan.

The Forest Plan's monitoring requirements appear in Table IV-1. For each activity, practice, or effect to be monitored, one or more measuring techniques and the standard to be met are specified. A frequency for measuring the monitored item is also established.

MONITORING REQUIREMENTS

Actions, Effects or Resources to be Monitored	Units	Data Source	Intent	Frequency	Precision/ Reliability	Variability which would initiate Evaluation
Recreation:						
Dispersed recreation use (includes wilderness and fish)	Recreation Visitor days	MAM or RIM	Compare actual and planned outputs and services	Annually	60%	After five years +/-100%
Wildlife & Fish:						
Wildlife habitat improvement	Acres	MAR	Compare actual and planned outputs and services	Annually	100%	+/-50%
Population and habitat trends of management indicator species		- Population estimates by State Wildlife agencies - Professional judgment of FS Wildlife Biologist -Habitat inventory assessments -Resource Information System -Program reviews -Activity reviews -Annual wildlife and fish report -Diversity assessments	Determine habitat capability trends and the relationship to habitat change	At least once every five years	Varies	-Species viability is jeopardized -20% change in species habitat distribution -change in species emphasis by State Fish and Wildlife Agency
Water:						
Meeting water quality goals	Acre-feet	MAR	Compare actual and planned outputs and services	Annually	90%	+/- 25%
Soils:						

Soil and water improvements (improved watershed condition)	Acres	MAR	Compare actual and planned outputs and services	Annually	80%	+/- 50%