PROPOSED ACTION LOCATION........... San Juan Public Lands
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United States Forest Service (USFS)
U.S. Department of the Interior (USDI),
Bureau of Land Management (BLM)
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Montezuma, Montrose, Rio Grande, San Juan, San Miguel Counties,
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PART 2 ■ STRATEGY

GENERAL MANAGEMENT PRINCIPLES

OBJECTIVES

AIR QUALITY

SOILS

WATER

AQUATIC ECOSYSTEMS AND AQUATIC SPECIES

RIPARIAN AREAS AND WETLAND ECOSYSTEMS

TERRESTRIAL ECOSYSTEMS AND PLANT SPECIES

FIRE AND FUELS MANAGEMENT

WILDLIFE

MANAGEMENT INDICATOR SPECIES

INVASIVE SPECIES

ACCESS AND TRAVEL MANAGEMENT

RECREATION

HERITAGE AND CULTURAL RESOURCES

SCENERY, VISUAL RESOURCES, AND THE BUILT ENVIRONMENT

INTERPRETATION AND CONSERVATION EDUCATION

TIMBER AND OTHER FOREST PRODUCTS

LIVESTOCK AND RANGELAND MANAGEMENT

MINERALS AND ENERGY

DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS

ABANDONED MINE LANDS AND HAZARDOUS MATERIALS

LANDS AND SPECIAL USES

SUITABILITY

SUITABILITY BY MANAGEMENT AREA

Management Area 1 (MA 1) - Natural Process Dominate

Management Area 2 (MA 2) - Special Areas and Unique Landscapes

Management Area 3 (MA 3) - Natural Landscapes, with Limited Management

Management Area 4 (MA 4) - High-Use Recreation Emphasis

Management Area 5 (MA 5) - Active Management (commodity production in order to meet multiple-use goals)

Management Area 7 (MA 7) - Public and Private Lands Intermix

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U.S. FOREST SERVICE AND BLM PLANNING

U.S. Forest Service and Bureau of Land Management (BLM) land and resource management planning is an adaptive process that includes social, economic, and ecological evaluation. The process entails plan development, monitoring, and adjustment, as appropriate. The overall aim of planning is to ensure responsible land management based on useful and current information that guides land stewardship to best meet the needs of the American people.

Planning generally occurs at three levels within both agencies. For the USFS, at the national level, the Chief is responsible for the Forest Service Strategic Plan, as required by the Government Performance and Results Act (GPRA) of 1993. The Strategic Plan establishes goals, objectives, performance measures, and strategies for management of the National Forest System. The San Juan National Forest is one administrative unit of this system. At the next level, the Regional Forester is the Responsible Official for approval of land management plans. The third level is for site-specific projects and activities which are actions usually under the authority of the Forest Supervisor or District Ranger.

For the BLM, at the national level, the Director is responsible for the Annual Operating Plan, which falls under the Department of Interior’s Strategic Plan as required by the GPRA. The Strategic Plan and the Operating Plan establish goals, objectives, performance measures, and strategies for management of lands administered by the BLM. The Columbine, Dolores, and Pagosa Field Offices, administered by the San Juan Public Lands Center, are administrative units of this system. At the next level, the State Director is the Responsible Official for development and approval of resource management plans. The third level is for site-specific projects and activities which are actions usually under the authority of the Center Manager or Field Office Manager. These are also sometimes done at a programmatic level, termed an activity plan.

BLM AND USFS PLANNING UNDER SERVICE FIRST

The BLM and the USFS share similar missions, partners, issues and constituents. In order to improve public service, the two land management agencies are developing ways to work together under a concept known as “Service First.” The BLM and Forest Service Offices in southwestern Colorado are pioneering this Service First partnership strategy, which is designed to provide better stewardship of land and resources, to enhance customer service, and to provide more cost-effective delivery of services to users of the San Juan public lands (SJPL).

Under the Service First Interagency Agreement (June 5, 2005), employees of the San Juan Public Lands Center (SJPLC) and its Ranger District/Field Offices are working together as a single team in order to provide leadership in all aspects of land management. The improved efficiency and effectiveness of their combined workforces, the quality of their integrated resource management decisions, and the cooperative delivery of their products and services, in relation to the San Juan public lands, is enhancing the ability of both agencies to better serve the public. Many permit holders, recreation users, and other interested parties have become accustomed to Service First, and both agencies are committed to continuing this cooperative partnership in order to better serve the needs of the land and of the public.
This Draft Land Management Plan applies to the lands managed by the San Juan Public Lands Center (the Columbine, Dolores, and Pagosa Ranger District/Field Offices), except for the lands included in the Canyon of the Ancients National Monument (the Monument). The Monument has a separate Resource Management Plan, as directed by the Presidential Proclamation (Number 7317) that established the Monument. Because this Plan applies to two different agencies, its format and some of its terminology vary from typical land management plans for either agency.

This Draft Land Management Plan was prepared pursuant to the requirements of the National Forest Management Act of 1976 (NFMA), the 1982 regulations (36 CFR 219) as allowed by the transition provision of the 2000 regulations, the Federal Land Policy Act of 1976 (FLPMA) and 43 CFR 1600. The Plan is intended to provide consistent direction across both BLM and National Forest System lands. Both agencies have similar missions and, for the most part, similar direction. These Plans attempt to use the same terminology to the extent possible but some exceptions exist where needed to match legal or policy direction that differs by agency.

PURPOSE OF THE PLAN

The purpose of this Plan is to provide broad guidance and information for project and activity decision-making needed to manage the San Juan Public Lands. This Plan will guide relevant resource management programs, practices, uses, and protection measures.

The key decisions made in this integrated plan for long-term management of the SJPL are:

- The establishment of desired outcomes, including multiple-use goals and objectives (36 CFR 219.11(b), 43 CFR 1601.0-5(k) (3)). (These are primarily expressed as desired conditions in Part 1, and as objectives in Part 2 of Alternative B, the Preferred Alternative, which is described in detail in Volume 2.)
- The establishment of management requirements, including measures or criteria that would be applied in order to guide day-to-day activities (36 CFR 219.13 to 219.27, 43 CFR 1601.0-5(k) (2) and (4). (These are primarily expressed as standards and guidelines and other design criteria in Part 3 of Alternative B, the Preferred Alternative.)
- The establishment of management area direction, including identifying allowable uses, and/or allocations, restrictions, and prohibitions (36 CFR 219.11(c) and 43 CFR 1601.0-5(k) (1), (2), and (3)). All lands within the planning area are allocated to one of seven management areas (MAs), or zones, that reflect different levels of development and suitable uses or activities. (Management areas are discussed under geographic areas in Part 1, and under suitability in Part 2 of Alternative B, the Preferred Alternative.)
- The designations of Research Natural Areas (RNAs) and Areas of Critical Environmental Concern (ACECs) (36 CFR 219.25, 43 CFR 1601.0-5(k) (1) and 43 CFR 1601.7-2). (Areas with these designations are identified in the special areas section of Part 2 of Alternative B, the Preferred Alternative.)
- The recommendations of lands for inclusion in the National Wilderness Preservation System (36 CFR 219.17). (These areas are identified in the special areas section of Part 2 of Alternative B, the Preferred Alternative.)
- The identification of river segments that are suitable for inclusion in the National Wild and Scenic Rivers System (PL 90-542 and 36 CFR 219.2(a)). (These are identified in the special areas section of Part 2 of Alternative B, the Preferred Alternative.)
• The designation of suitable timber land (16 USC 1604(k) and 36 CFR 219.14) and the establishment of allowable sale quantity (36 CFR 219.16). (These are described in the suitability and objectives sections of Part 2 of Alternative B, the Preferred Alternative.)

• The establishment of monitoring and evaluation requirements (36 CFR 219.11(d), 43 CFR 1601.0-5(k) (8) and 43 CFR 1610.4-9). (These are described in the monitoring section of Part 2 of Alternative B, the Preferred Alternative.)

• Allocation of livestock forage (AUMs) and areas available for livestock grazing on BLM-administered public lands (43 CFR 4100.0-8, BLM handbook 1601-1 Land Use Planning Appendix C II. B). (These are described in the suitability section of Part 2 of Alternative B, the Preferred Alternative, and in Appendix L of the DEIS.)

A separate decision, apart from the Land Management Plan, that has been incorporated into this document is determining the National Forest System lands that will be administratively available for oil and gas leasing, as well as the associated stipulations. (A similar decision for BLM-administered lands is made as part of the RMP decision. The Forest Service considers leasing availability decisions to be separate from planning decisions, but closely linked to planning decisions, with both planning level and project level components.)

RELATIONSHIP OF PLAN TO OTHER PLANNING DOCUMENTS AND GUIDANCE

This Draft Land Management Plan is one key document in a set of documents that integrates and displays information relevant to management of the San Juan Public Lands. Other documents that will form the administrative record for the Plan include the Environmental Impact Statement (EIS), the Record of Decision (ROD), social, economic, and ecological assessments, Analysis of the Management Situation (AMS) report, public participation documentation, objections and disposition record, and administrative corrections. Together these documents demonstrate comprehensive analyses, public involvement, and decision-making processes, and they form the foundation for adaptive management.

PLANNING PROCESS SUMMARY

This Draft Land Management Plan is based on the results of two comprehensive and complementary planning efforts, one being resource-data-driven, and one being public-value-driven. The first effort provided technical analyses of conditions and trends for social, economic, and ecological elements related to the San Juan Public Lands. These analyses included consideration of new relevant information, and legal and policy changes that have occurred since the current plans were developed. This work is documented in several assessments and summarized in the AMS report.

The second major effort in Plan development (which is still ongoing) is to gather and utilize knowledge of people that are familiar with the planning area regarding their values, objectives, and uses of the San Juan Public Lands. Thus far, this extensive public participation effort has primarily focused on input related to vision, contributions, management challenges, land allocations, desired conditions, objectives, and suitable uses of the San Juan Public Lands. Results from the technical analyses were used in the public participation process to inform, focus, and enhance participant dialogue. A summary of the public participation activities, which incorporated the analysis information and greatly contributed to the development of this Plan, is given in Volume 3, Appendix A.
The assessments and knowledge gained through public involvement were used to shape the Draft Land Management Plan (Alternative B, the Preferred Alternative), as described in this volume as well as alternatives to it that are documented in the Draft Environmental Impact Statement (Volume 1). Both the earlier documents and the DEIS include information on how the draft Plan would contribute to sustaining social, economic, and ecological systems. These documents do not address every potential topic that may arise in management of the San Juan Public Lands. Rather, they address the parameters and issues that the Responsible Officials (Regional Forester and BLM State Director) have determined to be pertinent to this planning process.

**Forest Service**
The current Land Management Plan was approved in 1983. It has been amended 21 times, including a significant amendment in 1992 that superseded the earlier version. This Draft Land Management Plan was developed using the provisions of the 1982 regulations (36 CFR 219), as specified by the 2000 planning rule and clarified by the 2004 Interpretative Rule.

National Forest management is authorized and guided by many laws, regulations, and policies (see AMS: Legal and Other Requirements). This body of governing legal direction is dynamic, with some pieces more subject to change than others. In addition, the Forest Service has a directives system that consists of the Forest Service Manual (FSM) and the Forest Service Handbook (FSH). These contain the agency’s policies, practices, and procedures and serve as the primary basis for the internal management, control of programs, and administrative direction. The directives are available via the internet at [http://www.fs.fed.us/im/directives](http://www.fs.fed.us/im/directives). The direction contained within these sources will continue to evolve and apply as appropriate. Unless needed to provide context, clarity, or emphasis, direction from these sources will not be reiterated in this Plan.

**Bureau of Land Management**
The current Resource Management Plan was approved in 1985 and has been amended four times. Wilderness Study Areas (WSAs) are being managed under interim guidance provided by the Interim Management Policy and Guidance for Lands under Wilderness Review until such time that Congress makes a final wilderness decision. This draft Plan discusses how those lands would be managed if Congress released them from wilderness study.

This Draft Land Management Plan has been developed to meet the requirements of the BLM planning regulations (43 CFR 1600). Those regulations require that plans be revised as necessary, without setting a specific lifespan. The 1985 RMP covered both the San Juan and San Miguel Resource Areas, as they were called at that time. This Draft Land Management Plan only applies to the lands that comprised the old San Juan Resource Area; now known as the Columbine, Dolores, and Pagosa Field Offices. The Uncompahgre Field Office will revise the Plan for the San Miguel area at a later date. A separate Plan is being developed for the portion of the San Juan Public Lands that comprises the Canyons of the Ancients National Monument.

BLM management is authorized and guided by many laws, regulations, and policies. This body of governing legal direction is dynamic, with some pieces more subject to change than others. In addition, the BLM has a directives system with manuals and handbooks, similar to the Forest Service. These contain the agency’s policies, practices, and procedures and serve as the primary basis for internal management, control of programs, and administrative direction. BLM planning direction is available via the internet at [http://www.blm.gov/planning/library.html](http://www.blm.gov/planning/library.html). The direction contained within these sources will continue to evolve and apply as appropriate. Unless needed to provide context, clarity, or emphasis, direction from these sources will not be reiterated in this Plan; rather it is incorporated by reference.
Within the flexible and adaptive framework of both agencies planning regulations and directives, the guidance set forth by this Plan should continue to provide a meaningful framework and vision for management into the foreseeable future.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE

This Draft Land Management Plan (DLMP) is accompanied by a Draft Environmental Impact Statement (DEIS) as required by the regulations used in its development (43 CFR 1601.0-6 and 36 CFR 219.10).

LAND MANAGEMENT PLAN ORGANIZATION

The management guidance which is presented applies San Juan Public Lands-wide, or where appropriate, to smaller geographic scales. Guidance applies to both BLM and National Forest System lands unless otherwise noted. The Plan makes no decisions applicable to other ownerships.

The format of this Plan is different from that of those issued in the first round of planning that occurred beginning in the early 1980s for both agencies after the passage of the National Forest Management Act and the Federal Lands Policy and Management Act. It is designed to better communicate the concepts of strategic guidance and adaptive management.

Plan Structure
This Draft Land Management Plan is formatted into three interrelated parts. Part 1 is the “Vision” for the San Juan Public Lands. It sets the context for the Plan and describes the San Juan’s uniqueness on a regional and national level. It also describes the roles and contributions of the San Juan Public Lands and presents the desired conditions at several geographic scales. The vision is long-term and reflects ecological timeframes as well as social desires. In BLM planning terms, the vision includes desired outcomes and goals. In USFS planning terms, it includes goals and management area direction.

Part 2 is the “Strategy” which articulates how the BLM and Forest Service intend to move the San Juan Public Lands toward the desired conditions described in Part 1. The strategy is organized into four sections: objectives, suitable uses, special areas, and monitoring. In BLM planning terms, the strategy includes objectives; uses or allocations that are allowable, restricted or prohibited; some management actions (administrative designations and actions to achieve desired outcomes); and monitoring. In USFS planning terms, it includes objectives, suitability and capability, management area prescriptions, recommendations for the Secretary of Agriculture to take to Congress, and monitoring.

Part 3 is “Design Criteria” which identify sideboards for the strategy as well as subsequent projects designed to implement the strategy. In addition to specific standards and guidelines, this section includes references to other applicable guidance that the BLM and Forest Service use during project planning and implementation. The other guidance includes applicable Federal laws and regulations, Executive Orders (EOs), directives (manuals and handbooks), and State and local laws and regulations. In BLM planning terms the design criteria include some management actions (proactive measures and measures or criteria applied to guide day-to-day activities occurring on public land). In USFS planning terms, the design criteria include standards and guidelines.
Table 1 shows how the key decisions, in the terminology of each agency, fit with the different sections of this Draft Land Management Plan. The key elements of BLM and USFS plans overlap in spite of different planning regulations and handbook direction.

### Table 1 - Plan Components and Forest Service and BLM Decision Types

<table>
<thead>
<tr>
<th>Plan Sections</th>
<th>USFS Plan Decisions</th>
<th>BLM Plan Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLAN PART I – Vision</strong></td>
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<tr>
<td>Desired Conditions</td>
<td>Goals</td>
<td>Desired Outcomes – Goals</td>
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<td></td>
<td>Management Area Prescriptions</td>
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<td><strong>PLAN PART II – Strategy</strong></td>
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<tr>
<td>Objectives</td>
<td>Objectives</td>
<td>Desired Outcomes: Objectives</td>
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<td></td>
<td></td>
<td>Management Actions: Actions anticipated to achieve desired conditions, including actions to maintain, restore, or improve land health</td>
</tr>
<tr>
<td>Suitability</td>
<td>Suitability and Capability</td>
<td>Allowable Uses: Uses, or allocations, that are allowable, restricted, or prohibited</td>
</tr>
<tr>
<td>Special Areas</td>
<td>Management Area Prescriptions, Congressional Recommendations</td>
<td>Management Actions: Administrative Designations</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Monitoring Requirements</td>
<td>Monitoring Requirements</td>
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<tr>
<td><strong>PLAN PART III – Design Criteria</strong></td>
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<tr>
<td>Standards and Guidelines (forestwide and management area-specific)</td>
<td>Standards and Guidelines (forestwide and management area-specific)</td>
<td>Management Actions: Measures or criteria that will be applied to guide day-to-day activities</td>
</tr>
</tbody>
</table>
Vision - Desired Conditions

Desired conditions encompass the overarching goals of land and resource management. They are statements of the social, economic, and ecological attributes and values toward which management strives to achieve. These statements or descriptions characterize or exemplify the desired outcomes of land management. They describe how the area is expected to look and function in the future.

Some desired conditions are general, while others are quite specific. Desired conditions are presented at three levels of spatial detail (see Figure 1):

1. all San Juan Public Lands;
2. three Geographic Areas (Dolores, Columbine, and Pagosa Ranger District/Field Offices); and
3. seven Management Areas (smaller areas that reflect differing levels of management intensity, naturalness, and development).

Figure 1 - San Juan Public Lands, Geographic Areas, and Management Areas
Desired conditions are aspirations; they may only be achievable over the long term. Collectively, specific projects implemented subsequent to this Land Management Plan should contribute to maintaining and/or achieving desired conditions, but no single project should be expected to contribute to meeting all desired conditions. Identifying and establishing desired conditions is the central focus of this Draft Land Management Plan.

**Strategy - Objectives**

Objectives are concise projections of measurable, time-specific intended outcomes. Objectives are a means of progressing toward maintaining and/or achieving desired conditions. As with desired conditions, they are aspirations, not commitments or final project decisions. Objectives are presented at three levels of spatial detail:

1. all San Juan Public Lands;
2. three Geographic Areas (Dolores, Columbine, and Pagosa Ranger District/Field Offices); and
3. certain Management Areas (MA 2, Special Areas and Unique Landscapes).

**Strategy - Suitability**

The capability and suitability of areas for various uses and activities has been identified based on the following:

- inherent biophysical capability to provide the use or activity in a sustainable manner;
- public input; and
- balancing desired conditions for multiple resources.

Suitability is presented at two levels of spatial detail:

1. all San Juan Public Lands; and
2. Management Areas.

Uses or activities that are allowed, restricted, or prohibited are described for each Management Area in Part 2. Each Management Area has a different mix of uses and activities that are compatible with its management emphasis and desired conditions. If a specific use or activity is not discussed, it does not mean that the San Juan has no areas where it is appropriate. Suitability is also described at a broader level for some topics, including timber harvest and livestock management.
Strategy - Special Areas and Unique Landscapes

Special areas are portions of the San Juan Public Lands that are designated because of their unique or special characteristics. Special areas are designated administratively through Plan approval (e.g., botanical areas) or the Plan can recommend designation through statute, subsequent to Plan approval (e.g., wilderness recommendations). Most special areas on the San Juan Public Lands are included in Management Areas 1 or 2. Some special areas, including National Recreation and Scenic Trails, and Wild and Scenic Rivers, are relatively narrow, linear features that cross a mixture of Management Areas.

Some other areas without Congressional or administrative designations are highlighted, under Management Area 2, as unique landscapes. Desired conditions, objectives, and suitability are described in detail for these areas.

Strategy - Monitoring

Monitoring and evaluation of plan implementation is used to evaluate progress toward achieving desired conditions and objectives, and to determine how well management requirements such as standards and guidelines are being applied. Programmatic direction on monitoring and evaluation is described in the Land Management Plan in order to provide a framework for subsequent periodic monitoring.

Design Criteria - Standards and Guidelines

Standards and guidelines are criteria used in project design and implementation that protect resources and help ensure that Plan outcomes are achieved. They are project-level operational controls that help ensure that projects are consistently implemented in ways that reduce environmental impacts. They provide technical information and guidance for project and activity decisionmaking to help achieve desired conditions and objectives.

Standards and guidelines are presented at two levels of spatial detail:

1. all San Juan Public Lands; and
2. Management Areas.

The development of projects is also guided by other sources such as Best Management Practices (BMPs), State laws and/or policies, and terms and conditions from USDI Fish and Wildlife Service conservation strategies or biological opinions. Additional examples include leasing stipulations, conditions of approval, and conditions for protecting resources that apply to coal and natural gas development projects. These and other applicable guidance from laws, regulations, policies, and agency directives are generally not detailed in this Land Management Plan unless necessary in order to emphasize or highlight information.

The USFS and BLM will conduct environmental analysis, pursuant to NEPA, as well as public involvement activities when projects are proposed. During project planning, applicable and appropriate Land Management Plan guidance will be incorporated as required design features and/or mitigation measures when the project decision is made.
CONSISTENCY OF PROJECTS WITH THE PLAN

All projects and activities authorized by the BLM and the USFS must be consistent with the Land Management Plan (16 USC 1604 (i), 43 CFR 1601.5-3). A project or activity is considered consistent with the Land Management Plan if it is consistent with the plan decisions described earlier in the Introduction.

If a project or activity as proposed would not be consistent with the Land Management Plan, the Responsible Official has the following options:

- modify the proposal so that the project or activity will be consistent;
- reject the proposal; or
- amend the plan contemporaneously with the approval of the project or activity so that the project or activity is consistent with the Land Management Plan, as amended. The amendment may be limited to apply only to the project or activity.
VISION STATEMENT

The San Juan Public Lands provide multiple benefits for people in a manner that is sustainable over time. The ecosystems from which these benefits are derived are also sustainable.

The San Juan Public Lands continue to function as “working lands,” meaning that historic uses such as livestock grazing and timber production continue at sustainable levels. At the same time, some areas remain in a wild or relatively pristine condition in order to provide for scenery, historic and cultural resources, clean water, biological diversity, and wildlife and fisheries habitat. The San Juan Public Lands continue to provide a variety of recreation settings and opportunities important to the people who live in southwestern Colorado, people who visit the area, and businesses that support those activities.

THE SETTING

The San Juan Public Lands (see Figure 2) lie amidst the mesas and mountains of Southwest Colorado at the junction of the Southern Rockies and the Colorado Plateau. Elevations within the area range from about 4,900 feet to over 14,000 feet above sea level. The San Juan consists of diverse landscapes, including large expanses of relatively pristine lands and other areas that are more developed, with roads and a wider variety of human activities evident. They provide opportunities for a broad range of human activities and uses, as well as natural processes, to occur.

The San Juan is known for beautiful scenery, outstanding prehistoric and historic features, relatively unconfined recreation opportunities of high quality, and clean water and air. A large portion of the water in southwestern Colorado originates in mountainous, headwaters areas of the San Juan Public Lands.

The San Juan Public Lands contain some of the nearest high-elevation lands that offer a cooler-temperature refuge for visitors from states to the south and west. The area is ringed by numerous National Parks and Monuments (including Great San Dunes, Chaco, Mesa Verde, Grand Canyon, Canyonlands, and Arches National Parks; and Hovenweep and Canyons of the Ancients National Monuments). These factors, plus scenic attractions such as the San Juan Skyway and the Alpine Loop scenic byways, make Southwest Colorado a national destination for visitors.

The area has a rich heritage, ranging from pre-Puebloan culture to early Hispanic settlements, hard-rock mining, ranching, and contemporary recreation and retirement communities. There are many Native American communities within a few hundred miles that have connections to the area, including 21 Pueblo communities in New Mexico, and the Southern and Ute Mountain Ute, Jicarilla Apache, and Navajo Tribes, the Hopi Pueblos in Arizona, and the Uintah and Northern Utes Tribes of Northeast Utah.
The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
THE SAN JUAN PUBLIC LANDS “NICHE”

The San Juan Public Lands (SJPL) consist of diverse landscapes, including large expanses of relatively pristine lands, as well as other areas that are more developed, with roads and a wider variety of human activities evident. The SJPL provide opportunities for a broad range of human activities and uses, as well as for natural processes, to occur.

The San Juan Public Lands are known for beautiful scenery, outstanding prehistoric and historic features, relatively unconfined recreation opportunities of high quality, and clean water and clean air. A large portion of the water in southwestern Colorado originates in the mountainous headwaters areas of the SJPL.

The people of southwest Colorado, as well as visitors to the area, have a strong tie to public lands and participate in their management. Many existing relationships and partnerships with a variety of interests and organizations serve as tangible evidence of important attachments to these public lands, and offer many opportunities for use, enjoyment, and cooperative stewardship.

THE STRATEGIC VISION

The U.S. Forest Service and the Bureau of Land Management have similar missions:

- **USFS**: to sustain the health, diversity, and productivity of the nation’s forests and grasslands in order to meet the needs of present and future generations.
- **BLM**: to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

The mission of both agencies is based upon the relationship between the American people and their natural resource heritage. This relationship is founded on the principles of sustaining the nation’s natural resources for future generations, producing personal and community well-being, and providing economic wealth for the people, communities, and businesses of the nation. Both agencies have Strategic Plans (as required by GPRA, 5 USC 306, 31 USC 1115-1119, and 31 USC 9703-9704) aimed at increasing the accountability of Federal agencies by measuring their progress toward achieving agency goals and objectives. The Strategic Plans were used during the development of this Draft Land Management Plan as guidance for developing desired conditions and outcomes.
DISTINCTIVE NATURE OF THE SAN JUAN PUBLIC LANDS

The San Juan Public Lands in southwestern Colorado have distinct characteristics that set them apart from other places. Some key characteristics are described below.

Diverse Geography
The San Juan Public Lands, which lie within the Colorado Plateau and Southern Rocky Mountains ecoregions, display tremendous geographic diversity. They range from about 4,900 feet in the canyon country (near the Utah border) to over 14,000 feet in the high peaks of the San Juan Mountains. The tremendous geologic, topographic, climatic, and vegetative diversity associated with these lands supports an unusually broad variety of biodiversity, as well as a wide range of habitats for flora and fauna. The variety of ecosystems found throughout the planning area, including semi-desert grasslands, pinyon-juniper woodlands, ponderosa pine forests, spruce-fir forests, alpine tundra, riparian areas and wetlands, offer exceptional diversity in scenery and recreational opportunities.

Scenery and Tourism
The diverse geography of the San Juan Public Lands provides for remarkable scenery and attracts many visitors to the area. The proximity to numerous national parks and national monuments in the Four Corners (including Mesa Verde, Grand Canyon, Canyonlands, and Arches National Parks; and Hovenweep and Canyons of the Ancients National Monuments), as well as scenic attractions (including the San Juan Skyway and the Alpine Loop Scenic Byway, and the Durango-Silverton Narrow Gauge Railroad) make southwestern Colorado a national destination for visitors.

Recreation
The size and the diversity of the San Juan Public Lands make a vast array of recreational opportunities activities (including scenic driving, ATV-use, mountain biking, hiking, horseback riding, camping, fishing, hunting, boating, and guided trips) possible. Past mining, logging, and grazing activities have created an impressive transportation network that provides people access to public lands in order to engage in the recreational experiences they seek.

Unroaded Lands
Within the planning area, there are large unroaded and undeveloped lands where natural ecological processes proceed with minimal human interference. These lands provide habitat for wide-ranging species, as well as linkages that facilitate species movements and gene flow. They act as reserves that protect the ecosystems and the full range of biological diversity within them. The planning area includes over 420,000 acres designated as Wilderness, including the Weminuche (which is the largest Wilderness Area in Colorado). An additional 600,000 acres within the planning area are currently roadless.
Heritage Resources
The lands within the planning area have a long and rich prehistoric and historic record that goes back approximately 10,000 years. Within the area, many important discoveries and a great depth of archeological research has taken place. The archeological record of the area contains evidence of the earliest agricultural societies in the region. The historic record of the area includes artifacts of Spanish and Euro-American explorers, trappers, miners, and settlers. This long record of human occupation has left one of the highest densities of prehistoric and historic cultural resources found anywhere in the United States.

Natural Gas
The lands within the planning area contribute significantly to the nation’s ability to produce natural gas. Approximately 90 billion cubic feet (which is enough energy to heat a million homes) are produced annually.

Service First
Under a unique, cooperative venture called Service First, the USFS and BLM have combined resources and are working together in order to improve land management on the 2.5 million acres of public lands in southwestern Colorado. This is the first undertaking of its kind in the nation.
MANAGEMENT CHALLENGES

Some of the management challenges within the planning area include meeting the recreation demand, balancing multiple uses, performing ecological preservation, combating invasive plant species, protecting/enhancing biological diversity, and managing complex water-related issues. These management challenges are described below.

Meeting Recreation Demand
The local population surrounding the San Juan Public Lands is projected to increase by approximately 50,000 residents by 2025 (according to Colorado Demography Section forecasts). Demand for recreational opportunities is expected to increase, along with the increase in the population. Meeting this increasing demand without compromising the integrity of SJPL ecosystems requires careful planning and management.

Balancing Multiple Uses
Land management conflicts are common within the planning area, especially as people engaging in different uses increasingly compete for the same piece of land. Public lands that are adjacent to private lands (referred to as the wildland-urban interface or WUI) can also create a number of management challenges, including fire management, fuels reduction, recreation conflicts, and wildlife habitat preservation/protection. Complex land ownership patterns also create management challenges, including issues and conflicts in relation to boundaries, easements, public access, and roads.

Performing Ecological Restoration
Some ecosystems within the planning area are in need of restoration. This is due, in part, to past management activities that have changed their composition, structure, and/or function. Some ponderosa pine forests, for example, are in need of restoration in order to change their dense structure to one that is more similar to the open structure which was historically more common. Management challenges associated with restoration include finding cost-effective methods to restore ecosystems, developing a viable market for products produced from restoration activities, and prioritizing when and/or where restoration should occur.

Combating Invasive Plant Species
One of the most significant problems facing the San Juan Public Lands is the introduction and spread of invasive plant species. Invasive plant species, including noxious weeds, are a severe threat to native plants as well as to the overall biological diversity in the area.

Protecting/Enhancing Biological Diversity
Another significant management challenge for the San Juan Public Lands is the protection of rare and/or federally listed species. The demands from land management activities (including diversions and the consumptive use of water) will likely remain stable or increase. Without proactive habitat improvement projects, additional plant, terrestrial wildlife, and/or aquatic species could be listed as threatened or endangered, both on and off the San Juan Public Lands. Any additional listings would tend to add complexity to public land management, and would likely alter existing or future multiple-use opportunities.
Climate Change
Climate change can have many varied effects on ecosystems found on the San Juan Public Lands. Recorded changes in temperature and precipitation, concurrent with an increase in atmospheric CO2 concentration, can result in increases of the growing season, enhanced tree growth, changes in density of tree cover, changes in tree populations, and changes in the location of treeline.

Rising temperatures brought on by global warming add stress to trees, making them more susceptible to insects and disease, and stimulating the growth of underbrush and other fuels. Changing forests mean changing habitat for the wildlife species that depend on them.

It is very possible that the number of acres burned by wildfire could increase many-fold by the end of the century as a result of climate change. At the same time, there is great concern that scarce water supplies in the west could become even more scarce. It is also possible that the timing and nature of runoff from mountain watersheds could change, adding more stress and demand to available water supplies and further stressing aquatic ecosystems.

Because there is much uncertainty about the timing and specific effects of climate change on the San Juan Public Lands, it is anticipated that in the near future, we will need to develop new management practices and policies adapted to projected drifts in the geographic distribution of ecosystems. There will also be a need to understand and adapt to social and economic effects that climate change may bring.

Managing Water-Related Issues
Managing water-related issues will continue to be a complex and significant challenge throughout the planning area. Managers of the San Juan Public Lands will continue to be called upon to maintain clean water, protect water-dependent ecosystems, protect rare or threatened and endangered aquatic species, and perform watershed restoration while, at the same time, continuing to supply water for a variety of existing and future consumptive needs and multiple uses.

The population surge in the West continues to increase the diversion and the consumptive use of water and, at the same time, increases the demand for water-based recreation. Changes in the status quo of water appropriation and the complexity of Federal water management policy are a deep concern of State governments and senior water rights holders. The on-going regional drought has accelerated State initiatives designed to develop new water storage and diversion projects of various sizes. Regional climate shifts and global climate change could further exacerbate the complexity of these issues.

Historical Range of Variation (HRV)
The Historical Range of Variation (HRV) is used as an important concept for protecting species diversity and viability, sustaining ecosystems, and for developing Plan components relative to SJPL. HRV describes the range of ecological conditions (including vegetation structure and natural disturbance regimes) that existed within the planning area during the reference period (the period of indigenous settlement, lasting from approximately A.D. 1500 to the late 1800s. During this period broad-scale climatic conditions were similar to those of today, but European-American settlers had not yet introduced the sweeping ecological changes (including timber harvest, livestock grazing, fire suppression, water diversions, dams, and roads) that have greatly altered many Rocky Mountain landscapes. HRV information allows land managers to compare whether or not current ecological conditions within the planning area are similar, or dissimilar, to the HRV conditions that occurred within the same area in the past. The intent is not to manage the planning area according to HRV conditions. The intent is to use HRV conditions as reference points from which to help formulate attainable and sustainable desired conditions that meet a variety of land and resource management objectives. The key assumption here is that native species evolved under HRV conditions, and thus maintaining a full range of similar conditions offers the best assurance against losses of biodiversity (Seymore and Hunter 1999).
Sustainability
People are an integral part of ecosystems, and are fully dependent upon them for their short- and long-term well-being. Balancing the need for short-term goods and services with the long-term need for ecosystem persistence is a management challenge. In order to meet this challenge, ecosystems need to be managed for long-term sustainability. This means engaging in management activities and strategies that are in line with the physical and biological capabilities of the land; preserving all of the ecological pieces; preventing irreversible impacts to ecosystem resilience and ecosystem resistance to change; and ensuring the ability of ecosystems to meet the needs of future generations.

Land Management Plans must guide the sustainable management of Federal lands, as required by the Multiple-Use Sustained-Yield Act. This Act requires that Federal lands be managed in order to provide a continuous flow of goods and services to the nation. In order to meet this requirement, LMPs must provide a sustainable framework of social, economic, and ecological conditions that sustain native ecosystems and support diversity of native plant and animal species within the planning area. The requirements of the National Forest Management Act (NFMA) are accomplished in the planning process through a hierarchical and iterative approach that analyzes and provides guidance for ecosystem diversity and species diversity (“iterative” in that each step of the process is developed in small sections so that it can be thoroughly reviewed and analyzed, with the resulting new insight or knowledge used to help develop the next step in the process -- keeping track of what has been tried, approved, and/or discarded -- until a “blueprint” is developed that can serve as the final product).

The DLMP provides for ecological sustainability by recognizing and planning for the ecosystem diversity associated with the terrestrial, aquatic, and riparian areas and wetland ecosystems found within the planning area. It also accomplishes ecological sustainability by recognizing, and planning for, the species diversity associated with federally listed species, Management Indicator Species (MIS), Highlight Species, and BLM Special-Status Species found within the planning area. These ecosystems and species are the focus of management strategies and actions, and are accomplished through the development of DLMP components (including desired conditions, objectives, and guidelines).
Diversity and Viability
Management of ecological resources on San Juan Public Lands (SJPL) includes providing for a diversity of plant and animal communities and maintaining viable populations of all native and desired non-native wildlife, fish, and plant species. This is accomplished in this LMP in a multiple use framework through a combination of ecosystem management (that includes the management of reserves and human activities) and species-specific management.

The management of ecosystems is a cornerstone of this planning approach. It focuses on the principle that managing for natural diversity in the composition, structure, and function of the terrestrial ecosystems, riparian and wetland ecosystems, and aquatic ecosystems on SJPL will provide for sustainability. Another point of focus is the idea that sustaining these components of ecosystems will provide for the viability of the majority of species associated with them, including species with viability concerns and species we know little about. Our approach to managing ecosystems includes the protection of abiotic features and ecosystem processes including disturbance, succession, and hydrologic processes, all of which play an important role in providing ecosystem and species diversity and viability on SJPL.

Diversity and viability is also addressed by maintaining and protecting the many large unroaded lands on SJPL, and the intact ecosystems and linkages associated with them. These lands including wilderness areas, research natural areas, botanical areas, and roadless areas are relatively unaltered from human impacts and act as reserves to protect the ecosystems and the full range of biological diversity within them (Norton 1999).

In addition to the more conservation-focused strategy above, the SJPL ecosystem approach includes proactive management actions that promote ecosystem and species diversity, viability, and sustainability including wildland fire use, management-ignited fire, timber harvest, fuels reduction, and invasive species management. Wildland fire use and management-ignited fire will be used to introduce fire to ponderosa pine and warm-dry mixed conifer forests where it was a frequent disturbance agent during the reference period (HRV conditions), but has been absent from these ecosystems in many places for a long time. Timber harvest and fuels reduction projects will be used to reduce the density of trees and open up the forest canopy in ponderosa pine and warm-dry mixed conifer forests in order to create structural conditions more similar to those of the reference period (HRV conditions). Invasive species management will be used to prevent the introduction and spread of invasive species that compete with native species. These proactive management actions provide for the diversity and viability of ecosystems and species by creating sustainable ecosystem conditions.

The management of species is also fundamental to the SJPL planning approach since threats to some species and the factors limiting populations of other species are not always linked strongly to broader ecosystem conditions. The species approach is associated with maintaining the biological diversity and viability of all species, and focused on the needs of individual species that are rare or endemic, are at risk of decline, are economically important, or are not adequately protected by the ecosystem management approach. These special status species include federally listed species, candidate species, R2 Regional Forester’s sensitive species, BLM special status species, and SJPL highlight species. See Appendix Q for additional information relative to diversity and viability on SJPL.
**INTRODUCTION**

Desired conditions are the overarching goals of land and resource management. In this DLMP, they are expressed as “goal” statements regarding the social, economic, and ecological attributes of public lands and resources toward which management strives and aspires to achieve. These statements, or descriptions, characterize or exemplify the desired outcomes of land management – and describe how the area should look and function in the future. Identifying and establishing desired conditions is the central focus of this DLMP.

Some desired conditions are general, while others are quite specific. Some desired conditions statements apply to the entire planning area, while others apply only to certain areas within the planning area. In this DLMP, desired conditions are first presented by topic for the entire planning area. Then they are presented by geographic area. Additionally, some desired conditions are associated with the Management Areas in which they are to be applied. Not every desired condition statement has a corresponding or follow-up DLMP component (i.e., objective or guideline). Follow-up components are provided only where necessary in order to address management needs.

**PHYSICAL AND ECOLOGICAL RESOURCES**

**AIR QUALITY**

**Background**

Air quality within the planning area has long been recognized as among the most pristine in the country (Malm et. al 2000; Copeland 1998). Visitors to the SJPL generally expect clear, clean air to be part of their overall experience. Air quality is an integral part of the natural environment and, in turn, affects water quality, soil chemistry, aquatic ecosystems, and vegetation. The Weminuche Wilderness Class I Area has been recognized by Congress as being an “outstanding special area” – deserving the highest air-quality protection in the nation.

Over the last 5 years, air-quality issues have emerged as a major resource concern in relation to energy development, prescribed burns, and human development. Air quality degradation in the Weminuche Wilderness Class I Area is predicted as a result of cumulative regional pollution (including from oil and gas field development, coal-fired power plants, and population increases) in the Four Corners area.

Atmospheric nitrogen deposition from anthropogenic sources of air pollution is increasing and has the potential to affect water quality and high-elevation aquatic and terrestrial ecosystems. Water bodies throughout the planning area are showing increasing levels of mercury pollution. Recently, McPhee Reservoir was officially designated as a water body impaired by mercury contamination and Vallecito Reservoir has new advisories for mercury contamination of fish. Coal-fired power plants are large sources of atmospheric mercury that can pollute water.
Desired Conditions – Air Quality

1.1 Air quality in the Weminuche Wilderness Class I Area is in pristine condition. Indicators of pristine conditions include air quality related values of visibility, lake chemistry, precipitation/atmospheric chemistry, soils chemistry, and aquatic/terrestrial biota.

1.2 Air quality for the Class II Areas within the planning area is maintained or improved with respect to pollutant concentrations so that the integrity of associated aquatic and terrestrial ecosystem components are protected.

1.3 Activities conducted on the SJPL maintain pristine air quality conditions at nearby Class I Areas outside of the planning area (such as at Mesa Verde National Park).

1.4 Visibility at designated scenic vistas in Class II Areas is maintained or improved within the planning area (see desired conditions for Scenery).

1.5 Visibility in the Weminuche Wilderness continues to improve, so that natural background conditions are obtained.

SOILS

Background

Providing for the sustainability of ecosystems is the overall desired condition throughout the planning area. Sustaining ecosystems includes protecting the physical, chemical, and biological properties of soils; and maintaining or enhancing soil productivity by preventing or minimizing soil compaction, displacement, erosion, puddling, and severe burning. Management activities on the SJPL that have the potential to adversely impact soil productivity include timber harvesting, livestock grazing, fuels treatments, natural fire, prescribed burns, oil and gas development, road construction, recreation development, and the construction of utility corridors.

Desired Conditions – Soils

2.1 Soil productivity is intact throughout most of the planning area.

2.2 Long-term levels of soil organic matter, soil nutrients, and litter are maintained throughout most of the planning area.

2.3 Ground cover (vegetation and litter) is maintained throughout most of the planning area.

2.4 Management-induced soil erosion, soil compaction, soil displacement, puddling, and/or severely burned soils are rare within the planning area.

2.5 Upland soils exhibit infiltration and permeability rates that minimize surface run-off and allow for the accumulation of the soil moisture necessary for plant growth and ecosystem function.

2.6 Wetland- and riparian-area soils have the soil moisture necessary for the growth of native hydrophytic plants and healthy ecosystem function.

2.7 The unique soils associated with the fens and hanging gardens found in the planning area are intact and have the water necessary to protect the rare plants and native biological diversity associated with them.

2.8 Soil productivity is improved in the mountain grasslands that are currently dominated by non-native plant species and displaying detrimental soil erosion and/or compaction.

2.9 Biological soil crusts found in the planning area are maintained or increased in the vegetation types in which they occur.
WATER

Background

The San Juan Public Lands are unique in that they encompass the headwaters of several large river systems (including the San Juan, the Piedra, the Los Pinos, the Animas, and the Dolores River systems). These river systems are vital resources to the States in the Four Corners area. Large mountain ranges running along the Continental Divide delineate much of the northern boundary of the planning area. The upper-elevation mountainous areas receive abundant precipitation. In addition, perennial streams, lakes and other water features are common on the landscape. Lower-elevation lands receive much less precipitation and they generally tend to have fewer (although larger) perennial rivers and more intermittent or ephemeral water bodies.

Water quality within the planning area is typically good. In the few water bodies exhibiting water quality problems, it is mercury, heavy-metals, salinity, and sediment that are the common pollutants. In some places, mine-related heavy metals pollution is being cleaned up. This is a result of the aggressive abandoned mine reclamation program underway in the planning area (see Abandoned Mine Lands section). Depletion and development of groundwater resources are emerging issues in the planning area, and are often associated with oil and gas development and private land development. High road densities, as well as poor road placement, design, and maintenance, have caused water-quality, floodplain, and channel morphology changes in some watersheds.

Drought has also impacted the planning area over the past decade. In fact, drought is a large contributing factor to the decrease in local water tables and to the reduced flow in streams, springs, and seeps. Dry upland conditions have increased grazing pressure on riparian areas and wetland ecosystems. The drought-related increase in large wildfires has impacted many watersheds by increasing flooding, erosion, and sedimentation (which has resulted in damage to private property near, and adjacent to, planning area boundaries).

Existing water-development projects continue to impact aquatic resources within the planning area. These projects range in size from small ponds and irrigation ditches, to large-scale diversion and storage projects (such as the Dolores Project/McPhee Reservoir). Due to increasing public demand, proposals for new (large and small) water-development projects also continue to increase. Addressing these increasing demands while, at the same time, maintaining the integrity of aquatic ecosystems, may be one of the biggest challenges to public lands management over the next few decades.

Desired Conditions - Water Quality

3.1 State water-quality standards are met and Colorado Water Quality Control Commission-classified water uses are supported for all water bodies.

3.2 Water quality for impaired water bodies on the State’s 303(d) list moves toward fully supporting State-classified uses.

3.3 State “Outstanding Waters” within the planning area maintain the high levels of water quality necessary for this status.

3.4 Watersheds within the planning area containing saline soils exhibit stable upland, riparian, and channel conditions that produce water quality as close to reference conditions as possible; they produce the lowest possible saline contributions to the upper Colorado River (see Appendix K for saline watersheds).

3.5 Management activities throughout the planning area serve to protect and enhance the quality of municipal water supplies.
Desired Conditions - Stream Channels and Floodplains

3.6 Stream channel types that naturally construct floodplains are connected to their floodplains and carry overbank flows (which occur on the average every 1.5 years and are capable of transporting moderate or high flow events).

3.7 Physical channel characteristics are in dynamic equilibrium and commensurate with the natural ranges of discharge and load provided to a stream. Streams are also adjusted to the expected riparian vegetation composition and valley landforms that they occupy; they function correctly without management intervention.

3.8 Historically disturbed and degraded stream channels recover through floodplain development, increased riparian vegetation, and improved channel geomorphic characteristics.

Desired Conditions - Groundwater Resources

3.9 Aquifers maintain natural patterns of recharge and discharge, especially where they are important to surface features dependent upon groundwater for their existence (including caves, karst, springs, seeps, lakes, riparian areas and wetland ecosystems, fens, and intermittent and perennial streamflow).

3.10 Aquifers possessing groundwater of quality and/or quantity that provide multiple-use benefits, maintain water quality at natural conditions.

Desired Conditions - Watershed Conditions, Watershed Scale, and Water Uses

3.11 Upland areas function properly and do not contribute to stream-channel degradation.

3.12 Favorable conditions of flow exist that sustain supplies of high-quality water and that support multiple-use management.

3.13 The majority of unregulated or free-flowing streams within the planning area are retained in their current undeveloped condition; they provide potential reference conditions and offer unique opportunities for recreation, species conservation, and pleasing aesthetics.

3.14 The overall function and integrity of streams and stream reaches impacted by water developments are adequately protected for their baseline ecological and recreational values. This is accomplished by providing for adequate in-stream flows (as part of new water-development planning) as well as for existing water-development operations. This includes sustaining the ecological processes dependent upon flow patterns and stream volumes for the impacted watersheds.

3.15 The natural range of hydrologic flow patterns is sustained in streams so that functioning aquatic ecological systems can be maintained when water is transferred from one catchment to another. Water lost (i.e., there is no return flow) from watersheds as a result of water transfer does not adversely alter or impact the aquatic ecology of the watershed.

3.16 All water developments for Federal purposes have State water rights, if applicable. The use of water continues over the implementation-life of the Land Management Plan, when the water is available.

3.17 All water developments that involve the use of the San Juan Public Lands are authorized pursuant to applicable Federal authorities.
AQUATIC ECOSYSTEMS

Background

Water-dependent environments are essential for the interrelated and interacting communities and populations of plants and animals. These aquatic ecosystems include stream channels, lakes, and/or other water-dependent features, as well as the biotic communities and habitat features that occur therein. The aquatic biota includes native and desired non-native fish species, aquatic plants, aquatic insects, amphibians, macroinvertebrates, and periphyton communities. A variety of land management activities occurring throughout the planning area over the last 100 years have impacted aquatic ecosystems. Where they once occurred, or where they continue to occur, recreation, commercial, and management activities (including hard-rock mining, livestock grazing, timber harvesting, road construction, and a variety of water-development projects) have, in general, reduced the quantity and/or quality of aquatic habitats. As a result, the ability to support self-sustaining and functioning populations of fish and other aquatic biota has been reduced in a number of streams and rivers within the planning area. This is most evident in areas impacted by consumptive uses of water. The cumulative impacts of hundreds of existing water developments have resulted in adverse and on-going impacts to the composition, structure, and functioning of aquatic habitats. Where fish-population monitoring has been conducted downstream of water developments, significant decreases in population densities have been observed.

The introduction of non-native fish species, as well as the occurrence of potentially lethal pathogens, has resulted in the decline of some species. The stocking of non-native trout species over many years has come at a significant cost to the native Colorado River cutthroat trout. Native sucker species have also declined due to the loss of aquatic habitat, and as a result of hybridization with the introduced white sucker. The parasite *Myxobolus cerebralis* (which causes whirling disease in trout) is becoming more widespread throughout the planning area and is known to have increased mortality rates for infected populations.

More recently, fish population levels have been reduced by prolonged drought. This has reduced natural streamflow and resulted in increased demands for water for human consumptive uses. These increased demands have, in turn, resulted in numerous additional water-development proposals. With continued drought and the increasing demand for consumptive water uses, aquatic habitats and fish populations are likely to experience additional declines without aggressive, proactive management efforts.

Where possible, land management activities that incorporate the objectives for aquatic habitats and fisheries, implement Best Management Practices (BMPs), maintain streamflows, and/or implement site-specific mitigation measures will reduce the risks to aquatic resources and limit further declines in aquatic biota.

Desired Conditions - Aquatic Ecosystems

4.1 Range of flows is adequate to maintain physical aquatic habitats.

4.2 Long-term aquatic ecosystem sustainability is maintained.

4.3 Waterflow conditions in streams, lakes, springs, seeps, wetlands, fens, and aquifers support functioning habitats for a variety of aquatic and semi-aquatic species (including all native and/or desired non-native fish species, amphibians, aquatic plants and insects, macroinvertebrates, and periphyton communities).

4.4 Water bodies, riparian vegetation, and adjacent uplands provide habitats that maintain the viability of native and/or desired non-native aquatic communities (including fish, amphibians, invertebrates, plants and other associated aquatic species).
4.5 With regard to channel characteristics, water quality, and flow regimens, aquatic habitat within the planning area are diverse; they appropriately reflect the climate, geology, and natural vegetation of the area.

4.6 Aquatic habitat quantity and quality are maintained or enhanced in order to provide for the long-term sustainability and viability of all native and/or desired non-native vertebrate species.

4.7 Macroinvertebrate diversity and abundance reflect high water quality.

4.8 Connectivity between water bodies provides for all life history functions of aquatic species. Except where barriers are beneficial and necessary in order to achieve conservation goals for certain aquatic species, aquatic systems are connected in a manner that avoids fragmentation of aquatic habitats; they provide for the movement of aquatic species sufficient to ensure that fish populations are not isolated.

4.9 Physical characteristics (including bank stability, width-to-depth ratio, pool/riffle ratio, pool depth, slope, sinuosity, cover, and substrate composition) are commensurate with the natural ranges of discharge and loads provided to a stream; they sustain all life stages of native and/or desired non-native aquatic species.

4.10 All native and/or desired non-native fisheries thrive in the vast majority of systems historically capable of supporting such fisheries.

4.11 Populations of aquatic species throughout the planning area are viable, adequately mobile, genetically diverse, and functionally diverse.

RIPARIAN AREAS AND WETLAND ECOSYSTEMS

Background

In this Plan, riparian areas and wetland ecosystems are defined together as lands that occur in the interface between the aquatic ecosystem and the upland terrestrial ecosystem (where the water table is usually at, or near, the land surface) (Gregory et al. 1991; Risser 1990; Knopf et al. 1988; Brinson et al. 1981; Cowardin et al. 1979). They are frequently flooded, or at least seasonally saturated, due to a fluctuating water table; they have plant species, soils, and topography that differ considerably from those of the adjacent uplands (Elmore and Beschta 1987; Jones 1990).

The variability of riparian areas and wetland ecosystems within the planning area at the subclass level (which is based on the predominant leaf phenology of the life form in the upper canopy layer) includes evergreen riparian forests, deciduous riparian forests, mixed-evergreen-deciduous riparian forests, deciduous riparian shrublands, perennial forbs, and perennial graminoids.

Due to human impacts, riparian areas and wetland ecosystems have changed dramatically during the last century-and-a-half in the southwestern United States (Blair et al. 1996; Dick-Peddie 1993). Human impacts to riparian areas and wetland ecosystems include urbanization, agriculture, logging, livestock grazing, mining, recreation, roads, dams, diversions, and the introduction of non-native species. These impacts have reduced native hydrophytic (plants that have adapted to living in, or on, aquatic environments) species (most notably cottonwood and willows), increased invasive species, changed dominant life forms (from trees or shrubs to herbs), reduced water flow, and lowered water tables. The deciduous riparian forests, mixed-evergreen-deciduous riparian forests, and deciduous riparian shrublands types have probably been the most affected by human impacts. This is due to their easy access and characteristics which have made them desirable areas for settlement. Deciduous forest riparian areas and wetland ecosystems in good condition are scarce on the BLM lands within the planning area (Kram et al. 2005).
Some fens within the planning area have been adversely impacted by management activities, including by roads that are in or adjacent to them, by roads that may be impacting their hydrology, and by damage caused by off-road vehicles. The non-native shrub tamarisk, which competes with native cottonwoods and willows, has invaded much of the Dolores River Canyon and its lower tributaries.

**Desired Conditions – Riparian and Wetland Ecosystems**

5.1 Riparian areas and wetland ecosystems have vegetation that is vigorous and self-perpetuating; they exhibit a diverse composition of desirable native plant species that display multiple-size and multiple-age classes. Invasive plant species are absent or rare.

5.2 Riparian areas and wetland ecosystems have vegetation cover sufficient to catch sediment, dissipate energy, prevent erosion, stabilize stream banks, enhance aquatic habitat, and promote floodplain development.

5.3 Forest and shrubland riparian areas and wetland ecosystem types display hydrophytic trees and shrubs in a variety of size classes; they provide terrestrial and aquatic habitats, stream shading, woody channel debris, aesthetic values, and other ecosystem functions.

5.4 Woody debris in a variety of sizes is present in forest and shrubland riparian areas and wetland ecosystem types.

5.5 Riparian areas and wetland ecosystems are resilient and resistant to change from disturbances (including from floods, fire, and drought).

5.6 Riparian areas and wetland ecosystems have flow regimes and flooding processes that contribute to stream-channel and floodplain development, maintenance, and function; they facilitate the regeneration of hydrophytic plant species (including narrowleaf cottonwood and Rio Grande cottonwood) that depend on flooding for regeneration.

5.7 The composition, structure, and function of fens are intact (including their native plant species, organic soils, and hydrology).

5.8 The aquatic and terrestrial ecosystems that are interconnected with, and occur adjacent to, riparian areas and wetland ecosystems function properly; they display the ecological components necessary in order for the adjacent riparian areas and wetland ecosystems to function properly.

5.9 Upland areas, and the activities associated with them, do not adversely impact stream channels, and/or riparian areas and wetland ecosystems.

5.10 The critically imperiled wild privet shrublands and boxelder/river birch woodlands are protected; they have habitat to expand into; and they have the water quantity and hydrologic systems necessary in order to support and sustain these communities.
TERRESTRIAL ECOSYSTEMS

Background

In this DLMP, terrestrial ecosystems are defined as ecosystems that occur in relatively dry, upland landscape positions. Major vegetation types are used as the primary terrestrial ecosystems to describe ecosystem diversity and to analyze past, present, and future ecological conditions within the planning area (see Figure 3 - Major Vegetation Types). Development stages of the major vegetation types (used throughout the DLMP in order to further describe ecosystem diversity) are extensions of the Wildlife Structural Stages (WSS) found in the SJPL Region 2 Vegetation Database. In addition to tree size and crown cover, development stages include other structural and compositional components important to ecosystems and native biota. The young development stage generally correlates with WSS 2 (seedling-sapling). The mid-development stage generally correlates with WSS 3 (sapling-pole). The mature development stage generally correlates with WSS 4 (mature). The old-growth development stage was developed from attributes identified by Mehl 1992.

 Desired conditions for the development stages of the major vegetation types were developed for this DLMP/DEIS by the Interdisciplinary (ID) Team. This was accomplished by comparing current conditions to HRV conditions, by identifying restoration needs, and by considering the short- and long-term ecosystem diversity needed in order to sustain the major vegetation types, as well as the native biota within them. Other desired conditions were developed in response to social considerations (including the need to protect the Wildland-urban Interface (WUI) from catastrophic fire events).

The overall goal for terrestrial ecosystems within the planning area is that they provide for a diversity of sustainable ecosystems that support a diversity of native plant and animal species. This would involve maintaining ecosystem structure, natural ecological processes, native biota, and the physical environment (soils and water). Ecosystem sustainability is about obtaining yields and services from ecosystems without irreversibly impacting their resilience, natural resistance to change, and/or their ability to meet the needs of future generations. The HRV, as described previously, is used as an important concept for sustaining ecosystems, as well as for developing desired conditions and other DLMP components relative to the terrestrial ecosystems within the planning area.

Disturbance processes (including wildland fire, insects, disease, and wind) play an important role in providing ecosystem diversity and sustainability within the planning area. Disturbance and recovery are important mechanisms for maintaining genetic, species, and ecosystem diversity. The flora and fauna, as well as the overall vegetation patterns within the planning area, reflect the temporal and spatial distribution of disturbance processes.

The current conditions found throughout the planning area differ from conditions that occurred during the reference period (HRV conditions). In many ponderosa pine forests, for example, the combination of unmanaged livestock grazing, timber harvesting, and fire exclusion during the last century have lengthened fire frequencies and have created unnatural forest structures (Romme et al. 2006). The current forest structures that display high stem densities of medium-sized trees and closed canopy covers are unlike the open-canopied, multi-sized structures of the ponderosa pine forests that dominated the reference period. Many of these forests have lost the large, old trees, as well as some of the native bunchgrasses that were once common in the area. Consequences of the current structure in ponderosa pine forests include epidemic insect and disease outbreaks, increased risk of destructive wildfires (fires that are much hotter than they were during the reference period; fires that are increasingly difficult to control), a reduction in ponderosa pine regeneration, an increase in the abundance of white fir, and a reduction in biological diversity (Moir et al. 1997, Wu 1999).
Similar to ponderosa pine forests, many warm-dry mixed-conifer forests currently display forest structures that differ from HRV conditions. This is due to the combination of fire exclusion and selective timber harvesting. Structures that display high stem densities and closed canopy cover are unlike the less dense, open-canopied structures of the warm-dry mixed-conifer forests that dominated the reference period. The large, old ponderosa pine and Douglas-fir trees that once dominated many of these forests are gone. They have been replaced by smaller, younger trees, including by white fir (which has significantly increased during the long fire-free period of the Twentieth Century). Consequences of the current structure of these forests are similar to those described above for ponderosa pine forests. The establishment of new ponderosa pine and Douglas-fir trees has tapered off, or stopped altogether, in many warm-dry mixed-conifer forests due to the dense stand conditions (Wu 1999).
Figure 3 - Major Vegetation Types

San Juan Public Lands
Major Vegetation Types

Legend
- Alpine Vegetation
- Semi Desert Grassland
- Semi Desert Shrubland
- Mountain Grassland
- Mountain Shrubland
- Rock - Bare Soil
- Riparian Area and Wetland
- Sagebrush Shrubland
- Aspen Forest
- Aspen - Conifer Forest
- Cool Moist Mead Conifer Forest
- Warm Dry Mixed Conifer Forest
- Pinion-Juniper Woodland
- Ponderosa Pine Forest
- Spruce-Fir Forest
- Water

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for anything other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.

JET
NAD 83, Polyconic Projection
October 29, 2007

0 4.5 9 18 Miles
Many of the mountain grasslands found within the planning area have been significantly impacted by the unmanaged livestock grazing that occurred within the planning area from the late 1800s through to the mid-1900s (Romme et al. 2006). These grasslands currently display a composition and structure that is very different from the HRV conditions. Many native bunchgrasses (including Arizona fescue) are absent or rare within the planning area. They have been replaced by non-native species and/or by undesirable native species. Bare soil, compaction, and/or erosion have increased; forest litter has decreased. Structural conditions typically display an open canopy and reflect the short, sparse foliage of Kentucky bluegrass (which provides limited litter and organic matter for nutrient cycling and soil development, as well as limited protection to the soil surface from raindrop impacts, runoff, compaction, and erosion). This is unlike the HRV conditions, where there was typically a high density, relatively closed-canopy, and well-distributed arrangement of tall bunchgrasses (which provided an abundance of litter and organic matter for energy flow, nutrient cycling, and soil development, and protected the soil surface from raindrop impacts, runoff, compaction, and erosion).

Many of the semi-desert shrublands, semi-desert grasslands, sagebrush shrublands, and pinyon-juniper woodlands have also been significantly impacted by the unmanaged livestock grazing that occurred within the planning area from the late 1800s through to the mid-1900s. These areas currently display an herbaceous species composition that is very different from the HRV conditions. Native cool- and warm-season bunchgrasses are absent or rare on many sites (having been replaced by non-native species and/or by undesirable native species, including cheatgrass). Relative to HRV conditions, biological soil crusts in these vegetation types have also decreased.

Other current vegetation conditions within the planning area that differ from HRV conditions include a decrease in old-growth ponderosa pine and warm-dry mixed-conifer forests, a decrease in young- and mid-stages of spruce-fir and cool-moist mixed-conifer forests, a decrease in young aspen forests, a decrease in native bunchgrasses in many mountain grasslands, and an adverse increase in white fir in many mixed-conifer forests east of the Animas River.

**Table 2 - Major Vegetation Types and Acres (SJPL-wide and by Geographic Area)**

<table>
<thead>
<tr>
<th>Major Vegetation Type</th>
<th>Total Acres</th>
<th>Columbine Acres</th>
<th>Dolores Acres</th>
<th>Pagosa Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spruce-Fir Forest</td>
<td>519,200</td>
<td>224,500</td>
<td>131,000</td>
<td>148,700</td>
</tr>
<tr>
<td>Cool-Moist Mixed Conifer Forest</td>
<td>215,500</td>
<td>71,100</td>
<td>19,400</td>
<td>105,000</td>
</tr>
<tr>
<td>Aspen-Conifer Forest</td>
<td>236,700</td>
<td>87,200</td>
<td>83,400</td>
<td>51,100</td>
</tr>
<tr>
<td>Aspen Forest</td>
<td>91,500</td>
<td>11,500</td>
<td>41,800</td>
<td>3,800</td>
</tr>
<tr>
<td>Warm-Dry Mixed Conifer Forest</td>
<td>93,600</td>
<td>31,300</td>
<td>9,200</td>
<td>37,200</td>
</tr>
<tr>
<td>Ponderosa Pine Forest</td>
<td>411,500</td>
<td>58,500</td>
<td>121,200</td>
<td>72,000</td>
</tr>
<tr>
<td>Pinyon-Juniper Woodland</td>
<td>442,800</td>
<td>13,200</td>
<td>197,400</td>
<td>3,900</td>
</tr>
<tr>
<td>Mountain Shrubland</td>
<td>443,300</td>
<td>50,200</td>
<td>133,700</td>
<td>71,800</td>
</tr>
<tr>
<td>Sagebrush Shrubland</td>
<td>202,200</td>
<td>2,900</td>
<td>85,700</td>
<td>1,500</td>
</tr>
<tr>
<td>Semi-Desert Shrubland</td>
<td>93,800</td>
<td>0</td>
<td>60,000</td>
<td>0</td>
</tr>
<tr>
<td>Mountain Grassland</td>
<td>298,700</td>
<td>37,100</td>
<td>53,000</td>
<td>41,400</td>
</tr>
<tr>
<td>Semi-Desert Grassland</td>
<td>303,100</td>
<td>1,800</td>
<td>11,900</td>
<td>1,800</td>
</tr>
<tr>
<td>Alpine</td>
<td>186,400</td>
<td>121,500</td>
<td>14,600</td>
<td>37,300</td>
</tr>
</tbody>
</table>
6.1 The planning area sustains a full complement of native biological diversity at the ecosystem level while, at the same time, allowing for natural evolutionary and biogeographical processes (biogeography is the study of the geographic distribution of organisms).

6.2 Natural ecological processes (including succession, fire, insects, disease, wind events, and flooding) contribute to the maintenance of sustainable ecosystems; they shape the composition and structure of the vegetation communities and the landscape pattern found throughout most of the planning area.

6.3 The major vegetation types found within the planning area are sustainable, resistant to change, resilient, and dominated by desirable native plant species.

6.4 All development stages of all of the major vegetation types within the planning area are represented and distributed across the SJPL.

6.5 Old-growth ponderosa pine and warm-dry mixed-conifer forests are more abundant, larger, and better distributed than they are currently within the planning area.

6.6 Aspen and aspen-conifer forests display larger patches of the young-development stage.

6.7 Snags, large and small wood on the forest floor, and litter are present in all forest vegetation types; they serve to maintain soil productivity, protect the soil surface, and provide wildlife habitat.

6.8 Ecosystems that provide goods and services remain productive and able to provide these goods and services over the long-term.

6.9 The many, large unroaded lands that represent much of the ecological diversity found within the planning area (including Wilderness Areas, WSAs, Research Natural Areas (RNAs), and some Inventoried Roadless Areas (IRAs) remain unroaded, contain relatively intact ecosystems where natural processes dominate, provide habitat and corridors for native biota, and constitute part of a reserve system that helps to preserve the native biological diversity on the SJPL.

6.10 Landscape linkage areas provide habitat for, and facilitate the movement of, wide-ranging species, including forest carnivores.

6.11 Special biological diversity features within the planning area (old-growth forests, fens, Arizona fescue mountain grasslands, hanging gardens, unroaded lands, critically imperiled plant species and communities, etc.) are sustained.

6.12 The riparian areas and wetland ecosystems, fens, springs, and potentially rare flora and fauna associated with the 6th level glaciated watersheds of the landscape-scale clusters 7w and 9w (as identified in Aquatic Riparian Wetland Assessment, or ARWA) are protected and sustainable.

6.13 Lands in the WUI display stand structures and fuel conditions that reduce the rate of wildfire spread and make wildfire intensity less severe. This may result in ecological conditions unlike those that occurred during the reference period (HRV conditions).

6.14 Where practical, lands in the WUI display stand structures and ecological conditions similar to those that occurred during the reference period (HRV conditions).

6.15 The major vegetative types display a Fire Regime Condition Class of 1 (see Glossary, Volume 1, Chapter 5).

6.16 All rangelands display satisfactory rangeland conditions (see Glossary, Volume 3).
Desired Conditions - Disturbance Processes

6.17 Wildfire behavior in the WUI (in and around developed areas and communities) is relatively easy to control with conventional suppression methods and does not result in major destruction.

6.18 Fire frequencies and severities associated with the natural fire regimes of the major vegetative types found within the planning area are maintained or restored (except for some lands in the WUI).

6.19 Insect and disease processes and cycles are similar to those that occurred during HRV conditions. Epidemic outbreaks are rare.

6.20 Human-initiated disturbances (including tree harvesting, fuels treatments, prescribed burns, recreation, restoration sites, etc.) mimic natural disturbances on most of the SJPL.

Desired Conditions - By Major Vegetation Type

6.21 **Ponderosa Pine Forests**: Ponderosa pine forests display variable stand structures. Most have open canopies with widely spaced trees and multiple canopy layers. Some are dense with closed canopies; others have a clumped structure where trees occur in groups surrounded by shrub and/or herb-dominated openings. Ponderosa pine seedlings and saplings are present, and large old, yellow-barked ponderosa pine trees are present. The abundance and distribution of Gambel oak and other native shrubs in the understory of these forests is variable and includes small and large patches of all size classes. Native herbs (including bunchgrasses, Arizona fescue, muttongrass and mountain muhly) are present and well-distributed in most ponderosa pine forests. Forest litter is common and well-distributed. Invasive plant species are absent or rare. Snags and large wood (on the ground) are common in late successional stages, as well as in young stands, following disturbance. Low-intensity, surface fires occur in most ponderosa pine forests (with frequencies ranging from about 12 to 30 years). All development stages of these forests are well-represented, including the old-growth stage that is currently under-represented.

6.22 **Warm-Dry Mixed Conifer Forests**: Warm-dry mixed-conifer forests display variable stand structures and species composition. Most have open canopies with widely spaced trees and multiple canopy layers. Some are dense with closed canopies; others have a clumped structure where trees occur in groups surrounded by shrub and/or herb-dominated openings. Tree species composition includes an abundance of ponderosa pine and Douglas-fir trees (ranging from young to old). White fir trees are present, but are not dominant. The abundance and distribution of Gambel oak and other native shrubs in the understory of these forests is variable, and includes small and large patches of all size classes. Native herbs (including tall bunchgrasses) are common and well-distributed in most warm-dry mixed-conifer forests. Forest litter is common and well-distributed. Invasive plant species are absent or rare. Snags and large wood (on the ground) are common in late successional stages, as well as in young stands, following disturbance. Low-intensity, surface fires occur in most warm-dry mixed-conifer forests (with frequencies ranging from about 18 to 28 years). All development stages of these forests are well-represented, including the old-growth stage that is currently under-represented.

6.23 **Cool-Moist Mixed Conifer Forests**: Cool-moist mixed conifer forests display variable stand structures and species composition. Most are dense with closed canopies and multiple canopy layers. Tree species composition includes an abundance of Douglas-fir trees (ranging from young to old). Patches of cool-moist mixed-conifer forest, ranging from small to large, are distributed across the landscape. The canopy cover of shrubs in the understory of these forests is highly variable. Native herbs are
common and well-distributed in most cool-moist mixed-conifer forests. Forest litter is common and well-distributed. Invasive plant species are absent or rare. Snags and large wood (on the ground) are abundant in late successional stages. High-intensity, stand-replacement fires occur in most cool-moist mixed-conifer forests (with frequencies of about 144 years). All development stages of these forests are well-represented, including the young- and mid-stages that are currently under-represented.

6.24 **Spruce-Fir Forests:** Spruce-fir forests display variable stand structures and species composition. Most are dense with closed canopies and multiple canopy layers. Patches of spruce-fir forest, ranging from small to large, are distributed across the landscape. The canopy cover of shrubs in the understory of these forests is highly variable. Native herbs are common and well-distributed in most spruce-fir forests. Forest litter is common and well-distributed. Invasive plant species are absent or rare. Snags and large wood (on the ground) are abundant in late successional stages. High-intensity, stand-replacement fires occur in most spruce-fir forests (with frequencies longer than 200 years). All development stages of these forests are well-represented, including the young- and mid-stages that are currently under-represented.

6.25 **Aspen and Aspen-Conifer Forests:** Aspen and aspen-conifer forests display variable stand structures, with most having high stem densities and high canopy cover. Some stands are even-aged with one or two canopy layers; others are uneven-aged with multiple canopy layers. Patches of aspen and aspen-conifer forests, ranging from small to large, are distributed across the landscape. The canopy cover of shrubs in the understory of these forests is highly variable. Native herbs are abundant and well-distributed in most aspen and aspen-conifer forests. Forest litter is common and well-distributed. Invasive plant species are absent or rare. Snags and large wood (on the ground) are abundant in late successional stages. Fires occur in most aspen and aspen-conifer forests (with frequencies of about 140 years). All development stages of these forests are well-represented, including the young-stage that is currently under-represented.

6.26 **Pinyon-Juniper Woodlands:** Pinyon-juniper woodlands display variable stand structures. Some have open structures with widely spaced trees; others are dense with high canopy covers. Most stands are uneven-aged with multiple canopy layers. Tree species composition includes an abundance of pinyon-pine and juniper trees, ranging from young to old. The canopy cover and size of Gambel oak and other shrubs in the understory of these forests is variable. Native herbs are present and well-distributed. Biological soil crusts and forest litter are common and well-distributed on most sites. Invasive plant species are absent or rare. High-intensity, stand-replacement fires occur in most pinyon-juniper woodlands (with frequencies of 100-123 years).

6.27 **Mountain Shrublands:** Mountain shrublands display variable stand structures. Most are dense with multiple canopy layers; others are open with widely spaced shrubs. Gambel oak and other deciduous native shrubs (including mountain mahogany, serviceberry, chokecherry, fendlerbush, and squawapple) are abundant and well-distributed. Native herbs are abundant and well-distributed. Invasive plant species are absent or rare. Forest litter is common and well-distributed.

6.28 **Sagebrush Shrublands:** Sagebrush shrublands display variable stand structures. Some are open with widely spaced shrubs; others are dense. Some large patches are present. Sagebrush and other native shrubs are abundant and well-distributed. Native perennial bunchgrasses (including Indian ricegrass, galleta, Western wheatgrass, and needle-and-thread – which are currently lacking on many sites) are abundant and well-distributed. Encroachment of pinyon and juniper trees is absent or rare. Invasive plant species are absent or rare. Biological soil crusts are common and well-distributed on many sites.
6.29 **Semi-Desert Shrublands**: Semi-desert shrublands are dominated by native shrubs that could include shadscale saltbush, winterfat, fourwing saltbush, plains pricklypear, rubber rabbitbrush, spiny hopsage, greasewood, and/or basin big sagebrush. Stand structures display open or moderately dense shrubs with native perennial herbs in the openings between them. Native grasses (including Indian ricegrass, galleta, Western wheatgrass, and needle-and-thread -- which are currently lacking on many sites) are abundant and well-distributed. Invasive plant species and/or undesirable native plant species that are currently abundant on most sites are absent or rare. Biological soil crusts and forest litter are common on most sites.

6.30 **Semi-Desert Grasslands**: Semi-desert grasslands are dominated by native perennial bunchgrasses (including Indian ricegrass, galleta, and needle-and-thread – which are currently lacking on many sites). Invasive plant species and/or undesirable native plant species that are currently abundant on most sites are absent or rare. Biological soil crusts and forest litter are common on most sites.

6.31 **Mountain Grasslands**: Mountain grasslands display moderate to high canopy cover of desirable native herbs (including Arizona fescue at mid-elevations and Thurber fescue at higher elevations). Invasive plant species and undesirable native plant species that are currently abundant on many sites are absent or rare. Forest litter is common and well-distributed.

6.32 **Alpine**: Alpine ecosystems sustain their ecosystem diversity. They maintain the ecological attributes and processes that allow them to provide watershed values, habitat for native biota, panoramic vistas, and/or for solitude. They display a diverse composition of desirable native plant species and vegetation communities (including fellfield, turf, wetland, and dwarf willow types). Invasive plant species are absent or rare.

Table 3 - Desired Conditions for Development Stages of the Forest Vegetation Types

<table>
<thead>
<tr>
<th>Vegetation Type*</th>
<th>Development Stage*</th>
<th>Current Condition** (% of vegetation type)</th>
<th>Historic Range of Variation*** (% of vegetation type)</th>
<th>Desired Condition**** (% of vegetation type)</th>
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</thead>
<tbody>
<tr>
<td>Spruce-Fir</td>
<td>young</td>
<td>1.5</td>
<td>0-45</td>
<td>10-20</td>
</tr>
<tr>
<td></td>
<td>mid</td>
<td>6.5</td>
<td>5-47</td>
<td>20-30</td>
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<tr>
<td></td>
<td>mature</td>
<td>70</td>
<td>#</td>
<td>30-40</td>
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<tr>
<td></td>
<td>old growth</td>
<td>22</td>
<td>#</td>
<td>25-35</td>
</tr>
<tr>
<td>Cool-Moist Mixed-Conifer</td>
<td>young</td>
<td>0.5</td>
<td>1-36</td>
<td>10-20</td>
</tr>
<tr>
<td></td>
<td>mid</td>
<td>10</td>
<td>8-49</td>
<td>20-30</td>
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<tr>
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<td></td>
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<td>Warm-Dry Mixed-Conifer</td>
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<td>mid</td>
<td>8.5</td>
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<td></td>
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<td>77</td>
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<td>20-30</td>
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<td>0.5</td>
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<td>5-10</td>
</tr>
<tr>
<td></td>
<td>mid-open</td>
<td>3.5</td>
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<td></td>
<td>mid-closed</td>
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<td></td>
<td>old growth</td>
<td>2.5</td>
<td>#</td>
<td>10-15</td>
</tr>
</tbody>
</table>

*Draft Environmental Impact Statement  ** SJPL R2VEG  *** RMLANDS  **** Interdisciplinary Team  # not available
TERRESTRIAL WILDLIFE

Background

Habitat assessments of landscape condition and trends on the SJPL have identified several major factors that have influenced change in forested and non-forested habitat conditions since the reference period. Factors include fire exclusion, timber harvesting, road and urban development, livestock grazing, and recreational uses associated with a rapidly growing human population. These conditions and trends have implications for wildlife species that include:

- changes in forest structure and composition that may contribute to uncharacteristic wildfire behavior in lower-elevation forest types;
- disturbance from people on roads with road densities varying from a high of about 6.0 miles per square mile to a low of about 0.29 miles per square mile;
- competition from invasive plant species that compromise plant diversity, habitat quality, and connectivity (which may impact habitat connectivity and effectiveness for terrestrial wildlife and impact habitat quality for plant species);
- reduction or degradation of habitats for some wildlife and plant species where human impacts have occurred and/or where natural disturbance regimes have been altered;
- urban development and infringement into some traditionally important wildlife habitats (including big game winter range at lower to moderate elevations); and
- rapidly increasing human populations that place uses and demands upon the landscape that, in turn, alter habitat security and contribute disturbance impacts to wildlife species.

There are 12 recognized major vegetation types within the planning area that provide habitat conditions for a wide variety of terrestrial wildlife species. Past timber harvesting has influenced many vegetation types throughout the planning area (including older clear-cuts, and their associated roads, within the spruce-fir forests that have influenced habitat conditions over time). However, in general, alterations to these vegetation types have been the most severe in the lower elevations, and the least severe in the higher elevations. Approximately 44% of the planning area is in Inventoried Roadless Areas or in designated Wilderness Areas that often overlap the spruce-fir and alpine tundra habitat types. Roadless and/or Wilderness qualities offer large areas of habitat that are relatively undisturbed by humans and that are particularly valuable for many wildlife species. Large, intact, wild areas are a valuable characteristic trait of the planning area, and will increase in value as a wildlife resource as the population of southwestern Colorado continues to grow (resulting in an increase in the conversion of private lands to other uses).

Population growth (and the associated activities), land use conversions, and lack of fire frequency in fire-dependent systems have led to changes in big game winter range quality and availability for elk, deer, and bighorn sheep (see Figures 4 and 5). Winter range includes much of the lower-elevation ecosystems found within the planning area, as well as in adjacent lands under other ownership. The availability of effective winter range is considered to be a limiting factor to big game populations within southwestern Colorado.
### Desired Conditions - Terrestrial Wildlife

7.1 Wildlife populations across the planning area are viable and self-sustaining with healthy habitat conditions that are adequately connected and genetically diverse.

7.2 Winter big game range is capable of supporting populations that meet State population objectives; it provides sustainable forage and habitat in areas with low levels of human disturbance (which wintering wildlife need).

7.3 Invasive exotic wildlife species and diseases, as recognized by the State of Colorado, do not become established within the planning area. Existing invasive exotic wildlife species and diseases do not spread.

7.4 Habitat features, (including seeps, willow patches, snags, caves, and lek sites) occur in conditions suitable to support associated flora and fauna (with abundance and distribution commensurate with the capability of the land).

7.5 Large predator species play a natural role in ecological diversity and functioning.

7.6 Projects and activities occurring near State and Federal highways, as well as near USFS and BLM roads within the planning area, provide for connectivity of habitats across highways to facilitate effective wildlife movement.

7.7 Snag and downed wood features occur in quantities that support self-sustaining populations of associated species that need these components and help maintain natural ecological processes.

7.8 Effectively secure raptor nesting habitat occurs throughout the planning area with abundance and distribution commensurate with the capability of the land to sustain populations.

7.9 Terrestrial wildlife species sensitive to human disturbance find the habitat conditions they need during critical life cycle functions in order to maintain sustainable populations.

7.10 Vegetation openings created through management actions are guided by HRV in order to preserve the natural patchiness inherent in Southern Rockies ecosystems (providing effective habitat for area dependent species).
SPECIAL STATUS SPECIES

Background

This section addresses desired conditions for wildlife, fish and plant species. Ecological conditions that provide for ecosystem sustainability are the context for the evaluation and management of species. It is assumed that protecting the composition, structure, and function of the terrestrial, riparian and wetland, and aquatic ecosystems on SJPL will sustain those ecosystems, and sustain the diversity and viability of the vast majority of species within them, including species with a viability concern and species we know little about. A species approach is needed however for individual species that are not adequately protected by the ecosystem management approach, are rare or endemic, or are at risk of decline. These special status species include federally listed species, candidate species, R2 Regional Forester’s Sensitive Species, BLM Special Status Species, and SJPL Highlight Species. See lists of these species groups in appendices M - P.

- **Federally listed Species**: Federally listed species are those that are listed by the U.S. Department of the Interior (USDOI), the U.S. Fish and Wildlife Service (USFWS), and/or the National Oceanic and Atmospheric Administration National Marine Fisheries Service as threatened or endangered under the Endangered Species Act (ESA) of 1973.

- **USFS Region 2 (R2) Forester’s Sensitive Species**: R2 Regional Forester’s Sensitive Species are those plant, animal, and fish species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density and significant current or predicted downward trends in habitat capability that would reduce a species’ existing distribution (FSM 2670.5).

- **BLM Special-Status Species**: BLM Special-Status Species are those designated as federally endangered, threatened, proposed, or candidate under the ESA; those designated by the Colorado Division of Wildlife (CDOW) as State endangered or threatened; and BLM Sensitive Species (which are species under status review by the USFWS; species with numbers declining so rapidly that Federal listing may become necessary; species with typically small, and widely dispersed, populations; and/or species inhabiting ecological refugia or other specialized or unique habitats).

- **San Juan Public Lands Highlight Species**: SJPL Highlight Species are those for which the Responsible Official determines management actions may be necessary in order to prevent listing under the ESA, or those for which management actions may be necessary or desirable in order to achieve ecological or other multiple-use objectives.

SJPL Highlight Species were selected from the following categories:

- NatureServe – Queried by G1-3, T1-3, N1&2, S1&2 species, queried for each county in the planning area.

- USFS Region 2 Sensitive Species List, list for entire Region 2.

- BLM State Sensitive Species list, queried for San Juan Public Lands.

- Colorado Division of Wildlife listing of Endangered, Threatened and Species of Special Concern, queried by State.

- US Fish and Wildlife Service Birds of Conservation Concern (BCC), queried by Bird Conservation Region (BCR) 16.

- Federal Proposed and Candidate Species, queried by State of Colorado.
• Forest Service Management Indicator Species (MIS) for SJPL.
• Hunted, Fished, Public Interest.
• Recently Federal de-listed species, for Colorado (American peregrine falcon, Bald eagle).
• Petitioned for Federal listing (currently, no outstanding petitions for SJPL species).
• Other Species of Public Interest.
• Additional species w/local or regional conservation concern.

**Desired Conditions - Special Status Species - General**

8.1 Federally listed species, R2 Regional Forester’s Sensitive Species, BLM Special-Status Species, and SJPL Highlight Species have self-sustaining populations and additional habitat into which they can expand.

8.2 The ecosystems and habitats on which federally listed species, R2 Regional Forester’s Sensitive Species, BLM Special-Status Species, and SJPL Highlight Species depend are sustained.

8.3 The abundance, distribution, and habitat of Federally listed species improve to the point where the provisions of the ESA are no longer necessary.

8.4 R2 Regional Forester’s Sensitive Species and those BLM Special-Status Species not currently listed as endangered or threatened are not trending toward Federal listing under the ESA. The abundance, distribution, and habitat of these species throughout the planning area improve to the point where their recognition as R2 Regional Forester’s Sensitive Species, BLM Special-Status Species, and SJPL Highlight Species is no longer warranted.

8.5 Native and/or desired non-native species, including special status species, are able to disperse freely across the planning area and into adjacent lands (which will allow for the interchange between populations and the maintenance of genetic diversity).

**PLANT SPECIES**

**Background**

*Pediocactus knowltonii*, an endangered species, is the only federally listed plant species associated with SJPL. It is not known to occur on SJPL, but there is potential habitat for it on SJPL. Seventeen USFS Region 2 Regional Forester’s Sensitive plant species and eight BLM Sensitive plant species are known to occur on SJPL. Six other R2 Regional Forester’s sensitive plant species and one other BLM sensitive plant species could occur on SJPL because potential habitat for them exists there. Fifty SJPL Highlight plant species occur on SJPL. All R2 Regional Forester’s Sensitive Plant Species and BLM Sensitive Plant Species known to occur within the planning area are also identified as SJPL Highlight Species. Species lists for SJPL are found in Plan Appendices.
SJPL Highlight plant species include those with NatureServe ranks of G1, G2, G3, T1, T2, or T3 that are known to occur within the planning area. G1 and T1 species are critically imperiled, and are at a very high risk of extinction due to their extreme rarity (known from 5 or fewer occurrences). G2 and T2 species are imperiled, and are at a high risk of extinction due to very restricted ranges and to their extremely low populations (known from 20 or fewer occurrences). G3 and T3 species are vulnerable and are at moderate risk of extinction due to a restricted range and to their relatively low populations (known from 80 or fewer occurrences).

SJPL Highlight plant species also include those species that are known to occur within the planning area with NatureServe ranks of S1 or S2, as well as one species (Arizona fescue) of local conservation concern (due to populations that have declined significantly compared to HRV conditions). S1 species are critically imperiled in Colorado due to their extreme rarity (known from 5 or fewer occurrences), which makes them especially vulnerable to extirpation (local extinction) from the State. S2 species are imperiled in Colorado due to very restricted ranges and very low populations (known from 20 or fewer occurrences), which makes them very vulnerable to extirpation from the State.

Currently, the SJPL Special Status Plant Species that occur within the planning area appear to have stable populations and trends.

**Desired Conditions - Special Status Plant Species**

9.1 The planning area sustains and provides habitat for its full complement of native plant diversity at the genetic and species levels while, at the same time, allowing for natural evolutionary and biogeographical processes.

9.2 Native plant species are abundant and well-distributed throughout the planning area. Their photosynthetic and reproductive abilities are intact throughout the growing season.

9.3 Physical conditions associated with R2 Regional Forester’s Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL plant Highlight Species (including climate, landform, soils, and nutrient availability) provide the habitat conditions necessary for self-sustaining populations of these species.

9.4 Large, old ponderosa pine and Douglas-fir trees, which have been extensively harvested in the past, are abundant and well-distributed across the ponderosa pine and mixed-conifer forests within the planning area.

9.5 Rangeland bunchgrasses are abundant and well-distributed throughout the planning area. Their photosynthetic and reproductive abilities are intact throughout the growing season.

9.6 The fens that provide the habitat for *Eriophorum altaicum var. neogaeum*, *Carex diandra*, *Carex viridula*, and *Drosera anglica* have the water sources and hydrologic systems necessary in order to support and sustain these rare plant species.

9.7 The hanging gardens that provide the habitat for *Erigeron kachinensis*, *Mimulus eastwoodia*, and *Adiantum capillus-veneris* have the water sources and hydrologic systems necessary in order to support and sustain these rare plant species.

9.8 The riparian areas and wetland ecosystems that provide the habitat for *Epipactis gigantea*, *Utricularia minor*, *Hackelia gracilenta*, *Aralia racemosa*, *Cryptogramma stelleri*, *Cystopteris Montana*, and *Draba smithii* have the water sources and hydrologic systems necessary in order to support and sustain these rare plant species.
9.9 The highly erosive and easily compacted shale soils found within the planning area that provide the habitat for *Lesquerella pruinosa*, *Ipomopsis polyantha*, *Astragalus missouriensis var. humistratus*, *Physaria pulvinata*, and *Townsendia glabella* maintain the soil productivity necessary in order to support and sustain these rare plant species.

9.10 The gypsum soils found within the planning area that provide the habitat for *Cryptantha gypsophila*, *Lecanora gypsicola*, *Acarospora nodulosa var. nodulosa*, *Gypsoplaca macrophylla*, *Sporobolus nealleyi* maintain the soil productivity necessary in order to support and sustain these rare plant species.

9.11 The fragile alpine ecosystems that provide the habitat for *Machaeranthera coloradoensis*, *Townsendia rothrockii*, *Draba borealis*, *Draba porsildii*, and *Parnassia kotzebuei* are resilient to the current and potential impacts of global warming; they are able to support and sustain these rare plant species.

9.12 The ponderosa pine forests that provide the habitat for *Astragalus missouriensis var. humistratus*, *Townsendia glabella*, *Castilleja lineate*, *Astragalus proximus*, *Cypripedium parviflorum*, and *Triteleia grandiflora*, and that currently have forest structures and fire frequencies unlike those that occurred during the reference period (HRV conditions) have, or attain, the ecological conditions necessary in order to support and sustain these rare plant species.

9.13 The mountain grasslands that provide the habitat for *Carex oreocharis*, *Lesquerella pruinosa*, and *Festuca arizonica* and that currently have a species composition and structure unlike those that occurred during the reference period (HRV conditions) have, or attain, the ecological conditions necessary in order to support and sustain these plant species.

9.14 *Festuca arizonica* is abundant and well-distributed in the mid-elevation mountain grassland and ponderosa pine forest types.

**WILDLIFE SPECIES**

**Background**

Under the species approach to planning, terrestrial wildlife species were screened and identified as threatened and endangered species (T & E) and BLM and USFS Sensitive Species (SS). Specific guidance has been developed and utilized in determining the species identified for each of the above categories. In addition to the above categories, other Highlight Species of public interest and/or of conservation concern within the planning area were identified in order to assist in the development of planning direction and DLMP components. The following desired conditions provide species-specific guidance (going beyond the ecosystem habitat guidance) that is needed for species recovery and for the sustainability of these categories of species. (Species lists for the SJPL are found in the T & E, BLM and USFS Sensitive Species, and SJPL Highlight Species Appendices. Guidance for amphibians is included in the Aquatic Species section. See Appendices M-P.)

Management activities and permitted uses within the planning area have the potential to affect a variety of species, as well as their habitats. These activities should be evaluated, with the intention being to minimize possible adverse impacts and to contribute to species recovery and sustainability. Continued monitoring and proactive management that identifies and addresses species limiting factors should be considered and implemented as part of terrestrial wildlife program management.
The following abbreviations are used in this section:

- E - Federally Endangered Species;
- T - Federally Threatened Species;
- H - Highlight Species;
- C - Federal Candidate Species;
- BLM SS - BLM Sensitive Species; and
- USFS SS - USFS Sensitive Species.

**Desired Conditions - Special Status Wildlife Species**

**Threatened and Endangered Species**

10.1 *Uncompahgre fritillary butterfly (E)*: Suitable habitat maintains viable populations (including snow willow populations and their associated hydrologic function). Occupied and unoccupied habitats for butterfly colonies remain suitable for occupation.

10.2 *Southwestern willow flycatcher (T)*: Suitable willow habitat across the planning area supports breeding within occupied habitat. Capable habitat recovers to suitable conditions in order to support breeding.

10.3 *Mexican spotted owl (T)*: Suitable habitat, including mature conifer and deciduous woodlands in narrow canyon bottoms with associated rock outcroppings, occurs within the planning area in order to support successful reproduction within occupied habitat.

10.4 *Canada lynx (T)*: Canada lynx populations become self-sustaining and viable, finding suitable habitat condition across the planning area that support successful foraging, reproduction, and dispersal to other habitats within southern Colorado and northern New Mexico.

**BLM and USFS Sensitive Species and Highlight Species**

10.5 *Bald eagle (H, BLM SS, USFS SS)*: Bald eagle breeding populations continue to expand and use suitable breeding habitat throughout the planning area. Wintering populations find conditions and resources (including suitable conditions for roosting and foraging along streams, rivers, and terrestrial habitats) in order to sustain them through the winter season.

10.6 *Nokomis fritillary butterfly (H, FS SS)*: *Viola nephrophylla*, and the associated plant community, in conjunction with the supporting hydrologic conditions, occur at all springs and seeps capable of supporting *Viola nephrophylla* and the associated Nokomis fritillary.

10.7 *American peregrine falcon (H, BLM SS, USFS SS)*: American peregrine falcons find the habitat conditions and activity disturbance levels that support critical life cycle functions in order to maintain sustaining stable or increasing populations on the SJPL.

10.8 *Columbian sharp-tailed grouse (H)*: Shrub communities within the Dolores geographic area provide high quality habitat for sharp-tailed grouse. Mountain shrubland and associated grassland/forb communities provide conditions that support the life stages for a sustaining population.

10.9 *Gunnison Sage-grouse (H, BLM SS)*: See the Desired Conditions for the Dolores geographic area.
10.10 **Yellow-billed cuckoo (H, BLM SS, USFS SS)**: Cottonwood forests with dense willow understory occur on all sites capable of supporting these structures.

10.11 **Botta’s pocket gopher (H)**: Botta’s pocket gophers find adequate areas of undisturbed soils and suitable habitat in a connected network.

10.12 **Yuma skipper (H)**: Sites capable of supporting populations of Yuma skipper provide the necessary hydrologic function, foraging, and reproduction conditions.

10.13 **Golden eagle (H)**: Golden eagles find effective reproductive and foraging habitat (including abundant hare/rabbit and ground squirrel populations on capable sites within the planning area). Human-related disturbances do not affect breeding success and recruitment.

10.14 **Black swift (H, USFS SS)**: The hydrologic integrity of flows over waterfall breeding habitat provides effective habitat for established breeding colonies.

10.15 **Northern goshawk (H, BLM SS, USFS SS)**: Northern goshawk finds the amount and mix of habitat conditions (including mature aspen and conifer stands for nesting, a mix of forest stand types and composition for foraging as described in the Region 2 goshawk assessment), and human disturbance levels that support foraging, breeding, and recruitment into a sustaining population.

10.16 **White-tailed ptarmigan (H, USFS SS)**: Adequate wintering willow habitat near timberline is available for ptarmigan. This habitat is free of limiting contaminants (including cadmium) and has limited human disturbance.

10.17 **Mule deer (H)**: Resource management and human disturbance levels (especially in fall and winter ranges, and on calving/fawning grounds) provide for effective habitat, as defined by State agency partners. These support critical life cycle functions and seasonal needs for sustaining herds capable of meeting State population objectives.

10.18 **Bighorn sheep (H, USFS SS)**: Bighorn sheep populations are viable. They are not limited by disease transmission from domestic sheep and goats occurring within the planning area.

10.19 **Gunnison’s prairie dog (H, USFS SS)**: Gunnison’s prairie dog populations find the vegetation, soil, and hydrologic complex with a diversity of grass and forb understory that supports viable populations where sites are capable of providing effective habitat.

10.20 **River otter (H, USFS SS)**: Aquatic, wetland, and riparian systems provide effective habitat characteristics (including stream flows and productive prey populations of game and non-game fishes) that support foraging and reproductive conditions for viable populations.

10.21 **Sagebrush shrublands and semi-desert shrublands wildlife group (desert spiny lizard (H, BLM SS); longnose leopard lizard (H, BLM SS), Brewer’s sparrow (H, USFS SS), sage sparrow (H, USFS SS), and loggerhead shrike (H, USFS SS))**: The vegetation, soil, and hydrologic complex (including sagebrush patches of differing size class and sites supporting a diversity of grass and forb understory) supports self-sustaining, viable populations of species in this group where sites are capable of providing effective habitat.
**Cavity-nesting wildlife group** (American three-toed woodpecker (H, USFS SS), boreal owl (H, USFS SS), flammulated owl (H, USFS SS), Lewis’ woodpecker (H, USFS SS), purple martin (H, USFS SS), mountain bluebird (H, USFS MIS), and red-naped sapsucker (H)): Snags occur in numbers, size, and quality in timber types within the planning area (including managed and unmanaged areas) providing reproductive and forage resources that sustain viable populations.

**Pinyon/juniper wildlife group** (gray vireo (H), pinyon jay (H)): Large blocks of intact pinyon-juniper provide conditions that support reproduction and recruitment into self-sustaining populations. Lack of human disturbance during critical times allows reproductive success of colonial nesting.

**Alpine/spruce-fir wildlife group** (American marten (North American wolverine (H, USFS SS): Habitat provides connectivity at broad spatial scales, forest stands with a diverse array of structural stages (including mature and old-growth forest), and a mix of habitat types, with levels of human disturbance capable of supporting foraging, breeding, and dispersal conditions for sustainable, viable populations.

**Bat wildlife group** (Allen’s big-eared bat (H, BLM SS), big free-tailed bat (H, BLM SS), fringed myotis (H, BLM SS, USFS SS), spotted bat (H, BLM SS, USFS SS), Townsend’s big-eared bat (H, BLM SS, USFS SS), yuma myotis (H, BLM SS): Populations find a mix of habitat conditions (including riparian areas and wetland ecosystems with diverse overstory and understory conditions) supporting a range of conditions for insect populations that support foraging, breeding, roosting, and hibernacula within the planning area, where the land is capable of doing so. Human activity does not limit habitat or populations.

**AQUATIC SPECIES**

**Background**

Management activities within the planning area have the potential to impact four endangered fish species and their designated critical habitats. These species are the bonytail chub, humpback chub, Colorado pikeminnow, and razorback sucker. They reside downstream of the SJPL in the San Juan River and Dolores River systems. Activities occurring within the planning area that result in water depletions, changes in the timing of stream flows, and/or in changes in water quality to the occupied rivers, have the potential to adversely impact these endangered species. As a result, consultation with the USFWS is required for project-level activities affecting stream flow. Species management is guided by two USFWS Recovery Implementation Programs. One addresses the needs for San Juan River populations, and one addresses the needs for the upper Colorado River populations (including the Dolores River system).

To varying degrees, management activities within the planning area have affected all aquatic species. Of great concern are impacts to native fish species (USFS and BLM Sensitive Species), including the flannelmouth sucker, the bluehead sucker, the roundtail chub, and the Colorado River cutthroat trout (which has been petitioned for listing under the ESA). Region 2 of the USFS has developed Conservation Assessments for the chub and two sucker species (Ptacek et al., 2005; Rees et al, 2005a; Rees et al. 2005b). These assessments identify a range of risk factors to be avoided and assist managers in identifying management options.
The status and management of the Colorado River cutthroat trout is addressed in the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming (commonly referred to as the Tri-State Agreement) (CRCT Task Force 2001). This agreement represents a multi-agency approach among the three States designed to proactively manage the species. Emphasis is placed on protecting existing populations, on expanding the range of occupied habitats, and on establishing interconnected populations (metapopulations) within specified geographic management units.

Management activities having the potential to affect the riparian and aquatic ecosystems occupied by these species should be carefully evaluated in order to minimize possible impacts. In addition, continued monitoring and proactive management that identifies and addresses the limiting factors for these populations should be emphasized.

**Desired Conditions Statements - Special Status Aquatic Species**

11.1 *Threatened, Endangered, or Sensitive Species*: Aquatic habitats support the genetic integrity and life history strategies of native fish populations.

11.2 *Threatened, Endangered, or Sensitive Species*: Populations of threatened, endangered, or USFS and BLM aquatic Sensitive Species are viable, adequately mobile, genetically diverse, and functionally diverse.

11.3 Aquatic habitat quantity and quality are maintained or enhanced in order to provide for the long-term sustainability and viability of all native and/or desired non-native aquatic species.

11.4 *Threatened, Endangered, or Sensitive Species*: All native aquatic species thrive in the ecosystems historically capable of supporting these species.

11.5 Composition, structure, and function of aquatic ecosystems are maintained similar to the HRV conditions, and are commensurate to the channel characteristics, water quality, and flow regimes reflective of the climate, geology, and natural vegetation of the area.

11.6 The composition, structure, and functional elements that perpetuate ecosystem and species diversity are maintained and restored, where necessary.

11.7 The quantity and quality of aquatic habitats are sufficient to support existing populations of aquatic Special-Status Species within the planning area.

11.8 Stream flows are adequate to support viable populations of desired aquatic species and are maintained in cooperation with the CDOW, the Colorado Water Conservation Board, the USFWS, and the Army Corps of Engineers.
11.9 Habitat improvements enhance recreational fishing opportunities.

11.10 **Amphibian Species Group (canyon treefrog (H); northern leopard frog (H); boreal toad (H, USFS SS)**: Riparian, wetland, and aquatic ecosystems provide the hydrologic integrity, water quality, cover, and forage in order to ensure reproduction and recruitment into self-sustaining populations. Human activities do not contribute to the movement of disease organisms into recognized breeding sites.

**MANAGEMENT INDICATOR SPECIES**

**Background**

Management Indicator Species (MIS) serve several related functions in Forest Plan development and implementation. These species are identified during Forest Plan development to focus attention on particular management issues and the environmental features related to those issues. As such MIS motivate particular plan strategies and design criteria. MIS also aid in analysis of plan effects and help illuminate differences in plan alternatives that relate to species management. Finally, MIS aid in evaluation of plan implementation. Therefore these species are monitored at the Forest Plan scale to assess the effects of management activities on their populations and on the habitats with which they are associated. Changes in MIS populations or their habitats could indicate that current management is adversely affecting the composition structure, or function of those habitats, resulting in Plan direction not being met and the need for changes in management direction.

MIS are selected from the 5 categories listed below:

1) Endangered and threatened plant and animal species identified on State and Federal lists;
2) Species commonly hunted, fished, or trapped;
3) Non-game species of special interest;
4) Species with special habitat needs that may be influenced significantly by planned management programs.
5) Additional plant or animal species selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality.

The MIS chosen for the San Juan National Forest were considered the best species to evaluate the effects of management activities and management issues as shown in Table 3.1. MIS on SJPL were not selected for species viability issues although sensitive species and Federally listed Threatened and Endangered species were carefully considered as MIS. Management Indicator Species apply to National Forest System Lands (as required by 36 CFR 219); they do not apply to BLM lands.
### Table 3.1 – Management Indicator Species on SJPL

<table>
<thead>
<tr>
<th>Management Indicator Species</th>
<th>Plan Issues For Selection</th>
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<tbody>
<tr>
<td><strong>FISH</strong></td>
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<tr>
<td>Trout species</td>
<td></td>
</tr>
<tr>
<td><em>Oncorhynchus clarki pleuriticus</em></td>
<td>Effects to water quantity due to water depletions associated with reservoirs, diversions, and oil and gas development.</td>
</tr>
<tr>
<td><em>Oncorhynchus sp.</em></td>
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<tr>
<td><em>Salvelinus fontinalis</em></td>
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<tr>
<td><em>Salmo trutta</em></td>
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<tr>
<td><em>Oncorhynchus mykiss</em></td>
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<tr>
<td><strong>WILDLIFE</strong></td>
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<tr>
<td>Abert’s squirrel</td>
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<tr>
<td><em>Sciurus aberti</em></td>
<td>Effects to native species and their habitat associated with changing the structure and function of ponderosa pine forests due to timber harvest activities and fuels treatments that remove ponderosa pine trees and Gambel oak.</td>
</tr>
<tr>
<td>American marten</td>
<td></td>
</tr>
<tr>
<td><em>Martes americana</em></td>
<td>Effects to native species and their habitat in spruce-fir and cool-moist mixed conifer forests due to recreation and timber harvest activities.</td>
</tr>
<tr>
<td>Mountain bluebird</td>
<td></td>
</tr>
<tr>
<td><em>Sialia currucoides</em></td>
<td>Effects to native species and their habitat associated with changing the composition, structure, and function of aspen forests due to clearcut timber harvest activities.</td>
</tr>
<tr>
<td>Elk</td>
<td></td>
</tr>
<tr>
<td><em>Cervus elaphus</em></td>
<td>Effects to native species and wildlife winter range (pinyon-juniper woodlands, sagebrush shrublands, mountain shrublands, and ponderosa pine forests) due to recreation activities, fuels treatments, oil and gas development, and timber harvest activities.</td>
</tr>
</tbody>
</table>
Desired Conditions - Management Indicator Species

12.1 MIS maintain self-sustaining populations and have unoccupied habitat to expand into.

12.2 MIS are able to disperse freely across the planning area allowing for the interchange between populations and the maintenance of genetic diversity.

12.3 Abert’s squirrel: Ponderosa pine habitats provide the interconnected structure in mature conifer stands that produce abundant cone crops and associated conditions (including production of above- and below-ground fungi) and provide for quality reproductive habitat that support sustainable populations within the planning area.

12.4 Elk: Resource management and human disturbance levels (especially in fall on winter ranges and on calving/fawning grounds) provide for effective habitat, as defined by State agency partners. These support critical life cycle functions and seasonal needs for sustaining herds capable of meeting State population objectives.

12.5 Mountain bluebird: Snags occur in numbers, size, and quality in aspen and low- to mid-elevation timber habitat types adjacent to open foraging habitat within the planning area (including managed and unmanaged areas) providing reproductive and forage resources that support populations.

12.6 American marten: Spruce-fir forest habitat provides connectivity at broad spatial scales, forest stands with a diverse array of structural stages (including mature and old-growth forest), and a mix of habitat types, with levels of human disturbance capable of supporting foraging, breeding, and dispersal conditions that maintain self-sustaining populations.

12.7 Trout: Aquatic habitats support the genetic integrity and life history strategies of native trout populations.

12.8 Trout: Aquatic habitat quantity and quality are maintained or enhanced in order to provide for the long-term sustainability and viability of all native and/or desired non-native trout species.

12.9 Trout: All native trout species thrive in the ecosystems historically capable of supporting these species.

12.10 Trout: Composition, structure, and function of aquatic ecosystems are maintained similar to the HRV conditions, and are commensurate to the channel characteristics, water quality, and flow regimes reflective of the climate, geology, and natural vegetation of the area.

12.11 Trout: Stream flows are adequate to support populations of trout species and are maintained in cooperation with the CDOW, the Colorado Water Conservation Board, the USFWS, and the Army Corps of Engineers.
INVASIVE SPECIES

Background

Within the planning area, invasive plants are currently managed in accordance with an invasive species action plan. This species action plan, which covers a 3-year timeframe, lists prevention practices, early detection and rapid response strategies, and priority inventory and treatment areas. All resource areas participate in invasive species management within the planning area.

Invasive terrestrial wildlife species have the potential to out-compete native species using similar niches within the ecosystem. These changes may result from influences to the biotic (relating to, produced by, or caused by living organisms, such as plant or animal) and abiotic (non-living chemical and physical factors in the environment, such as soils, hydrology, etc.) components of the ecosystem. The resulting changes may allow invasive species to directly or indirectly impact the native species and their related ecosystems.

Invasive species move across jurisdictional boundaries and property lines; therefore implementation of the DLMP will involve close coordination and partnerships with local, State, Native American tribal, and other Federal agencies; public and private organizations; and the general public.

Desired Conditions Statements - Invasive Species

13.1 Invasive plant species (including noxious weeds) are absent or rare within the planning area.
13.2 Invasive species (including those that cause whirling disease, and insects) are absent or rare within the planning area.
13.3 Noxious weed management is successfully coordinated with adjacent land owners.
13.4 The planning area has a transportation system comprised of specific roads and trails that do not contribute to the spread of non-native species along travel corridors.
13.5 Invasive species, both terrestrial and aquatic, are absent or rare within the planning area, and are not influencing native populations or ecosystem function.
13.6 Non-native plants are not introduced or spread within Wilderness Areas or WSAs.
PEOPLE AND COMMUNITIES

Background

Southwestern Colorado is a mosaic of natural features, settlement patterns, economic activities, recreational activities, social values, formal institutional relationships, and informal communication networks, all of which are tightly interrelated. An attachment to the land, both public and private, is inherent to life within the planning area, both historically and in the contemporary context. The San Juan Public Lands provide natural resources, as well as a diverse array of settings for physical, emotional, mental, and even spiritual experiences.

Although the timber and livestock industries do not carry the relative economic importance that they once did, they still remain active in the area and contribute valuable outcomes [including the persistence of intact privately owned cattle ranches (and their contribution to open space) and forest restoration]. Gas and oil development helps boost regional income and spurs local business investment while, at the same time, producing significant local and State government tax revenue. Renewed interest in other mineral resources may occur if feasible markets develop.

The opportunity and desire to experience public lands are increasingly central to contemporary lifestyles, and as local population and visitor numbers increase, so will the dependence upon these public lands. The diverse settings for a wide variety of experiences within the planning area (ranging from athletic recreation, to scenic driving, to the pursuit of scientific knowledge) play an irreplaceable role in the quality of life in the region. Public lands are vital to the people and communities of southwestern Colorado; therefore, this DLMP includes elements specifically related to outcomes for people and for the communities near the planning area.

Desired Conditions - People and Communities in General

14.1 Use and enjoyment of lands and resources within the planning area occurs within the capabilities of the land, extending the benefits of public lands to future generations by keeping elements of the ecosystem upon which these benefits rest healthy and resilient.

ACCESS AND TRAVEL MANAGEMENT

Background

The transportation system within the planning area consists of roads and trails that provide people with access to public lands and to private in-holdings. Virtually every activity that takes place within the planning area uses the transportation system (including outdoor recreation, wildfire management, livestock and wildlife management, natural resource development, private in-holdings access, and electronic communication site and utility corridor maintenance, as well as the management and monitoring of public lands).
Within the planning area, there are over 3,000 miles of system roads and more than 1,300 miles of system trails. These roads and trails were originally constructed in order to support management activities (including for fire suppression, timber harvesting, mining, livestock grazing, and recreation). The transportation system consists of various types of routes. Public use of some roads may be allowed seasonally, or it may be permitted all year (if there is a demonstrated need to provide residential, recreational, commercial, and/or other types of access). Some roads are reserved for administrative use (by the USFS or BLM for management purposes, or by permittees to access special use permit areas). Trails generally fall into one of two general classes: non-motorized or motorized. Non-motorized trails may be further classified as non-mechanized (foot traffic, pack and saddle, etc.) and mechanized (mountain bikes). Motorized trails are generally intended for vehicles that are less than a certain specified width (usually around 50 inches), which excludes most highway-legal vehicles, except motorcycles.

In the last few decades, funding has not been sufficient to maintain all public lands roads and trails to required standards. Generally, the limited funding received has been focused on maintenance of higher standard roads that serve multiple-access needs. Limited funding for trails has resulted in fewer miles of trails being maintained. It has also resulted in a focus on roads and trails that are deemed unsafe, those that receive the highest use, or those that present the greatest threat to ecological integrity.

Road management activities have included the decommissioning of roads, the construction of new roads, and the closure of roads. Decommissioning roads that are not needed for access (currently, or in the foreseeable future) is generally performed in order to reduce resource impacts. Generally, new construction may occur when access to a particular resource or private in-holding is needed. These roads may be permanent, if intended for long-term use, or they may be temporary (such as many timber sale and energy development roads). Closing roads or limiting motorized use to administrative purposes are management strategies that may be employed for a variety of reasons (including wildlife protection, resource protection, and/or public safety). Population growth and the increased development of private in-holdings have increased the demand for uses of roads within the planning area as primary access routes to residential developments. This has created a demand to upgrade roads in order to accommodate all-weather, year-round traffic, and a need to evaluate the jurisdictional status of roads that are used predominantly for residential access.

Roadless areas are large land tracts (of 5,000 acres or more) or lands that are contiguous with other inventoried roadless areas (IRAs) or Wilderness Areas. These areas do not contain authorized roads, significant alterations to the landscape, or other permanent improvements. The transportation system is generally managed in order to maintain the character of these inventoried roadless areas.

The demand for recreational motorized and non-motorized access has increased dramatically in recent years. Advances in the performance and the technology of OHVs/ATVs, UTVs (utility vehicles), motorcycles, snowmobiles, mountain bikes, and wheelchairs have increased the demand for additional motorized and non-motorized recreational access and routes. New technology and more motorized use within the planning area has resulted in some users creating new routes (also known as user-created routes or social routes). Resource problems related to these user-created routes are developing across the planning area, especially in areas that are open to cross-country motorized travel.
The USFS Travel Management Rule (November 9, 2005) requires that each national forest designate a system of roads, trails, and areas for motor vehicle use by vehicle class and, if appropriate, by time of year. The rule addresses any future proliferation of user-created routes by prohibiting cross-country motorized travel (except in small designated areas). The rule is consistent with the BLM requirements for motorized off-road use (43 CFR Subpart 8340). Since the planning area is a Service First unit, the framework provided by the rule will be used in order to implement travel management planning across both USFS- and BLM-administered lands.

Within the planning area, the travel management planning process will result in a system of designated roads, trails, and areas for motorized use. The planning process is a public process; therefore, input from both motorized and non-motorized users is of value in determining access needs and strategies for reducing user conflicts. Travel analysis is used to inform decisionmakers of opportunities that would improve the transportation system and increase its ability to support multiple uses and accommodate desired and needed public access while, at the same time maintaining desired conditions for all other resources (such as wildlife and soils). Travel management proposals developed through travel analysis are also evaluated through the NEPA process. Travel management decisions on route designations are illustrated on a Motor Vehicle Use Map (MVUM) that is free to the public. The MVUM will be updated annually in order to reflect any new travel management decisions.

**Desired Conditions - Access and Travel Management**

14.2 The transportation system within the planning area consists of roads, trails, and bridges that are fiscally sustainable and safe; they allow for the use of, and enjoyment by, the public, and they meet resource management objectives.

14.3 The transportation system provides reasonable and legal access for resource management and recreation; it is dynamic and adaptable to resource and user needs.

14.4 Destination and loop trails exist for motorized and non-motorized recreation users. New trail development focuses on the creation of loop opportunities and on the utilization of existing routes, when feasible.

14.5 Existing public access to the planning area across private lands and/or across other jurisdictions is retained or improved.

14.6 The road and trail system has adequate signage for visitors traveling through the planning area.

14.7 The public has access to information about the transportation system (including specific travel route designations, available recreational opportunities, environmental stewardship guidelines, and safe travel information.)

14.8 Motorized use occurs only on designated roads and trails, as well as in small designated areas (except as exempted by 36 CFR Part 212.51). No new unauthorized or user-created routes develop within the planning area.

14.9 Unneeded roads and trails are decommissioned and reestablished with native vegetation cover.

14.10 Roads are managed by the appropriate public road authority when any one of the following conditions exists:

- the road serves predominantly non-SJPL traffic;
- the road is necessary for mail, school, and/or other local governmental purposes;
- the road provides year-long residential access to private property within, or adjacent to, the planning area.
14.11 Travel management planning is a continuous process designed to improve the transportation system.

14.12 Motorized and non-motorized users, as well as local, State, Native American tribal, and other Federal agencies, are actively engaged in travel management planning, route designation and implementation, and route monitoring.

14.13 Transportation system components do not encroach onto streams and/or onto riparian areas and wetland ecosystems in ways that impact channel fluctuation or channel geometry (the relationships between channel discharge and channel cross-sectional factors, such as area, width, and depth). Sediment delivery from the transportation system does not measurably impact pool frequency, pool habitat, and/or spawning habitats.

14.14 The character of roadless areas is maintained in order to preserve large expanses of undeveloped lands that can be managed for wildlife habitat, scenic quality, and recreation.

**RECREATION**

**Background**

The San Juan Public Lands offer visitors and local area residents extraordinary opportunities to experience the benefits of their public lands. Local and regional economies depend upon the recreation market (which is heavily influenced by the opportunities afforded by the public lands). Visitors value the unique and outstanding recreational assets offered by the SJPL. The “backyard” or rural recreation setting provided by many of these lands is an amenity to the active lifestyles and quality of life for local residents.

Visitors seeking the outdoors have an impressive range of options within the planning area. Mining, logging, and grazing have created an extensive transportation network across the planning area. In contrast, the large extent of rugged mountains and canyons with limited roads and access offer vast undeveloped areas offering their own unique recreation opportunities. The planning area offers primitive settings that provide opportunities for solitude and personal challenge. Less primitive, more modified settings provide opportunities for social interaction and greater comfort. Local communities, partners, volunteers, and permit holders are involved in (and benefit from) providing recreation opportunities. Recreation benefits contribute to the sustainability of the culture and the economy of local communities.

The San Juan Public Lands have remarkable values related to cultural traditions, history, scenery, and environmental resources and ecosystems. These values help to define a sense of place, and provide a unique recreation market and identity for SJPL. Public lands within the planning area offer people resource-dependent recreation opportunities and settings with which to meaningfully experience nature, history, and culture.
Desired Conditions - Recreation

15.1 Recreation users have opportunities to benefit from the diversity of varied terrain, scenery, and nature in the canyons, mountains, and mesas, as well as on the rivers of the San Juan Public Lands.

15.2 Established road and trail travel corridors offer high quality scenery. Developed recreation facilities (including trailheads) provide relatively easy access to visitors, enabling them to enjoy a wide range of recreation experiences (from summer driving tours to winter alpine adventures).

15.3 The recreation market emphasizes resource-dependent recreation settings, services, and conditions that offer the benefit of interaction between people and their natural and cultural public land heritage. With the exception of ski areas, highly developed facilities (including guest lodges, waterslides, golf courses, etc.) are not located within the planning area.

15.4 Recreation management is guided by recreation “setting” prescriptions established on Recreation Opportunity Spectrum (ROS) maps by geographic area, as well as by other resource goals and objectives. Although recreation opportunities are extensive throughout the planning area, there may be some areas where no recreation is appropriate.

15.5 Recreation tourism provides economic and social benefits to local communities and to the region; this is consistent with sustainable land practices, the protection of sense of place, and the market demand for SJPL-related values. The USFS and BLM collaborate with local communities, educational institutions, businesses, non-profit organizations, volunteers, and others interested in the planning area in order to market recreation opportunities effectively and appropriately, consistent with USFS and BLM goals.

15.6 Public lands near communities provide a day-to-day lifestyle connection with the foothills, canyons, and mountains. Neighborhood trailheads and convenient access points provide quick entry to a natural setting. These lands are a community asset and help contribute to a healthy lifestyles for people of all ages.

15.7 The SJPL offer motorized and non-motorized recreation experiences in large, predominantly naturally appearing landscapes, where active management may occur. Primitive dispersed camping sites, developed campgrounds, and trailheads are present in order to support dispersed recreation use.

15.8 Over-ground and over-snow motorized travel suitability maps serve as guidelines for determining recreation travel within the planning area.

15.9 A wide variety of information, education, and interpretive venues about recreational opportunities are available through various media and resources. Interpretive and volunteer efforts are focused on attaining agency goals and objectives.

15.10 Adequate maintenance and services at some sites are sustained through the collection of fees and donations, as well as through the work of concessionaires, volunteers, and partnerships.

15.11 Trailheads only provide the minimal level of amenities, as appropriate for the setting and sufficient to protect the resources.

15.12 Trails within the MA 7s (Public and Private Lands Intermix) are constructed and maintained primarily through community partnerships.
**Recreation Opportunity Spectrum (ROS)**
The ROS offers a framework that establishes settings (including access, remoteness, naturalness, built environment, social encounters, visitor impacts, and management) for the planning area. (These conditions are shown on the Established ROS Settings Maps for summer and winter. See ROS maps in Part 3 of the DLMP. Additional management direction related to recreation setting prescriptions is found in the Guidelines section of the DLMP. This map shows broad desired setting conditions for the entire planning area; therefore, site-specific analysis is generally necessary in order to further refine desired setting conditions that may apply to site-specific projects. See the Glossary for ROS term definitions).

**Primitive ROS Settings**
Primitive ROS settings include Congressionally designated Wilderness Areas, BLM WSAs, and areas recommended to Congress for designation as Wilderness. In general, these lands are 5,000 acres or larger, and are affected primarily by the forces of nature. They offer opportunities for solitude, natural quiet and unconfined recreation for non-motorized and non-mechanized travel year-round. Decisions made under the 1998 Wilderness Management Direction amendment to the 1983 Land and Resource Management Plan continue to be valid, and are incorporated into this DLMP by reference. Wilderness lands are categorized into three settings that describe the relative naturalness and level of remoteness of the area: 1) unspoiled pristine lands; 2) unmodified primitive lands; and 3) concentrated use, semi-primitive lands. WSAs would be managed by the BLM Interim Management Guidelines until Congress acts to create wilderness, or releases those lands from consideration.

**Semi-Primitive ROS Settings**
Semi-primitive ROS settings are non-Wilderness lands characterized by a predominantly naturally appearing landscape and by opportunities for natural quiet. Concentrations of users are low. Opportunities are provided that allow visitors to have a high degree of interaction with the natural environment, as well as a sense of remoteness, quiet, and solitude. Trail systems are designed in order to provide challenge and opportunities for self-reliance. Remote areas can be motorized, mechanized, or non-motorized. Administrative actions and commercial uses (including recreation) occur; however, they are not common.

**Desired Conditions Statements - ROS**

15.13 Projects and activities are consistent with the established ROS settings.

15.14 Much of the planning area is characterized by a landscape with a recreation setting of Semi-Primitive ROS and Roaded Natural ROS. A network of well-maintained passenger car roads provides Roaded Natural ROS travel corridors that access extensive areas characterized by a more Semi-Primitive ROS recreation setting. Beyond these well-traveled road corridors, contact frequency between visitors is less, secondary roads are more rugged and challenging with numerous 4x4 routes, visitor facilities are rare, and the sights and sounds of nature predominate.

15.15 Primitive ROS settings are retained at their current level of naturalness or restored, as needed.

15.16 Primitive ROS and Semi-Primitive ROS areas provide a variety of recreational opportunities, including:

- High-quality resource-dependent recreation accessible from major travel corridors;
- Single and multi-day challenging recreation activities and adventures;
- Non-motorized and motorized scenic backcountry experiences; and
- Self-discovery and challenge in areas with pristine natural conditions and solitude.
15.17 New trail construction in Primitive ROS and Semi-Primitive ROS settings protect resources, enhance recreation experience/challenge, mitigate user conflicts, and/or provide loops and/or links to other trail networks.

**Desired Conditions - Dispersed Recreation**

15.18 Dispersed recreation is an important opportunity offered throughout the planning area, and occurs extensively. Facilities for dispersed recreation are minimal, and are provided in order to protect resources and to enhance recreation experiences (and are compatible with established ROS settings, opportunities, and benefits). Access and parking, regulations, orientation, and safety information are effectively provided.

15.19 Activities are regulated primarily in order to protect the quality of the recreation settings and benefits, as well as to protect natural and cultural resources. Managers monitor conditions and implement management strategies in order to maintain desired setting characteristics.

15.20 Commercial Outfitting/Guiding is often provided within dispersed recreation areas in order to provide the expertise and equipment necessary for visitor safety, resource protection, and quality recreation experiences.

15.21 Dispersed camping opportunities are available for a wide variety of users. Motorized access to dispersed camping opportunities is addressed through travel management planning. Dispersed campsites are located outside of riparian zones and other sensitive resource areas. Campsites may be closed, repaired, rehabilitated, and/or hardened when unacceptable environmental or social impacts occur. Dispersed recreation resulting in resource impacts or user conflicts is effectively addressed.

15.22 Dispersed camping does not interfere or compete with the operation of developed campgrounds, private residences, or subdivisions.

15.23 Effective parking and directional/information signing is in place in order to support sustainable dispersed recreation use.

15.24 Traditional wildlife and fishery resources are available for Native American tribal use under established treaties and agreements.

15.25 Habitats support sustainable wildlife populations for consumptive and non-consumptive uses (including hunting, wildlife viewing, and eco-tourism) that contribute to local, State, Native American, and national economies.

**Desired Conditions - Developed Recreation**

15.26 Developed recreation sites meet accessibility standards, and are consistent with the established recreation niche of the area. The scale of development and amenities at facilities and at sites is consistent with established ROS and identified markets. The ROS setting for most developed facilities is Roaded Natural or Rural. Trailhead settings range from Semi-Primitive Motorized ROS to Rural ROS.

15.27 Developed recreation facilities are maintained to required standards. Facilities that do not meet standards, or that have a disproportionately high operating cost, are reconstructed, closed, or decommissioned.
15.28 The USFS and BLM provide visitor information, education, and interpretation consistent with their interpretive and conservation education strategy.

15.29 Vegetation and fuels management actions within, and adjacent to, developed recreation sites maintain or enhance scenery and meet specific-site plan objectives (including privacy screening, fall color enhancement, and disease resistance). Revegetation in developed sites uses native plant material and is designed in a manner that maintains a natural appearance.

15.30 Recreation sites and facilities are designed with an architectural theme intended to blend facilities with the natural environment while, at the same time, portraying an image consistent with the vernacular architecture (methods of construction that use locally available resources) that utilizes Low-Energy Environmental Design (LEED) guidelines.

15.31 Developed recreation sites are withdrawn from locatable mineral entry.

Desired Conditions - Winter Recreation

Winter recreation opportunities within the planning area provide important benefits to local residents and to visitors. A variety of local and State partners (including both for-profit and not-for-profit) assist the USFS and BLM in managing both motorized and non-motorized winter recreation areas. Commercial Outfitters/Guides also offer an important service related to safe winter recreation.

15.32 Winter recreation access is on plowed roads managed as Roaded Natural ROS. Trailhead parking areas are developed at key concentration points in order to accommodate the loading and unloading of equipment and people. These locations offer important safety, regulatory, and orientation information.

15.33 Away from road access points, the winter ROS includes Semi-Primitive Non-Motorized ROS or Semi-Primitive Motorized ROS. In some locations, there may be seasonal restrictions and/or changes in routes or access points in order to facilitate other resource activities for motorized use during one part of the season, and to facilitate non-motorized use during another part of the season.

15.34 Winter non-motorized areas provide a variety of non-motorized recreation opportunities in a quiet, natural setting (including groomed and un-groomed snow). Noise from motorized use is an exception in areas away from the main road corridors.

15.35 Winter motorized areas are managed in order to provide a variety of motorized recreation opportunities with a variety of challenge. In addition to areas open to cross-county, over-snow motorized use, these areas may contain groomed trails, marked trails that are not groomed, and/or unmarked/unmaintained open trails. There may be timing restrictions in wildlife habitat areas or timing restrictions due to ground conditions.
Desired Conditions - Ski Areas

15.36 In cooperation with the USFS and BLM, all areas are developed, maintained, and operated by the private sector in order to provide opportunities for intensively managed outdoor recreation activities during all seasons.

15.37 Ski areas are characterized by a vegetation mosaic that includes natural and human-made grassy openings intermixed with forested and/or partially forested areas and rocky outcroppings. Forested areas provide sustainable cover with a variety of species and age classes in patterns typical of the area’s natural landscape character. These areas are not part of the scheduled timber production base. Vegetation management (which may include herbicides, commercial harvesting, and/or grazing) is used in order to achieve and maintain desired conditions for the ski area in a sustainable manner. Vegetation conditions reduce the potential hazards and risks of undesirable changes from windthrow, insects, disease, and/or fire.

15.38 Recreation is intensively managed at ski areas. Facilities directly support skiing activities and management. Winter terrain parks within ski areas are concentrated in specific locations, rather than dispersed throughout the mountain. Facilities are used throughout the year in order to satisfy a variety of seasonal recreation demands. New trail developments are generally for non-motorized recreation uses.

15.39 Although development on associated private land may be of a rural or urban nature, the ROS setting on national forest lands is generally Roaded Natural. Motorized ROS travel, both winter and summer, is generally limited to administrative or emergency purposes. Summer uses in ski areas within the planning area favor non-motorized, low-impact activities (including sight-seeing, hiking, wildlife viewing, and mountain biking) that require few permanent structures.

15.40 Scenery provides a range of scenic integrity objectives from low to moderate. Protection of scenic values is emphasized through basic landscape design principles. The visual impacts of structures, ski lifts, roads, utilities, buildings, signs, and other built facilities are minimized. Facilities, as seen from key viewpoints, are architecturally designed to blend and harmonize with the surrounding land setting. Guidelines are developed for each ski area in order to guide decisions related to the built environment (including architectural style, scale, colors, materials, and landscaping). Facilities that no longer serve a useful purpose are removed. Visitors are aware, through signs and interpretive venues, that the ski area is public land.

15.41 Where feasible and desirable, backcountry skiing, snowshoeing, and/or snowboarding activities may be facilitated or enhanced by visitor services at established ski areas.
**Desired Conditions - Recreation Special Uses**

Special use permits are issued in order to provide a variety of safe high-quality recreation opportunities to visitors. Local Outfitters/Guides, and other recreation professionals, provide services to visitors who want additional knowledge, guidance, equipment, and/or other support for a successful recreational experience within the planning area. Outfitting/Guiding is generally limited to services directly related to safety or improved conservation education.

15.42 Allowable uses and capacity for specific activities within certain geographic areas are consistent with a capacity and needs analysis. Permitted activities are compatible with the desired ROS setting and MA designations.

15.43 Recreation special use facilities are rare and temporary; they are consistent with established ROS guidelines.

15.44 The recreation residence program is managed within existing authorized tracts.

**Desired Conditions - Structured Recreation Management Areas (SRMAs)**

There are 4 Structured Recreation Management Areas (SRMAs) within the planning area: the Silverton, the Dolores River Canyon, the Cortez, and the Durango SRMAs. SRMAs have been identified by the public as important places for various types of recreation within distinct landscape settings. SRMAs have distinct recreation markets (community, destination, remote) and identified recreation niches (who and where). Users of the areas, and specific recreation benefits, have been identified for each of the SRMAs. In addition, the important recreation setting components for each SRMA are identified in this DLMP and on the ROS map. Recreation occurs across the public lands, as well as within all management areas. The purpose of identifying SRMAs is to focus and prioritize recreation management efforts in order to meet MA objectives, to guide visitors to opportunities that provide specific benefits within suitable areas, and to better integrate recreation activities with the other recreation uses in the areas (see Suitability in Part 2 for more information about MAs).

Consistent with MA direction, recreation management in SRMAs must co-exist with a wide variety of resource management activities while, at the same time, marketing to recreation niches and resolving recreation user conflicts. Generally, SRMAs occur within MA 4s (High-Use Recreation Emphasis), MA 5s (Active Management), and MA 7s (Public and Private Lands Intermix). This requires integrating recreation management with:

- the multiple-use resource management occurring within MA 5s, and its effect on the desired recreation settings;
- the intense backyard social demands and community use aspects of MA 7s;
- the high recreation facility development level occurring within the MA 4 corridors.

The concept of SRMAs originated from the BLM (for the BLM, SRMAs stand for Special Recreation Management Areas). SRMAs that occur on BLM lands have additional planning criteria (see Appendix E, Volume 3).
On BLM lands, areas not identified as SRMAs are generally managed as Extensive Recreation Management Areas (ERMAs), another concept developed by the BLM. Within the planning area, there is one ERMA that, in general, includes all BLM lands not within a SRMA.

15.45 SRMAs are appropriately marketed and have local, directional and site signs, and agency visitor information.

15.46 BLM lands not identified as SRMAs are managed as ERMAs.

**Desired Conditions - SRMAs**

15.47 **Cortez SRMA**: This community recreation-tourism market provides local residents a day-use recreation setting for both motorized and non-motorized recreation. Mountain biking, hiking, and trail running take place in Phil’s World. Mud Springs provides a location for OHV-use to take place. The purpose of this SRMA is to maintain a predominantly Semi-Primitive ROS day-use recreation settings for both motorized and non-motorized recreation. Both areas would allow use to take place on a trail network designed in order to minimize conflicts and to keep user encounters at a low level (see Appendix E, Volume 3, for a more extensive description of the Cortez SRMA).

15.48 **Dolores River SRMA**: This destination recreation-tourism market provides rafting experiences within 5 Recreation Management Zones (RMZs), targeting participants from southwestern Colorado and the southwestern United States. Although the RMZs are predominantly in a Semi-Primitive ROS setting, they also include some Frontcountry and Rural ROS settings. There are opportunities for camping (in designated campgrounds and in dispersed areas), and for day-use recreation (including picnicking, mountain biking, hiking, and motorized recreation). Administration of this area provides direction designed to limit impacts from recreation activities associated with rafting, as set forth in the 1990 Dolores River Corridor Plan.

15.49 **Durango SRMA**: This community recreation-tourism market provides local residents a day-use recreation setting for non-motorized recreation. Mountain biking, hiking, and trail running takes place at Animas Mountain, Grand View, Log Chutes, and Skyline. East Animas and Turtle Rock provide locations for rock climbing. The focus of this SRMA is to maintain a predominantly Backyard ROS day-use recreation settings for non-motorized recreation. These areas would allow use to take place on a trail network designed to minimize conflicts and to keep user encounters at a low level (see Appendix E).

15.50 **Silverton SRMA**: This is a destination recreation-tourism market for Colorado, the southwestern United States, and several local communities (including Silverton, Ouray, Ridgway, Durango, and Montrose). The SRMA offers spectacular scenic vistas, visitor interpretation, and a year-round rest stop for travelers on the Alpine Loop and the San Juan Skyway. During winter months, the high mountain passes support recreation demand for adventure skiing, snowcatting, heli-skiing, backcountry skiing and boarding, and snowmobiling. Summer OHV-use on designated routes, as well as heritage tourism of the mining history are the primary uses. In the winter, management focuses on access and parking along Frontcountry ROS recreation corridors (which are in high demand). Access is facilitated by developed trailheads and Colorado Department of Transportation (CDOT) snowplowing. Essential visitor information and sanitation are provided throughout the year. A management issue for winter use includes whether or not to segregate motorized and non-motorized uses in some locations in order to ensure opportunities for backcountry quiet. In summer, this SRMA offers scenic corridors and trailheads to the much more remote high alpine backcountry. This SRMA has many scenic viewpoints where people stop to appreciate spectacular views; therefore, the USFS and BLM take advantage of the opportunity for public interpretation and conservation education (see Appendix E).
HERITAGE AND CULTURAL RESOURCES

Background

The San Juan Public Lands have a long and rich prehistoric and historic record, with human settlement of the area spanning back approximately 10,000 years. The archeological record related to the planning area contains some of the earliest agricultural societies in the region. The historic period brought Spanish and Euro-American explorers, trappers, miners, and settlers into the area. This long record of human occupation has left one of the highest densities of prehistoric and historic heritage and cultural resources found in the United States. These sites have national, international, and Native American tribal significance.

Heritage and cultural resources are non-renewable resources that include historic and prehistoric artifacts, structures, sites, districts, and archival materials important for their scientific, educational, economic, traditional, and social values. Visitation to heritage and cultural resource sites within the planning area is an important contributor in the region’s economy, and draws great interest from people from all over the world.

The USFS and the BLM are responsible for identifying, evaluating, and protecting heritage and cultural resources on the public lands they manage. Significant heritage and cultural resources within the planning area include resources that are eligible for listing, or are already listed, on the National Register of Historic Places (NRHP), Priority Heritage Assets, and on the Strategic Sites List.

The heritage and cultural resources found within the planning area face numerous impacts from natural and human disturbances. Population and visitation growth and development impact non-renewable heritage and cultural resources both directly and indirectly. Direct impacts include disturbance from construction, vandalism, and excessive or inappropriate visitor use. Indirect impacts include accelerated erosion and visual impacts to cultural landscapes.

Desired Conditions - Heritage and Cultural Resources

16.1 Significant heritage and cultural resources are maintained in good to excellent physical condition. Significant cultural values are protected or preserved. Heritage and cultural sites are preserved and stabilized, and may be available for interpretation and research; they may have site-specific management plans. Sites are protected from physical damage and excessive wear-and-tear resulting from visitor use.

16.2 The visual and aesthetic setting and physical associations of the sites are protected so that the visitor experience of the historical/cultural landscape and setting is maintained.

16.3 USFS/BLM activities are compatible with site objectives or are temporary in their impact to the landscape, as well as to the overall visitor experience.

16.4 A management presence at key heritage and cultural resource sites is provided in the form of signage, brochures, site stewards, volunteer projects, and/or in other ways that aid in protecting heavily visited resources. Appropriate access to sites of interest is provided.
16.5 Interpretive displays, visitor contacts, and/or brochures are available in order to help visitors and employees understand, and appreciate, the heritage and cultural resources associated with the planning area. A wide range of heritage activities, experiences, and products (both on-site and off-site) are available for visitor enjoyment and education. Off-site activities include museum displays, brochures, audio programs, classroom presentations, and field trips. Interpretive efforts are compatible with the physical, cultural, and recreational settings and values of the resources.

16.6 Select historic cabins are restored and adaptively reused for appropriate recreation and/or for interpretive use.

16.7 Site-stewardship programs are encouraged and expanded in order to provide monitoring, protection, public education, and interpretation.

16.8 Looting of sites is reduced through increased public awareness and education related to cultural resources. Vandalism at sites is promptly remedied to prevent recurrence.

SCENERY, VISUAL RESOURCES, AND THE BUILT ENVIRONMENT

Background

The San Jan Public Lands possess outstanding and diverse scenery, capable of enhancing a wide variety of experiences. Many people choose to live in southwestern Colorado, in large part, so that they can benefit from the high-quality scenery (with such views even serving as an important selling point for commercial and residential real estate). Scenery is the backdrop for all forms of recreation occurring on both public and private lands. High-quality scenery is also a primary reason people from outside of the area visit the San Juans – with scenic byways and backcountry byways alone attracting hundreds of thousands of people annually.

Planning for scenic resources within the planning area involves management strategies that protect scenic resources, as well as those that increase opportunities for viewing those scenic resources. The desired conditions below specify outcomes that would maintain, protect, and enhance the scenery within the planning area.

Desired Conditions - Scenery, Visual Resources, and the Built Environment

17.1 Public demand is met for high-quality scenery that benefits regional tourism, the local and regional economy, the local and regional community image, and overall recreation opportunities. Existing natural appearing scenic landscapes are maintained.

17.2 Valued viewsheds, vistas, and cultural and natural landscape elements are protected, restored, and enhanced. Activities that protect, restore, enhance, and/or perpetuate long-term valued scenic elements may be visible to visitors in the short-term. These activities may include, but are not limited to, fuel reduction, vista creation, wildland fire uses, and insect and disease prevention and suppression.

17.3 Views from developed sites, roads, trails, and viewpoints of concern are predominantly within natural-appearing landscapes. Views within developed recreation sites may appear heavily altered (due to recreation support facilities, recreation developments, hazard tree management, etc.). The natural appearance of forested ridgetops viewed from nearby communities is protected.
17.4 Visitors have many convenient and safe opportunities to view world-class scenery. Visitors have opportunities to experience important scenic elements (including landscape vistas, park-like groves of old-growth ponderosa pine, large aspens, spectacular fall color displays, scenic riparian corridors, historic architecture, etc.).

17.5 Scenic pullouts, vista points, waysides, and access points are developed, as appropriate, in order to support scenic viewing as a primary visitor activity.

17.6 Vegetation composition and structure valued for scenic character (including landscapes with a predominance of aspen and ponderosa pine) are showcased along scenic routes, at recreation sites, and at key viewsheds.

17.7 Conservation of significant cultural and natural viewsheds is established through strong partnerships between the USFS and BLM; State and local agencies; tribal governments; land trusts, and other interested individuals and organizations.

17.8 The built environment (including recreation facilities, utilities, resource management structures – including those constructed and/or maintained by permittees) reflects and complements the architectural character of the Rocky Mountain Province or the Southwest Province (USDA FS BIEG FS-710), as appropriate, and reflects local vernacular architecture and natural landscape context. The quality of the built environment benefits from sound site planning and environmental design principles utilizing efficient energy sources.

17.9 Vegetation valued for its scenic character is sustainable and consistent with the inherent landscape character.

17.10 Public lands are in a condition that meets the minimum established scenic objectives for the SJPL (generally, this is high or moderate scenic integrity objective or a VRM Class III).
INTERPRETATION AND CONSERVATION EDUCATION

Background

The San Juan Public Lands have the remarkable opportunity to connect with millions of people who visit, or are interested in visiting, their public lands. An important goal of the USFS and BLM is to help people understand, appreciate, and use their public lands. Due to the remote location, varied geography, and multiple-use patterns, the planning area requires a vibrant and focused interpretive program in order to support this goal. In order to protect invaluable cultural and natural resources, interpretive services and conservation education must be an integral part of implementing and maintaining the identity of the area, and implementing an effective resource management strategy that educates and informs visitors.

Currently on the SJPL, there are many facilities and services in place that deliver interpretive and conservation education services to the public. The USFS and BLM will sharpen their focus in order to more meaningfully deliver what the public wants to know, and needs to know, about the land management agencies, their mission and programs, and stakeholder responsibilities.

 Desired Conditions - Interpretation and Education

18.1 The public benefits from a public lands interpretive and education strategy that reflects USFS and BLM priorities and key public information needs. The public understands the mission of the SJPL and its diverse cultural and natural resource management priorities and exhibits effective stewardship behavior on the SJPL.

18.2 Messages are consistent and effectively delivered to the public, reaching a wide variety of age, gender, class, ethnic, and cultural groups.

18.3 Resource management messages are articulated in all education and interpretive products, programs, and public contacts.

18.4 A wide variety of information, education, and interpretive venues are available through various media so that people can easily access information about recreational opportunities and resources.

18.5 All visitor information services, public affairs, interpretation and conservation education functions of the USFS and BLM have a unified and clear communication strategy.

18.6 All SJPL personnel play a role in public communications, in terms of offering conservation education, interpretation, public affairs, and visitor information services.

18.7 The SJPL fosters research, education, and interpretation of the area’s rich natural and cultural heritage.

18.8 Effective interpretation and conservation education, as well as proactive land stewardship, are accomplished with a wide range of partners (including commercial Outfitters/Guides; permittees; volunteer groups; local, State, and Native American tribal, and other Federal agencies; interested individuals and organizations, etc.).

18.9 Public education opportunities, through interpretation and conservation education programs, promote ethical and non-limiting use of wildlife resources within the planning area.
TIMBER AND OTHER FOREST PRODUCTS

Background

The timber management program on the San Juan National Forest has followed the trend of many other national forests with regard to high harvesting levels (especially early in the Twentieth Century in support of mining and settlement, with another spike in harvesting following World War II). Peak harvesting levels were near 75 million board feet annually. Since that time, harvesting levels have continued to decline, and many larger local mills have closed (see Appendix W, Timber Demand Study, Volume 3). The planning area has a high quality aspen resource, and has been actively involved in aspen management since the 1940s. There is currently not an active commercial timber program on the BLM lands within the planning area; however, non-commercial products (including post and poles, Christmas trees, and other non-forest products) are available.

The forest products industry continues to be very important to Montezuma and Montrose Counties, where wood processing facilities are located. Although the level of timber harvesting has declined in the past decade, ecological desired conditions in forested areas are, in large part, dependent upon the timber program and on the capacity of the timber industry to change vegetation conditions. Without the timber industry, the ability to manage vegetation would be significantly reduced. Commercial timber harvesting is an important tool for managing vegetation on the SJPL.

Desired Conditions - Timber and other Forest Products

19.1 Commercial timber and forest products are available in order to support, at least, the current level of economic activity in the local timber industry while, at the same time, allowing the SJPL to achieve other desired conditions.

19.2 Lands classified as “suitable” for timber production have a regularly scheduled timber harvesting program that provides benefits to people while, at the same time, achieving ecosystem function and sustainability.

19.3 Lands classified as “not suitable” for regularly scheduled timber production (but where timber harvesting could occur for other multiple-use purposes) have an irregular, unscheduled timber harvesting program that achieves ecosystem function and sustainability while, at the same time, providing benefits to people.

19.4 Small-diameter, woody material resulting from hazardous fuel reduction activities are transformed into marketable products, thereby utilizing forest products and reducing implementation costs.

19.5 Within the capacity of the land, current and future demands are met for special forest products for personal, commercial, and Native American tribal use.
LIVESTOCK AND RANGELAND MANAGEMENT

Background

Livestock grazing was initially undertaken in the 1880s to support local mining operations and to take advantage of the natural grasslands. As the rate of homesteading increased, and other laws designed to increase the rate of western settlement were passed, livestock numbers on public lands increased. With the creation of the San Juan National Forest in 1906, Federal livestock management was directed toward allocating forage to local dependent users. With the passage of the Taylor Grazing Act in 1934, the same approach was continued on unreserved public lands (and the days of the open range came to an end).

Generally, rangeland management activities from the 1940s through to the 1980s were directed toward improving watershed conditions in the West (through the use of large amounts of capital and new technology). Rangeland management practices designed to accomplish these goals included increased water development, fencing, brush control practices, reseeding, and the use of intensive grazing systems. It was generally believed that this prescriptive approach would meet management objectives.

From the late 1980s to the present, rangeland management activities have been directed toward improving rangelands through adaptive management. Factors including the increase in big game numbers, the listing of threatened and endangered species, the implementation of hazardous fuels reduction projects, the on-going drought, and persistent water-quality issues have all added to management challenges.

Cattle numbers peaked in the 1920s; sheep numbers peaked in the 1930s. Currently, livestock numbers are at 50% and 5%, respectively, of their historic highs. Authorized livestock numbers on the SJPL are about 90% of permitted numbers. Market factors, administrative actions, and the drought have all contributed to the USFS and the BLM not meeting sustained grazing level goals in the past few decades.

Desired Conditions - Livestock and Rangeland Management

20.1 Rangeland provides forage for qualified local livestock operations and helps ranches remain sustainable and intact.

20.2 Rangelands and permitted livestock grazing use, contribute to the maintenance of large open spaces on private lands through the maintenance of sustainable ranching operations.

20.3 Permitted livestock grazing fee collections contribute to the local county fund base for roads, schools, and range improvements.

20.4 Rangelands sustain healthy and sustainable habitat for wildlife populations that, in turn, support recreational hunting, fishing, and/or viewing (thereby contributing to the local and regional economy).
MINERALS AND ENERGY

Background

Prospecting and mining within the planning area date back more than 120 years. The first recorded discovery of gold in the region was in 1848, in the Silverton area. This was followed by discoveries in the Durango and Rico areas in the 1860s. Today, there are few active metal mining operations in the area, but increases in the price of gold, silver, and copper are likely to spur renewed interest in historic mining areas (including Silverton). Recent interest in nuclear power generation and other demands will likely continue the current mining of uranium, as well as the expanded exploration for this resource.

Deposits of mineral materials occur within the planning area. Bulk stone is sold for building material, aggregate, bulk fill, rip-rap, road surfacing, decoration, and landscaping. Current sites with small- to medium-scale development are canyon walls, stream channels, talus slopes, landslides, ancient river terraces, glacial moraines, floodplains, road cuts, quarries, and pits. Large boulders are a relatively recent target for purchase (used for river renovation work). These large boulders occur throughout the planning area in stream deposits, glacial drift and till, landslides, and floodplains. Most are found at higher elevations, although those closest to existing roads are primary targets for purchase.

Coal deposits occur within the late Cretaceous and Tertiary Period rocks found near Durango and Chimney Rock. Active underground mining operations are also occurring on private lands near Durango. Geothermal resources within the planning area are of low or medium temperature. Geothermal fluid resources that occur within the planning area (as well as in the surrounding areas) include warm water emanating from geysers, springs, and wells. Most warm springs are located near faults that serve as conduits for upward flow of groundwater that is heated by deep circulation from mainly volcanic sources. Except for the town of Pagosa Springs (where hot water from hot springs is currently used in order to heat buildings and public sidewalks), the thermal springs are at present either undeveloped or developed for recreational and therapeutic uses in private and public pools. Only three springs are on public lands: Geyser, Piedra, and Rainbow.

Oil and gas (natural gas and carbon dioxide) deposits occur in sedimentary basins throughout the planning area. Only the central area of the SJPL (from the north rim of the San Juan Basin north to Silverton) has no known potential. Areas of significant potential or known reserves and production are the Paradox Basin area (roughly the lands west of the Dolores River), the northern San Juan Basin (approximately the area south of U.S. Highway 160, between Durango and Chimney Rock), and the San Juan Sag (the area east of Pagosa Springs). Development of these deposits began early in the Twentieth Century with discoveries in the Paradox Basin. A major natural gas deposit is currently in development in the northern San Juan Basin. Exploration and development are underway in the Paradox Basin northwest of Cortez, and limited exploration is occurring intermittently in the San Juan Sag (which is southeast of Pagosa Springs). There are currently approximately 100,000 acres of lease nominations being processed for the Paradox Basin area, and about 5,000 acres of lease nominations being processed for the San Juan Sag. (A separate EIS for the proposed development of coal-bed methane gas in the northern San Juan Basin is currently being developed.) As oil and gas prices increase, and political decisions emphasize development of domestic resources, it is likely that all areas of the SJPL will see increasing interest in exploration and development.
Exploration for, and development of, mineral resources on public lands is required by law to meet all applicable environmental protection measures. For all proposed activities that have the potential for disturbance to lands and/or resources, a Plan of Operations is required. This Plan of Operations is subject to full public environmental analysis and review before the operation can be approved. Consistent with all required environmental protection measures, Plans of Operation include provisions for access, design, construction, maintenance, and rehabilitation.

**Desired Conditions - Minerals and Energy**

21.1 The planning area complies with the direction of the Energy Policy Act of 2005, and contributes to the nation’s supply of mineral and energy resources.

21.2 Mineral materials (including gravel and decorative stone) are available to support resource management needs, personal and hobby use, and commercial pursuits.

**DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS**

**Background**

Section 368 of the Energy Policy Act of 2005 directs the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate energy transmission corridors on Federal land in 11 Western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) for oil, gas, and hydrogen pipelines, and for electricity transmission and distribution facilities. Energy corridors differ from energy transmission Rights-of-Way (ROWs)/special use authorizations due to the fact that corridors are intended to support different types of compatible energy-transport systems; whereas a ROW/special use authorization is a project-specific assignment of a relatively narrow strip of land permitted and limited to a single energy-transmission project.

**Desired Conditions - Energy Corridors**

22.1 In accordance with the Energy Policy Act of 2005, energy corridors throughout the planning area improve the delivery of electricity, oil, and gas in the West while, at the same time, enhancing the western electric transmission grid by improving reliability, reducing congestion, and contributing to the national electrical grid.

22.2 Future linear transmission uses are encouraged to occur adjacent to existing authorized routes for transmission lines over 69 kilovolts, and for pipelines more than 10 inches in diameter. Local distribution lines and smaller pipelines are located in conjunction with the existing road system or other previously disturbed areas.
ABANDONED MINES AND HAZARDOUS MATERIALS

Background

Within the planning area, work on the abandoned mine program began in 1994 with an inventory of abandoned mines on public lands. At the same time, the Colorado Water Quality Control Division proposed a watershed risk-based approach to abandoned mine remediation. This consists of four major stages:

1. Statewide analysis and watershed prioritization;
2. watershed characterization and mine prioritization;
3. mine-site characterization and remediation; and
4. post-remediation monitoring.

This approach was used by the State agencies and by Federal land management agencies to identify the upper Animas River watershed as ranking at the top of the high-priority watersheds. Funding for alternative minimum level (AML) water-quality projects began in 1997 with two pilot projects: the upper Animas River watershed in Colorado, and the Boulder Creek watershed in Montana.

The Animas River Stakeholders Group (ARSG) was formed in 1996 in order to take the lead in area watershed characterization and remediation. The group’s members come from the public and private sectors. Their mission is to improve water quality and habitat along the Animas River (which is in the Columbine Geographic Area, for the purpose of this DLMP). Over the last decade, ARSG has received grants and professional support from State and Federal agencies, as well as from private interests for the characterization and remediation of the watershed. The characterization work culminated in the Use-Attainability Analysis of the Upper Animas Watershed. This report includes watershed characterization, mine clean-up prioritization, and remediation plans. Watershed characterization provided baseline scientific information and enabled the reduction of necessary mine clean-ups from 1,500 to 100 (or less). Water-quality objectives were also developed.

Another area with a high concentration of mining is the area around Rico, which is in the Dolores River watershed (which is in the Dolores Geographic Area, for the purposes of this DLMP). The State of Colorado and the U.S. Environmental Protection Agency (EPA) have overseen voluntary clean-ups (VCUP) of some mine areas on private land, as well as on mixed-ownership sites. Mine sites exist in many other locations throughout the planning area that may cause pollution or may pose a safety hazard.

Most of the hazardous materials incidents within the planning area are the result of transportation accidents on State and/or Federal highways. Trucking accidents can result in spills of fuel (or of any hazardous products that the truck was carrying). These incidents are the responsibility of the transportation company to clean up. Clean-ups within the highway ROWs are under the jurisdiction of the Colorado State Patrol (CSP) for State and Federal highways, and under the jurisdiction of the local Sheriff’s Departments for county roads. Illegal dumping on the SJPL is also a potential hazardous materials issue. In addition, hazardous materials can also be related to operations conducted or authorized by the USFS and BLM (including the use of pesticides, fuels, and/or lubricants).
Desired Conditions - Abandoned Mines and Hazardous Materials

23.1 Abandoned mine reclamation within the planning area contributes to water quality improvement and to historic resource protection.

23.2 Abandoned mines do not endanger the environment, wildlife, the public, or SJPL employees.

23.3 USFS- and BLM-authorized actions occur without causing hazardous material spills or waste contamination.

LANDS AND SPECIAL USES

Background

The planning area contains both BLM- and USFS-administered lands. Although the laws and regulations that guide the two agencies differ in some details, the general vision for land management across the planning area is the same. The following discussion applies to both BLM and USFS lands, unless a specific distinction is identified.

Special Use Permits, ROW grants, easements, and leases authorize the occupancy and use of public lands by private individuals and/or by companies for a variety of activities (including roads, utility lines, communication sites, dams, and other private or commercial uses that cannot be accommodated on private land). The USFS and BLM administer approximately 980 non-recreation Special Use Permits on the SJPL.

Land Ownership

Public lands are generally retained in Federal ownership in order to provide long-term values. The vision for the planning area is to retain in public ownership all lands currently under its administration that meet the long-term needs of maintaining the integrity of contiguous natural ecosystems, river frontage, riparian areas and wetland ecosystems, recreation and open space, scenery, clean air and water, and refuge from development for plant and animal populations. Under the direction of the DLMP, on a case-by-case basis and through the methods available to each agency, the USFS and the BLM would acquire lands and/or mineral estates that enhance this vision. They would dispose of lands and/or mineral estates that do not meet these needs. In all such cases, the primary guiding principle would be the greater public benefit.

Land Use and Access Authorizations

The USFS and BLM provide authorizations for occupancy and use for a variety of private and commercial entities; as well as for local, State, Native American tribal, and other Federal agencies. This is accomplished through easements, ROWs, Special Use Permits, leases, and other instruments. Trespasses and encroachment issues are resolved through removal, remediation, or authorization. The SJPLC maintains and enhances public access to the lands identified for retention (BLM), as well as to other public lands where improved access meets resource and/or management needs. The SJPLC engages in cooperative management of private and commercial access needs (with private individuals; developers; State and local agencies, and tribal governments) and encourages the formation of “road-user associations” where multiple users require access.

All authorized uses on public lands are required, by law, to meet all applicable environmental protection measures. For all proposed activities that have the potential for disturbance to lands and resources, a project design is required and is subject to full public environmental analysis, review, and monitoring.
Land Withdrawals

Formal withdrawal of land from specific land uses and/or types of management is a tool designed to ensure the reservation of the land or resource for a dominant use (including for municipal watersheds, hydropower facilities, or for fossil fuel supplies). Other withdrawals remove lands from the operation of mining and mineral leasing laws in order to protect higher values or uses (including for threatened or endangered wildlife, designated Wilderness, or for high-value facilities and improvements). Withdrawals require a full public environmental analysis and decision process. The vision for the planning area is to pursue formal withdrawal of lands where this process has identified lands with high values and resources needing protection that cannot be provided by routine management, or where withdrawal is required by law.

Desired Conditions - Lands and Special Uses

24.1 Public land ownership boundaries are clearly marked on the ground, and land ownership information is easily accessible to the public.

24.2 Surface and mineral ownerships within the planning area are consolidated in order to meet resource and community needs, and to facilitate efficient land management.

24.3 The SJPL retains and/or acquires river frontage, riparian areas and wetland ecosystems, and other lands that would enhance or protect recreation, open space, scenery, clean air and water, and key habitat for species.

24.4 The SJPL acquires adequate access to isolated lands for resource or management needs.

24.5 Road access to private land is granted only where no other reasonable alternative exists, and where it meets the appropriate road design and maintenance standards necessary for resource protection and public safety.

24.6 Road use authorizations for roads that serve predominantly non-SJPL purposes are provided to local road jurisdictions (reserving public access, where appropriate).

GEOLOGY

Background

The planning area showcases examples of almost every type of igneous terrain, from nearly 2 billion-year-old metamorphic and igneous basement rock to still-forming hot-springs mineral deposits. Its active geological processes pose dangers and challenges related to the effective management of the planning area. The area’s potential for research and resource development recognizes its variety of landscapes: from 14,000-foot mountains to the semi-arid deserts; from fresh glacial cirques and valleys to narrow canyons and wide river channels; its river-cut cross-sections of geologic time stretching halfway back to the birth of the planet; its mineral wealth that fueled the settlement of Colorado (and still provides raw materials to the local communities and to the world); and its geologic record of some of the most fundamental events in earth history (including great mass extinctions, the rise of plant and animal life on land, and the age of the mammals).
Desired Conditions - Geology

25.1 The planning area contributes to the nation’s scientific growth by fostering research, education, and interpretation of the area’s rich geological heritage.

25.2 Planning area facilities are located and constructed so that the public is not endangered by geologic hazards.

PALEONTOLOGICAL RESOURCES

Background

Paleontologic resources (fossils) constitute a fragile and non-renewable scientific record of the history of life on earth. Management requirements related to ground-disturbing activities are applied in order to protect paleontologic resources and the scientific values they contain. Avoidance of significant sites is the preferred mitigation for adverse impacts to paleontologic resources.

In 1996, a classification system called the “Probable Fossil Yield Classification” (PFYC) was developed by the USFS’s Paleontology Center of Excellence and the Region 2 Paleo Initiative in order to promote consistency throughout and between agencies (USFS 1996b). The PFYC system provides baseline guidance for assessing the relative occurrence of important paleontological resources, as well as assessing the need for mitigation. Geologic units are classified at the formation, or member, level according to the probability of yielding paleontological resources of concern to land managers. Classifications range from Class 1 to Class 5, and are based on the relative abundance of vertebrate fossils, uncommon invertebrate, or plant fossils, as well as on their sensitivity to adverse impacts. A higher classification number indicates a higher fossil yield potential and greater sensitivity to adverse impacts (see Appendix Y, Volume 3 for a description of the 5 PFYC classes and the suggested management direction indicated for each class. Geological formations that are known to contain significant vertebrate, invertebrate, and plant fossils include but are not limited to those listed in Appendix Y.)

Within the planning area, the BLM identified the Morrison Formation as having the potential for fossil occurrences. The Morrison Formation is also the focus of the vanadium and uranium mining that has occurred historically on public lands, and within Department of Energy (DOE) leases. Vanadium and uranium mining is expected to increase during the planning horizon. Most of the planning area has not been surveyed for paleontological resources, and the extent of occurrences of most paleontological resources is not known.

Desired Conditions - Paleontological Resources

26.1 Significant fossil resources are available for appropriate scientific, educational, and, where appropriate, recreational uses by present and future generations.

26.2 Vertebrate fossil resources of the PFYC Class 5 formations are available for interpretation and research in a relatively undisturbed condition.

26.3 The Horse Range Mesa vertebrate fossil site is managed for the relevance and importance of Camarasaurus and Stegosaurus dinosaur fossils.
PARTNERSHIPS

Background

Research and stewardship activities within the planning area are accomplished through an extensive network of potential partners. This includes, but is not limited to, not-for-profit organizations; local, State, Native American, and other Federal agencies; a variety of universities and colleges; public land user groups; entities operating under use permits; and scientific researchers. Although most stewardship activities, and the partnerships that make them possible, are focused on specific tasks (for example, clearing the Colorado Trail of avalanche debris), the outcomes tend to extend far beyond accomplishing the task at hand.

The end result of a partnership effort is usually a deeper understanding of the economic, ecological, and social dynamics of managing public lands (and sometimes private lands), as well as a broader sense of responsibility for caring for resources, and an increased respect for other perspectives (and other user groups). Community-based stewardship attempts to incorporate local land stewardship ethics in a context of open citizen participation, and to include all interested individuals and groups. A well-documented example within southwestern Colorado is the Ponderosa Pine Forest Partnership, in which local environmentalists and the timber industry (in total gridlock in the early 1990s) cooperated in science-based efforts in order to restore ecological health to local ponderosa pine forests while, at the same time, sustaining small, local wood products businesses. To date, ecological restoration has been accomplished, or is in the process of being accomplished, on approximately 8,000 acres. Many more examples of successfully engaging partners in caring for public lands exist, and more are developing as needs arise.

Research constitutes a specific form of partnership and involves a variety of interests that continue to bring forth new theories, observations, and findings relevant to resource management within the planning area. Partnerships with researchers and local communities are encouraged in order to increase knowledge and education. An emphasis on non-destructive research is preferred, and site-specific research activities are administered under appropriate authorizations.

Desired Conditions - Partnerships

27.1 The SJPL retain their national reputation as a place where people are willing to actively engage in caring for the land and resources. A variety of organizations and individuals volunteer to work in stewardship roles, serving as an integral part of the management of SJPL.

27.2 Individuals engaged in commercial pursuits within the planning area actively engage in caring for the land and resources.

27.3 Research addresses current management issues and long-term ecological change, and involves interdisciplinary evaluation of a common site.
INTRODUCTION

The preceding section describes SJPL-wide desired conditions, expressing and describing a broad range of conditions throughout the San Juan Public Lands. The geographic area desired conditions, found in this section, focus on desired conditions within each of the three Ranger District/Field Offices: the Dolores, the Columbine, and the Pagosa. For the purposes of the DLMP, these are referred to as geographic areas. Each geographic area description below includes a brief history of the area, as well as a discussion of trends within the surrounding communities in relation to the planning area.

The following factors were considered in shaping the geographic area desired conditions:

- unique ecological and cultural attributes;
- resource conditions, assessments, and trends;
- economic and social contributions of the public lands to neighboring communities and to the region;
- past and current management practices and investments; and
- public demand, uses, and trends.

Combined, these factors shape desired conditions for each geographic area, and also give shape to the general management emphasis of smaller areas, termed management areas, within each geographic area.

MANAGEMENT AREAS (MAs)

The desired level of management, and the specific use of resources, varies from location to location throughout the planning area. In conjunction with resource desired conditions and objectives, the management emphasis for a particular area is described by Management Areas (MAs). Based on public scoping and agency knowledge of the land, MAs have been applied to all lands within the planning area. There are seven Management Areas (further described in Part 2 of the Plan) that range from areas where natural processes dominate and shape the landscape to areas that are intensely managed. Management Areas also describe the overall appearance desired within the area, as well as uses and activities that may occur or that are generally suitable.

The composition of Management Areas within each geographic area provides a spatial understanding of where management activities and uses may occur, as well as where particular desired conditions will be emphasized. Below, each MA is briefly described (see Suitability in Part 2 of the DLMP for a complete description of MAs). For each geographic area, the MA composition is described and mapped.

Management Area 1 (MA 1): Natural Processes Dominate

These relatively pristine lands are places where natural ecological processes operate free from human influences. Succession, fire, insects, disease, floods, and other natural processes and disturbance events shape the composition, structure, and landscape patterns of the vegetation. These areas contribute significantly to ecosystem and species diversity and sustainability; serve as habitat for fauna and flora; and offer wildlife corridors, reference areas, primitive recreation opportunities, and places for people seeking natural scenery and solitude. Roads and human structures are absent and management activities are limited on MA 1 lands. Motorized travel, and in most cases, motorized equipment are prohibited. MA 1s include designated Wilderness Areas, the Piedra Area, Wilderness Study Areas (WSAs), and other lands where a primary desired condition is to maintain the undeveloped natural character of the landscape.
Management Area 2 (MA 2): Special Areas and Unique Landscapes
These areas possess one or more special feature or characteristic that makes them, and their management, unique from other areas within the planning area. MA 2s include Research Natural Areas (RNAs), Areas of Critical Environmental Concern (ACECs), Wild Horse Herd Management Areas (HMAs), Archeological Areas, Habitat Areas, Botanical Areas, and other unique areas that have a mix of special features and uses. In general, MA 2s are managed in order to protect or enhance their unique characteristics; therefore, management intensity and suitability varies by each area (see Special Areas in Part 2 of the DLMP for a description of each MA 2, including any additional specific desired conditions, objectives, suitability, or design criteria for each area).

Management Area 3 (MA 3): Natural Landscapes, with Limited Management
These relatively unaltered lands are places where natural ecological processes operate primarily free from human influences. Succession, fire, insects, disease, floods, and other natural processes and disturbance events predominantly shape the composition, structure, and landscape patterns of the vegetation (although management activities may also have an influence). These areas contribute to ecosystem and species diversity and sustainability; serve as habitat for fauna and flora; and offer wildlife corridors, reference areas, primitive and semi-primitive recreation opportunities, and places for people seeking natural scenery and solitude. Roads and human structures are present, although uncommon.

Management activities are allowed, but limited, on MA 3s. They occur mostly for restoration purposes needed because of natural disturbance events or past management actions. Management activities may include restoration of ecological conditions or habitat components; prescribed burns; wildland fire use; salvage logging following fire, insect epidemics, and/or wind events; hazardous fuels reduction; and invasive species reduction. Temporary road construction and motorized equipment may be used in order to achieve desired conditions; however, most roads would be closed upon project completion. Most MA 3s emphasize non-motorized recreation opportunities, but motorized travel occurs in some areas on existing roads and some trails. Livestock grazing occurs on many of these lands.

Management Area 4 (MA 4): High-Use Recreation Emphasis
These areas are places with relatively high levels of recreation use that is managed in order to provide a wide variety of opportunities and experiences to a broad spectrum of visitors. They are associated with, and often provide, access to popular destinations, transportation corridors, scenic byways, scenic vistas, lakes, and streams. Developed recreation facilities that provide user comfort and resource protection are present. These areas tend to be altered by human activities, but also include some more undeveloped places (including backcountry travel corridors). Visitors can expect to see a wide range of human activities and development (including roads, trails, interpretive sites, campgrounds, trailheads, fences, and day-use facilities). Both motorized and non-motorized activity is common. Natural ecological processes and disturbance agents (including succession and fire) are often influenced by humans on most of these lands. Resource uses (including livestock grazing, timber management, and wildlife management) may occur in conjunction with surrounding recreation and scenic objectives.
Management Area 5 (MA 5): Active Management (commodity production to meet multiple-use goals)
These multiple-use areas are places where active management occurs in order to meet a variety of social, economic, and ecological objectives. They are easily accessible, occurring mostly on roaded landscapes and relatively gentle terrain. These are lands where timber harvesting, oil and gas activities, and intensive livestock grazing occur and influence the composition, structure, and landscape patterns of the vegetation. Natural ecological processes and disturbance agents (including succession and fire) are often influenced by humans on many of these lands. A mosaic of vegetation conditions is often present, some showing the effects (impacts) of past management activities; others appearing predominantly natural. These areas contribute to ecosystem and species diversity, and serve as habitat for fauna and flora.

In MA 5s, visitors can expect to see a wide range of human activities, development, and management investments (including roads, trails, fences, corrals, stock ponds, timber harvesting equipment, oil and gas wells, and livestock). Maintenance of past and current investments is anticipated to be continued for future management opportunities. Motorized and non-motorized recreation opportunities are easily accessed by the relatively dense network of roads found on these lands. Hiking trails provide access for visitors (who can expect contact with others). Developed recreation facilities that provide user comfort and resource protection are present.

Management Area 7 (MA 7): Public and Private Lands Intermix
These areas are places where the public lands within the planning area are in close proximity to private lands; therefore, coordination with communities and local governments is essential in order to balance the needs of both parties. MA 7s are often associated with towns and cities, as well as with the houses, structures, people, and values associated with them. Visitors can expect to see a wide range of human activities and development (including roads, trails, fences, signs). In some MA 7 areas, oil and gas development is evident.

The close proximity of these areas to private lands makes them a priority for fuels and vegetation treatments in order to reduce wildfire hazards. The backyard or rural recreation setting provided by many of these lands is an amenity to the active lifestyles and quality of life for local residents. Hiking, biking, and dog-walking are common activities. These areas contribute to ecosystem and species diversity, and serve as habitat for fauna and flora. Winter range for deer and elk is a common component of MA 7s, as are seasonal closures in order to reduce animal disturbance. Natural ecological processes and disturbance agents (including succession and fire) are influenced by humans on most of these lands.

Land exchanges, acquisitions, and disposals can be undertaken in order to improve the intermingled land ownership patterns that are common in MA 7s. Cooperation with adjacent landowners and local governments is common in order to improve access and to convey roads to county jurisdictions, where appropriate. Cooperation is also be important in order to improve transportation network, protect resources, and allow authorized legitimate access to public lands. Utility and communication distribution lines tend to be more common in these areas.

Management Area 8 (MA 8): Highly Developed Areas
These lands are places that have been altered with long-term development (including downhill ski areas and large dams). In these areas, human activities have created lasting changes in the composition, structure, and function (ecological processes and disturbance agents) of the associated ecosystems. These areas, which often provide large socioeconomic benefits, include Durango Mountain Resort, Silverton Mountain Resort and the McPhee Dam.
DOLORES GEOGRAPHIC AREA

General Location and Description

Dolores is the westernmost geographic area within the planning area (bordering Utah in places). It lies predominantly in Montezuma, Dolores, and San Miguel Counties, with some lands in Montrose County. The Dolores Ranger District/Field Office consists of approximately 1,033,630 acres of USFS and BLM lands. Dolores has the greatest amount of BLM lands on the SJPL – approximately 436,834 acres.

Some of the BLM lands in the southern portion are adjacent to Mesa Verde National Park, and to the Ute Mountain Ute Reservation and Southern Ute Reservation. Some of the BLM lands in the northwest portion border the Uncompahgre (Colorado), Moab (Utah), and Monticello (Utah) Field Offices of the BLM. USFS lands share a northern border with the Uncompahgre National Forest.

The social center of this geographic area is the Town of Cortez (with a population of approximately 8,500 people). Cortez is the Montezuma County seat, as well as the commercial center for the smaller communities of Mancos, Dolores, Rico, and Dove Creek (which is the Dolores County seat), all with populations of 1,200 or less. Public lands in the northwestern portion of this geographic area tie more to towns in Montrose and San Miguel Counties (including Norwood and Montrose) in Colorado, and to Monticello, Utah.

Although most of the towns are close to public lands, they lie in broad valleys with a good deal of private land on their borders. The Town of Rico, which is surrounded by USFS lands, is an exception (see Special Areas in Part 2 of the DLMP for a discussion of the Rico area).

The main river systems are the Mancos River (which has headwaters in the La Plata Mountains) and the Dolores River (which has headwaters in the Lizard Head Wilderness). Both rivers provide irrigation for pastures, hay meadows, and other crops on private lands in the area. McPhee Reservoir, on the Dolores River, is the second largest body of water in Colorado. It is an important recreation area, as well as a source of domestic and irrigation water. Use of water from these rivers has greatly affected both historical settlement patterns and current land uses.

Significant portions of the San Juan Skyway traverse the Dolores geographic area (including Highway 145, from Lizard Head Pass down through Rico to Dolores and Cortez, and from there Highway 160 to the Montezuma-La Plata County line, which is the boundary with the Columbine geographic area). Other major segments of the Skyway are to the east, in the Columbine geographic area, and on the Uncompahgre National Forest to the north (going through Ouray, Ridgway, and Telluride). Since its designation as a Scenic Byway, the San Juan Skyway has been one of the most popular recreation attractions in southwestern Colorado. It is one of only 26 All-American Roads in the United States. The Skyway’s diverse natural and cultural resources, combined with its unique and spectacular scenery, give it a claim as one of the crown jewels of scenic byways in the entire nation. Portions of the Trail of the Ancients Scenic Byway are also located within the Dolores geographic area (see Special Areas for more information on the Byways).
Other outstanding scenic attractions in this geographic area include the West Dolores Road and the Dolores River Canyon. The area includes high densities of significant Puebloan archeological sites (including the Anasazi Archeological District around McPhee Reservoir, and the Mesa Verde Escarpment), as well as more modern mining, railroad, logging, and grazing historical sites.

The Dolores geographic area falls into three distinct ecological units (see Figure 6 - Ecological Units), also referred to as sections. The San Juan Mountains, which are part of the southern Rocky Mountains, in the eastern portion of the geographic area fall into the South-Central Highlands Section. The San Juan Mountains are unusual within the north-south orientation of the Rocky Mountains, in that they are a large mountain range with an east-west orientation. This part of the geographic area includes the Lizard Head Wilderness and several IRAs (including Storm Peak, Ryman, Black Hawk Mountain, and portions of San Miguel and Hermosa). This area has much less human development than the rest of the Dolores Geographic Area, with most of the development occurring on private land in the Dolores River Valley (including the Town of Rico). The area also contains some roads associated with historic, and current, timber harvesting and historic mining (especially near Rico). Big game hunting is popular in the fall. Aspen trees are an important component of the vegetation here, both for their scenic quality and to support the wood product plants in the area.

The northwestern end of the Dolores geographic area, including Dry Creek Basin and Big Gypsum Valley, is in the North Canyonlands Section. This lower elevation country has been extensively roaded for oil and gas development, as well as for uranium exploration and mining. Continued oil and gas development is expected in the Paradox Basin. There is also a high probability of more uranium and vanadium development as a result of a proposed processing facility near Naturita, Colorado. The area is also used for cattle grazing. Two undeveloped portions of this area are the Dolores and McKenna Peak WSAs. Geology in portions of the area consists of sedimentary shale and sandstone formations, and is largely responsible for the area’s water quality. Surface water quality is considered poor. It is high in salinity and sediment from surface run-off over highly erosive soils with high salinity content. The area includes the Spring Creek Wild Horse Herd Management Area, and important Gunnison Sage-grouse habitat.

Most of this geographic area is in the Grand Canyon Section. The higher elevations are dominated by ponderosa pine on rolling topography that is more accessible than most of the SJPL. An area of approximately 180,000 acres known as “The Pine Zone” was heavily logged in the early 1900s. This area is still being logged; however, the emphasis is now on restoring more natural conditions. Cattle grazing occurs over most of the area. The area is also popular for big game hunting. The Dolores River Canyon through this area has spectacular scenery, important archeological resources, Wilderness characteristics, unique plant communities and, on years when adequate water is available below McPhee Reservoir, outstanding white-water rafting. The flatter, higher ground within this section is almost all in MA 5s, with a wide range of multiple-use activities occurring. Development and management intensity is much more limited in the canyons.
Figure 6- SJPL Ecological Units

San Juan Public Lands
Ecological Units - Sections

Legend
Ecological Units - Sections
- 313A - Grand Canyon
- 313B - Navajo Canyonlands
- 341B - Northern Canyon Lands
- M031G - South-Central Highlands
- District/Field Office Boundaries
- Cities and Towns
- Major Lakes
- State & Federal Highways
- Major Rivers

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.

NAD 83, Polyconic Projection
August 9, 2007
Desired Conditions - Dolores Geographic Area

28.1 Public lands continue to function as “working lands.” Collaborative forest health and rangeland management practices reduce wildfire hazards, contribute to the viability of private ranch lands, and sustain ecosystem services (including watershed health and wildlife habitat). The local economy benefits from, and contributes to, sustainable resource management, as well as to the preservation of open space.

28.2 The Dolores River system remains a primary water source in order to meet domestic and agricultural needs while, at the same time, contributing a wide array of recreational, ecological, and aesthetic services. Collaborative efforts support watershed health, in-stream water quality, scenic assets, healthy native and sport fish populations, rafting and flat water boating opportunities, and flow and spill management below McPhee Dam in support of ecological, recreational, reservoir management, and water-rights imperatives.

28.3 A variety of looped single-track and two-track opportunities for motorized and mechanized recreation exist at a range of elevations, offering different levels of difficulty. Motorized and mechanized opportunities are balanced with opportunities for foot and horseback access to areas of relative quiet and solitude at a variety of elevations. Much of the primary access to these areas is shared, based on mutual courtesy and on a strong stewardship ethic that is primarily self-enforced and maintained by individuals and user groups.

28.4 Cultural and historic resources are protected, interpreted, and promoted through an integrated network involving the Anasazi Heritage Center, Canyons of the Ancients National Monument, the Ute Mountain Tribal Park, Mesa Verde National Park, and community visitor centers (including the Cortez Cultural Center, the Galloping Goose Museum, and the Mancos Visitor Center). Residents and visitors are educated and oriented in a manner that enhances and encourages their participation in the enjoyment and stewardship of cultural resources (which are significant contributors to the local economy).

28.5 Scenic vistas, especially along the San Juan Skyway and the West Dolores Road, are protected and enhanced through collaborative efforts with partners (including the Colorado Byways Commission, Colorado State Parks and Recreation, Montezuma Land Conservancy, Office of Community Services, CDOT, Montezuma and Dolores Counties, and the Town of Rico).

28.6 The McPhee Reservoir area is one of the Four Corners’ “recreation gems.” A viable marina facility is re-established that offers, at a minimum, basic services for those enjoying water sports and fishing. A strong connection exists between the reservoir and the Town of Dolores.

28.7 Abundance and viability of Gunnison Sage-grouse, and their habitat, are achieved through a range-wide perspective on their management that provides a healthy sagebrush steppe ecosystem so that they, and other sagebrush obligate species in the system, benefit. An atmosphere exists of cooperation, participation, and commitment among wildlife managers, landowners, private and public land managers, other stakeholders, and the interested public in the development and implementation of conservation actions that recognize the importance of sustainable local economies as being essential to successful conservation. Gunnison Sage-grouse protection and restoration is enhanced through these cooperative efforts while, at the same time, oil and gas development, mining, recreation, and grazing continue.
28.8 Salinity and sediment contributions of the Dolores River tributaries (including Disappointment Creek, Big Gypsum, Little Gypsum, and Dry Creek) are reduced through an integrated activity approach that achieves reduced erosion and improves land health.

28.9 The unique soils of the gypsum lands in the Dolores geographic area (including Big Gypsum Valley, Little Gypsum Valley, and the Spring Creek area) are intact and have the soil productivity necessary in order to protect the rare biota associated with them.

28.10 The hanging gardens of the Dolores geographic area that provide the habitat for *Erigeron kachinensis*, *Mimulus eastwoodia*, and *Adiantum capillus-veneris* have the water sources and hydrologic systems necessary in order to support and sustain these rare plant species.

28.11 Ponderosa pine forests on the mesa tops of the Dolores geographic area display more structural diversity than currently exists (including more old-growth stands, more stands with a clumped structure, more stands with large old trees, more snags, and more large dead-and-down wood on the forest floor).

28.12 Large patches of sagebrush shrublands in the Dolores geographic area provide suitable habitat for the Gunnison Sage-grouse, and display a variety of structural conditions (including sagebrush patches with low and high cover and sagebrush patches with short and tall stems). They also display native herbs that are abundant and well-distributed.

28.13 Narrowleaf cottonwood riparian areas and wetland ecosystem communities throughout the low and middle elevations of the Dolores geographic area display moderate to high canopy cover (greater than 20%) of narrowleaf cottonwood trees, including young-, middle-, and old-age classes.

28.14 Willow riparian areas and wetland ecosystem communities throughout the low- and mid-elevations of the Dolores geographic area display moderate to high canopy cover (greater than 20%) of willows, including young-, middle-, and old-age classes.

28.15 Aspen management maintains age and class diversity and promotes healthy stand conditions while, at the same time, continuing to supply a sustainable supply of aspen products to the local and regional industries.

28.16 Timber and fire management is utilized in order to restore stands to an uneven age condition where natural fire regimes and natural processes can occur, and where a multi-aged and multi-cohort forest structure resilient to disturbance is established. Timber management in the ponderosa pine incorporates restoration forestry into commercial timber sales at an appropriate scale that provide support, stabilization, and diversification of the local industry.
The following areas have been identified for their recreation market, niche, and setting. While other resource activities occur within these areas, the desired condition for the recreation experience is specifically described for the following areas:

28.17 **Boggy Draw area**: A community recreation-tourism market provides local residents a day-use recreation setting for both motorized and non-motorized recreation. Hiking, mountain biking, and OHV-recreation take place on a trail and road network designed to minimize conflicts and to keep user encounters at a low level. Some trails and trailheads may be designed and designated for different types of uses. Access to the area is on main road corridors that provide a gateway to a Semi-Primitive ROS setting. Winter recreation is similar to summer recreation, in that it offers a mix of motorized and non-motorized recreation from developed trailheads. The physical setting appears natural, but active management related primarily to grazing and vegetation management is prevalent. Administration actions in this area emphasize extensive active management while, at the same time, providing for cultural interpretation and conservation education messages. Travel management and additional essential visitor information and services are visible.

28.18 **Sage Hen area**: A community recreation-tourism market provides local residents a day-use recreation setting with an “informal” ambiance within a setting that is designed to protect cultural resources and provide public services. Administration and development are designed to facilitate a high level of use, as well as easy access to picnicking, short loop hikes, and water. Management of this area emphasizes cultural interpretation and conservation education messages. Motorized access is provided in a way that minimizes effects to the overall pedestrian theme of the area. The setting is predominantly Frontcountry ROS.

28.19 **Haycamp Mesa area**: A community recreation-tourism market provides local residents a day-use recreation setting for motorized recreation. OHV-use takes place on a trail and road network designed to minimize conflicts and to keep user encounters at a low level. OHV-use, picnicking, dispersed and developed camping, mountain biking, and hiking are the primary recreation activities. A trail and road network exists in order to support this type of recreation, to minimize conflicts, and to keep user encounters at a low level. Access to the area is on main road corridors that provide a developed gateway to Semi-Primitive ROS settings. Winter recreation is similar to summer recreation, in that it offers a mix of motorized and non-motorized recreation from developed trailheads. Management actions are visible within this “working forest landscape” and are primarily the result of forest restoration activities, grazing, travel management actions, and/or essential visitor information and services.

28.20 **Aspen Loop area**: A community recreation-tourism market provides local residents a recreation setting for motorized recreation. OHV-use takes place on a trail and road network designed to minimize conflicts and keep user encounters at a low level. OHV-use, scenic viewing (especially of fall colors), picnicking, dispersed and developed camping, mountain biking, and hiking are the primary recreation activities. A trail and road network exists in order to support this type of recreation, to minimize conflicts, and to keep user encounters at a low level. Access to the area is on main road corridors that provide a developed gateway to Semi-Primitive recreation settings in the aspen-covered mesas and in the La Plata Mountains. In addition, the Aspen Loop Trail continues to provide a high quality motorized recreation travel corridor. Winter recreation is similar
to summer recreation, in that it offers a mix of motorized and non-motorized recreation from
developed trailheads. Management actions in the dispersed areas are visible, but subtle, within this
“working forest landscape” and are primarily the result of forest restoration activities, grazing, travel
management actions, and essential visitor information and services. The more developed settings of
Jersey Jim Lookout and Transfer Campground have additional amenities and resource protection, as
appropriate.

28.21 **Chicken Creek area:** A community recreation-tourism market provides local residents a day-use
setting for primarily non-motorized winter recreation close to town, and is part of the Aspen Loop/
Hay Camp Mesa.

28.22 **Lizard Head Pass area:** A is a strong destination market for several local communities (including
Ridgway, Montrose, Telluride, Rico, Dolores, Mancos, and Cortez). This area offers spectacular
scenic vistas, visitor interpretation, and a year-round rest stop for travelers on the San Juan Skyway.
During winter months, this high pass supports recreation demand (including for backcountry skiers
and snowmobiles). Winter parking and access along this Roaded Natural ROS corridor is scarce and
in high demand. Winter parking is facilitated by developed trailheads and by Colorado Department
of Transportation (CDOT) snowplowing. Essential visitor information and sanitation are provided.
Segregation between motorized and non-motorized uses in some locations ensures opportunities for
quiet recreation in the backcountry. In summer, this pass serves as a scenic corridor and as a “jump-
off” point to the much more remote high alpine backcountry. This pass has scenic viewpoints where
people stop to appreciate spectacular views, providing a good opportunity for public interpretation
and conservation education.

**Dolores Geographic Area Integrated Strategy Plan Components**

As detailed in Strategy in Part 2 of the DLMP, the Dolores Geographic Area includes the following special areas
and unique landscapes (see Part 2 “Special Areas” for details):

- Wilderness (Lizard Head Wilderness Area)
- BLM Wilderness Study Areas (McKenna Peak, Dolores River, Weber, and Menefee)
- Forest Service Recommended Wilderness Areas ( Portions of the Lizard Head and Hermosa IRAs)
- Recommended Wild and Scenic River Segments (the Dolores River from McPhee to Bedrock; Summit
  Canyon; and Coyote Wash)
- Research Natural Areas (Narraguinnep and Grizzly Peak)
- Areas of Critical Environmental Concern (Big Gypsum)
- Wild Horse Herd Management Areas (Spring Creek)
- Scenic, Historic, and Backcountry Byways (portions of the San Juan Skyway and the Trail of the
  Ancients Scenic Byway)
- National Recreation and Scenic Trails (Calico and Highline trails)
- Habitat Management Areas (Willow Creek for Sage-Grouse)
- Unique Landscapes (Rico, Dolores River Canyon, Mesa Verde Escarpment, McPhee)
- Structured Recreation Management Areas (Dolores River and Cortez)
Management Area Composition

Table 4 shows the distribution of MAs within the Dolores geographic area (see Suitability in Part 2 of the DLMP).

Table 4 - Dolores Geographic Area Management Areas Distribution

<table>
<thead>
<tr>
<th>Management Area</th>
<th>Proposed Plan (Preferred Alternative) (acres)</th>
<th>Percentage of Geographic Area (USFS and BLM Lands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 1 Natural Processes Dominate</td>
<td>83,231</td>
<td>8%</td>
</tr>
<tr>
<td>MA 2 Special Areas and Unique Landscapes</td>
<td>93,755</td>
<td>9%</td>
</tr>
<tr>
<td>MA 3 Natural Landscapes, with Limited Management</td>
<td>445,777</td>
<td>43%</td>
</tr>
<tr>
<td>MA 4 High-Use Recreation Emphasis</td>
<td>28,302</td>
<td>3%</td>
</tr>
<tr>
<td>MA 5 Active Management</td>
<td>364,997</td>
<td>35%</td>
</tr>
<tr>
<td>(commodity production in order to meet multiple-use goals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA 7 Public and Private Lands Intermix</td>
<td>17,743</td>
<td>2%</td>
</tr>
<tr>
<td>MA 8 Highly Developed Areas</td>
<td>602</td>
<td>&gt;1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,034,406</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Figure 7 - Dolores Geographic Area

San Juan Public Lands
Dolores Geographic Area

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
COLUMBINE GEOGRAPHIC AREA

Background

The Columbine geographic area forms the central part of the planning area. It is situated primarily in La Plata and San Juan Counties, with some lands in Hinsdale and Archuleta Counties. The Columbine Ranger District/Field Office consists of approximately 744,860 acres of USFS and BLM lands. The public lands are primarily USFS (92%), except for a significant concentration of BLM lands near Silverton, as well as scattered parcels at lower elevations.

The Columbine Geographic Area shares a northern border with the Uncompahgre and Rio Grande National Forests, and with the BLM Uncompahgre and Gunnison Field Offices. Some BLM land is immediately adjacent to the City of Durango, and additional BLM lands are interspersed with private property near Durango and Bayfield (between the national forest border and the Southern Ute Reservation).

The social center of this geographic area is the City of Durango (with a population of approximately 16,000 people). It is the County Seat for La Plata County (with a population of approximately 47,000 people). It is also the commercial center for the smaller communities of Bayfield (approximately 1,800 people), Ignacio (approximately 775 people), and Silverton (approximately 600 people; which is the San Juan County Seat). Farmington, Aztec, and Bloomfield (New Mexico) have ties to the area as trade centers, support for the oil and gas industry, and as recreation users (especially of La Plata Canyon).

The historic mining town of Silverton is surrounded by BLM public lands. Silverton is situated high in the San Juan Mountains, at an elevation of 9,305 feet. It is one of the main portals to the Alpine Loop Backcountry Byway (others being Ouray and Lake City). Silverton is also the destination for tourists riding the narrow-gauge railroad from Durango. Silverton Mountain, which is on a mix of private and BLM lands, is one of the newest ski areas in the country, and offers some of the most challenging terrain (see the Silverton Special Area in Part 2).

Durango Mountain Resort (DMR) lies between Silverton and Durango, off of Highway 550. DMR has a base area on private land, with some additional base facilities and ski runs permitted on the San Juan National Forest. La Plata and San Juan Counties have approved a Planned Unit Development (PUD) for the private lands adjacent to the DMR, with the potential for over 2,000 resort housing and lodging units supported by substantial commercial development. The likely increase in population adjacent to public lands will result in a need for close coordination on issues (including trail development, fuels reduction, and wildlife habitat).

Significant portions of San Juan Skyway traverse the Columbine geographic area (including as Highway 550 from Durango north to Silverton, and over Red Mountain Pass, which is the boundary with the Uncompahgre National Forest). A lower elevation portion of the Skyway follows Highway 160 from Mancos Hill to Durango. The other towns in the Columbine geographic area are situated at lower elevations (and have milder climates). Durango is situated at the intersection of Highway 550 (which connects with Silverton to the north, and Aztec and Farmington, New Mexico to the south) and Highway 160 (which connects with Cortez to the west, and Pagosa Springs to the east). It is a hub for the area. Durango is one of the more mature tourism towns in Colorado, with a historic downtown. It is supported by tourism related to the Durango-Silverton Narrow Gauge Railroad, the Animas River, DMR, Mesa Verde National Park, and the Weminuche Wilderness Area. Durango is one of a handful of towns that can make a good claim to the title “mountain bike capital of the world.” Durango is also home to Fort Lewis College. It is the governmental, commercial, and entertainment center for southwestern Colorado. Residents of Durango have easy access to USFS and BLM lands within the planning area.
The Grandview Area, which is near Durango, is being annexed to the City of Durango (with substantial real estate and commercial development expected for this area during the life of this LMP). Durango is interested in acquiring BLM lands in this area in order to provide better access to the new hospital and adjacent developments. Acquisition of some of the adjacent BLM lands under the Recreation and Public Purposes Act is under consideration. BLM-administered lands in the Grandview Area are currently managed under a Coordinated Resource Management Plan (2000), offering a co-emphasis on recreation (non-motorized trails), wildlife winter habitat, and sand and gravel production. A review and possible modification of the Grandview Coordinated Resource Management Plan is expected in the near future (which would address new management challenges anticipated from on-going development adjacent to the BLM lands). BLM-administered lands in the Grandview Area currently provide an extensive trail network that is immediately adjacent to Durango (popular for hiking, horseback riding, and mountain biking). Substantial partnership-based wildlife-habitat improvement projects have been carried out on the property. Recreation and mineral development are to be designed in a manner that maintains winter wildlife habitat effectiveness (including closure to public and recreation access during some winters). The land also contains a very significant pre-historic cultural landscape and is the last representative of Pueblo I occupation on public lands in the Durango area.

Bayfield has been a bedroom community to Durango, but is developing a significant business infrastructure of its own which is expected to grow in the coming years.

The main river systems in the Columbine geographic area are the Animas (with headwaters above Silverton) and the Los Pinos, or Pine (with headwaters in the Weminuche Wilderness). Both rivers drain into the San Juan River in northern New Mexico, which then joins the Colorado River. Water diversion for agriculture and municipal use is important on both rivers. Both river systems also contain relatively pristine stretches that are valued for their scenery and recreational opportunities.

Vallecito Reservoir is in this geographic area; it is the most developed lakeshore resort and recreation area in southwestern Colorado. Above Vallecito Reservoir, and nearby Lemon Reservoir, are access points to the Weminuche Wilderness. The Pine River flows south from Bayfield through the Town of Ignacio, which is a tri-ethnic community that serves as the headquarters of the Southern Ute Tribe. The Southern Ute Tribe has combined decades of revenues from energy production with excellent management in order to become one of the wealthiest tribes in the country.

The Columbine geographic area falls primarily in the South-Central Highlands Section, with only the southernmost low elevation lands in the Navajo Canyonlands Section. The higher country, part of the San Juan Mountains, is characterized by steep, rugged terrain with predominantly spruce-fir, aspen, and mixed-conifer forests. Much of the area to the east of Highway 550 and the Animas River is in either the Weminuche Wilderness or in the Piedra Area (designated in the 1993 Colorado Wilderness Act to be managed so as to preserve its Wilderness character). Inventoried Roadless Areas include Baldy, Florida River, Runlett Park, and smaller areas adjacent to the Weminuche Wilderness Area and the Piedra Area.

The Missionary Ridge Fire in 2002 burned approximately 73,000 acres in the area north of Durango (east of Highway 550), over to the western edge of the Piedra Area (east of Vallecito Reservoir). Early rehabilitation efforts have gone well; however, restoration would continue to be a concern during the life of the LMP. Continued cooperation with local communities (including Vallecito) that were greatly affected by the fire and its aftermath will continue to be a management goal.
Much of the high country west of Highway 550 is unroaded, including the Hermosa area (which is the largest roadless area outside of designated Wilderness in Colorado, consisting of approximately 148,139 acres). The Hermosa Trail, which parallels the main stem of Hermosa Creek, is considered one of the top mountain bike rides in the country. The portion of the Hermosa Creek west of the trail is managed as a MA 1, with much it recommended for inclusion in the National Wilderness Preservation System. The eastern portion, including the trail, is managed as MA 3. Although this portion includes several popular motorcycle routes, non-motorized recreation is emphasized for most of the Hermosa area. The San Miguel is another large roadless area (a significant portion of which is to be managed as a MA 1, including Engineer Mountain).

The lower elevation USFS and BLM lands in the southern end of the Columbine geographic area are part of the Navajo Canyonlands Section. This area is characterized by low- to mid-elevation mountains, mesas, hills, and valleys with mild to moderate winters and predominantly mixed-conifer, ponderosa pine, pinyon-juniper, and mountain grassland vegetation.

The Navajo Canyonlands hold substantial coal and gas resources. Coal-bed methane reserves exist in large quantities in the northern San Juan Basin area (including USFS and BLM lands south of Highway 160 on both sides of the La Plata County and Archuleta County border). Most of this area was leased for oil and gas development prior to the development of this DLMP, with additional development authorized by the Northern San Juan Basin Coalbed Methane EIS ROD in 2007. (Direction for the area, consistent with that ROD, is found in the HD Mountains Special Management Area discussion in Part 2 of the DLMP.)

The vast amount of undeveloped land that provides a setting for backcountry recreation is a primary reason people visit this area. Additionally, the area contains some unique access into high-elevation remote areas (including the Durango-Silverton Narrow Gauge Railroad’s access to Weminuche Wilderness trailheads, and historic mining roads into the high-elevation mountains around Silverton and in La Plata Canyon). Compared to the other geographic areas, the Columbine Geographic Area has the most trailheads providing access into the backcountry. Given local population, visitors, tourism amenities, access to the backcountry, and the proximity of other regional destinations, the Columbine Geographic Area experiences the greatest amount of recreation users and resulting recreation management challenges.

The economies of the communities in the Columbine geographic area have evolved towards an increasing emphasis on amenity migration (the movement of people for pleasure rather than for economic reasons), recreation tourism, and resort development; but still have ties to multiple-use management. The historic connections of La Plata County to ranching, hunting, and public land grazing are of continuing importance as the area struggles to protect the scenic, wildlife, and cultural aspects that ranching and Outfitting/Guiding play in the overall appeal of the area. Although the historic ties to sawmilling have substantially diminished, the Missionary Ridge Fire was a reminder of the continued need for forest management, and the economies that help support forest management on public and private lands. The fact that La Plata County is one of the top energy producing counties in Colorado also presents multiple-use management challenges.
Desired Conditions - Columbine Geographic Area

29.1 The full spectrum of outdoor recreational opportunities, ranging from wilderness settings to in-town access, is provided. This is the result of a collaborative process for the allocation and sharing of uses and stewardship responsibilities designed to protect the quality of the human experience and health of the natural environment.

29.2 Extensive heritage resources remain central to the area’s economy, culture, and recreational experience. Heritage resources (including the Silverton Historic Mining District), as well as the natural settings that make these resources so unique, are protected and sustainable.

29.3 Destination and resort development, especially along the river corridors, is planned, developed, and managed in order to minimize their impact on the health of surrounding landscapes, natural resources, and communities. This is the result of sustained cooperation from the land management agencies, interested citizens; State and local agencies; and developers.

29.4 Oil and gas development is planned, conducted, and reclaimed to a standard commensurate with the ecological, aesthetic, and human values attached to the land where the extraction is occurring.

29.5 Opportunities for research, particularly applied research, are fully developed with local partners (including Fort Lewis College, the Mountain Studies Institute, and the Center for Snow and Avalanche Research, as well as other interested groups and institutions).

29.6 Winter sports conflicts are reduced through cooperative efforts between motorized and non-motorized advocates. Some areas may emphasize one use over another, but many potential problems are resolved through agreements on locations of parking areas, grooming, and route locations. High-quality opportunities are available for both snowmobiling and backcountry skiing.

29.7 The wetlands and fens associated with the upper Pine River and Flint Creek watersheds in the Columbine geographic area (where a high density of fens occur), are protected and have the water sources and hydrologic systems necessary in order to support and sustain these ecosystems.

29.8 The wetlands and fens associated with the Lime Creek watershed and the Mountain View Crest and Molas Lake areas in the Columbine geographic area (where high concentrations of wetlands and potential fens occur) have the water sources and hydrologic systems necessary in order to support and sustain these ecosystems.

29.9 The Missionary Ridge wildfire area in the Columbine geographic area displays less bare soil and erosion, and a higher abundance and distribution of native herbaceous plant species.

29.10 The landscapes associated with the intensive gas development in the Columbine geographic area display minimal fragmentation. The major vegetation types associated with those lands, particularly the ponderosa pine forests, pinyon-juniper woodlands, and mountain shrublands, display compositions and structures similar to those that occurred before the development.
The following areas have been identified for their recreation market, niche, and setting. While other resource activities occur within these areas, the desired condition for the recreation experience is specifically described for the following areas:

29.11 **Engineer Mountain area:** This area offers quick access to an undeveloped recreation-tourism market close to the San Juan Skyway. This area has a Primitive ROS setting in a scenic high alpine environment, offering access to Engineer Mountain (12,968), and links to the Colorado Trail and to the Coal Bank and Molas Pass areas. Developed trailheads connect to remote roadless areas where solitude and a natural environment can be experienced. Hiking, mountain biking, and equestrian uses are popular activities for visitors who appreciate the rugged narrow trails winding through the high, open country. Day-use predominates, although some backpacking occurs. Guided hunting parties, supported by packhorses, camp during hunting season. Essential services are provided at entry points on the San Juan Skyway (including sanitation, parking, and visitor information).

29.12 **East Missionary Ridge area:** This community recreation-tourism market provides local residents a day-use recreation setting for non-motorized recreation. This area supports Semi-Primitive ROS settings for people in Durango, as well as for people from nearby subdivisions who enjoy easy access to non-motorized recreation (including hiking, scenic viewing, horseback riding, wildlife watching, as well as a quick escape from the urban environment for exercise and fresh air). Facility development is limited to essential sanitary and informational services, as well as to parking and travel management. The environment is natural-appearing, except for developed communication sites.

29.13 **Saul’s Creek area:** This community recreation-tourism market serves as part of Bayfield’s “backyard.” The recreation settings within these areas support day-use primarily for nearby community residents who enjoy easily accessed motorized and non-motorized Semi-Primitive ROS recreation on designated routes (including car camping, firewood gathering, hunting, hiking, mountain biking, cross-country skiing, and wildlife watching). Facility development is limited to essential sanitary and informational services, as well as to parking and travel management. Numerous old roads serve as access and travel ways for visitors. Although the sites and sounds of nature predominate, visitors may also experience a “working forest” atmosphere (including evidence and aspects of vegetation management, oil and gas development, grazing, and fuelwood gathering).

29.14 **La Plata Canyon area:** This destination recreation-tourism market primarily serves people from the Durango, Mancos, Hesperus, Cortez, and Farmington areas who frequent the area to enjoy the predominantly natural environment. The setting for this area is a Roaded Natural ROS that supports day use and overnight use. Developed campgrounds and designated dispersed campsites are rustic and low-key within a dramatic canyon environment (offering frequent visible evidence of the old mining district). Evidence of management (including signs and structures) is frequent in order to address private property, sanitation, and resource protection concerns. Motorized use is primarily for scenic viewing, accessing pedestrian activities (including fishing, hiking, and biking), or for just “passing through” in order to get to the high country. Road design and maintenance is at a level that keeps speeds low and safe for pedestrians.
29.15 **Beaver Meadows area:** This community recreation-tourism market provides local residents a day-use recreation setting for both motorized and non-motorized recreation. The recreation setting within this area is Frontcountry ROS, primarily for local community visitors who enjoy easily accessed motorized and non-motorized recreation on designated routes. Activities may include car camping, ATV- and OHV-use, fire wood gathering, hunting, mountain biking, and wildlife watching. Facility development is limited to essential sanitary and informational services, as well as to parking and travel management. Numerous old roads serve as access and travelways for visitors. Designated trails provide miles of motorized opportunities. Winter recreation includes snowmobiling, snowshoeing, and skiing on groomed trails. Although the sites and sounds of nature predominate, visitors may also experience a “working forest” atmosphere (including evidence and aspects of vegetation management, grazing, and wood gathering).

29.16 **Hermosa area:** The desired condition for this large, and primarily roadless, Semi-Primitive ROS area is to maintain a recreation setting that offers ample non-motorized recreation and limited motorized recreation for nearby communities, and a destination recreation-tourism market, within a natural appearing environment, for visitors. Hiking, mountain biking, fishing, hunting, horseback riding, and OHV-use take place on a trail network designed to minimize conflicts and to keep user encounters at a low level. Some trails and trailheads may be segregated for different types of uses. Access to the area is on developed road corridors that provide a gateway to more primitive recreation settings. Natural quiet, solitude, and a sense of remoteness are still found within the Hermosa backcountry. Management actions are visible, but subtle, and are primarily the result of forest restoration, travel management, and essential visitor information services. Winter recreation is limited, due to restricted access.

**Columbine Geographic Area Integrated Strategy Plan Components**

As detailed in “Strategy” in Part 2 of the DLMP, the Columbine geographic area includes the following special areas and unique landscapes (see Part 2 “Special Areas” for a full description):

- Wilderness (Weminuche Wilderness)
- BLM Wilderness Study Areas (Whitehead Gulch and West Needles)
- Forest Service Recommended Wilderness Areas (a portion of the Hermosa IRA and the Elk Park portion of the Weminuche Adjacent IRA).
- Recommended Wild and Scenic River Segments (Animas River form Bakers Bridge to Sultan Creek; Mineral Creek; South Fork of Mineral Creek; Hermosa Creek and tributaries; Los Pinos, and tributaries, above Vallecito Reservoir)
- Research Natural Areas (Electra and Hermosa)
- Botanical Areas: (Chatanooga and Burro Bridge Iron Fens)
- Habitat Management Areas (Perins Peak)
- Archeolgocial Areas (Falls Creek)
- Scenic, Historic, and Backcountry Byways (portions of the San Juan Skyway and the Alpine Loop Backcountry Byway)
- National Recreation and Scenic Trails (portions of the Continental Divide National Scenic Trail and the Colorado Trail)
- Unique Landscapes (Silverton and HD Mountains)
- Structured Recreation Management Areas (Durango and Silverton)

Management Area Composition

Table 5 shows the distribution of MAs within the Columbine Geographic Area (see “Suitability” in Part 2 of the DLMP for more discussion of MAs).

**Table 5 - Columbine Geographic Area Management Areas Distribution**

<table>
<thead>
<tr>
<th>Management Area</th>
<th>Proposed Plan (Preferred Alternative) (acres)</th>
<th>Percentage of Geographic Area (USFS and BLM Lands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 1 Natural Processes Dominate</td>
<td>316,969</td>
<td>42%</td>
</tr>
<tr>
<td>MA 2 Special Areas and Unique Landscapes</td>
<td>90,359</td>
<td>12%</td>
</tr>
<tr>
<td>MA 3 Natural Landscapes, with Limited Management</td>
<td>209,938</td>
<td>28%</td>
</tr>
<tr>
<td>MA 4 High-Use Recreation Emphasis</td>
<td>38,794</td>
<td>5%</td>
</tr>
<tr>
<td>MA 5 Active Management</td>
<td>61,908</td>
<td>8%</td>
</tr>
<tr>
<td>(commodity production in order to meet multiple-use goals)</td>
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</tr>
<tr>
<td>MA 7 Public and Private Lands Intermix</td>
<td>21,872</td>
<td>3%</td>
</tr>
<tr>
<td>MA 8 Highly Developed Areas</td>
<td>6,793</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>746,633</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>
PAGOSA GEOGRAPHIC AREA

General Location and Description

The Pagosa Geographic Area is the easternmost geographic area in the San Juan Public Lands. It is bounded by the Continental Divide (the boundary with the Rio Grande National Forest) on the north and on the east. It is predominantly situated in Archuleta, Hinsdale, and Mineral Counties, with some lands in Rio Grande and Conejos Counties. Some of the USFS lands, and, to a lesser extent, BLM lands at the southern end are adjacent to the Southern Ute Reservation. The Pagosa Ranger District/Field Office consists of approximately 586,431 acres of USFS and BLM lands. These are primarily USFS, with approximately 5,507 acres of BLM lands in scattered parcels in the southern end of the area.

The social center of the geographic area is the Town of Pagosa Springs (with a population of approximately 1,620 people). Although Pagosa Springs is the only incorporated town in the geographic area, much of the population of Archuleta County (with a population of approximately 10,000 people), is in low-density residential and second-home enclaves, most notably in the Pagosa Lakes Area. The geographic area includes significant acres of Hinsdale and Mineral Counties, but the towns, as well as almost all of the population of those counties, are situated north of the Continental Divide and the Weminuche Wilderness Area (with little social connection and limited road access to the residents and businesses in the Pagosa geographic area).

Pagosa Springs sits at the intersection of Highway 160 (before the road turns north to head over Wolf Creek Pass) and Highway 84 (which heads south into northern New Mexico). Pagosa Springs was historically a compact sawmill and ranching town, with a Hispanic and pioneer Anglo ranching and sawmilling culture supported by productive forest land and livestock grazing. The area has long-standing ties with people coming out of Texas and New Mexico in the summer (to where it’s cool and green), and from around the county in the fall (many to hunt big game). Besides the pleasant climate, the area is known for outstanding scenery. Many winter visitors to Wolf Creek Ski Area, as well as backcountry skiers and snowmobilers, stay in Pagosa Springs (rather than in South Fork, which is on the other side of Wolf Creek Pass).

On a percentage basis, Archuleta County is the fastest growing county in southwestern Colorado. Amenity migration and second-home development began in the 1970s (with the development in the Pagosa Lakes area west of Pagosa Springs) and now fills most of the triangle of developable land between Highway 160, the Piedra Road, and the forest boundary east of Martinez Creek. Similar development has pushed against the USFS boundary to the west of Pagosa Springs and north of Highway 160. Much of the USFS-and BLM-administered lands around Pagosa Springs are in MA 7s (Public and Private Lands Intermix), which reflects this development. In addition to fire-risk reduction in these areas, development of trails and recreation opportunities and the protection of wildlife habitat (especially winter range) are important.

The main river systems in this geographic area are the Piedra River (which has headwaters in the Weminuche Wilderness Area) and the San Juan River (with the headwaters of the West Fork of the San Juan beginning north of Pagosa Springs in the Weminuche Wilderness Area; and the East Fork of the San Juan beginning northeast of Pagosa Springs in the South San Juan Wilderness Area). These rivers, and their tributaries, are important for recreation and scenic quality, as well as for irrigation and domestic water supplies. They also support a diverse mix of aquatic habitats, and riparian and wetlands ecosystems that contribute to the ecologic and economic values of the area.
Approximately 85% of the public lands in the Pagosa geographic area are in the South-Central Highlands Section (including portions of the Weminuche Wilderness Area, the South San Juan Wilderness Area, and the Piedra Area). The Treasure Mountain and Turkey Creek IRAs (which lie between the Weminuche and the South San Juan Wilderness Areas) contain important linkages and corridors for wildlife movement. Other IRAs include Graham Peak and areas adjacent to the Weminuche and the South San Juan Wilderness Areas, and the Piedra Area. These areas are managed, for the most part, in order to preserve their undeveloped character.

At middle and lower elevations in this geographic area, there is an extensive network of roads, primarily left by historical logging. These roads support many forms of dispersed recreational use and camping, and are heavily used during hunting season. Restoration-oriented logging is expected in the ponderosa pine and mixed-conifer forest found in this area. This area receives more precipitation than most of the southwest and has good growing conditions for timber. Large trees, including aspen, are common.

Having moderate climates, the lower elevation mountains, mesas, and valleys are dominated by mountain grasslands, and mixed-conifer, ponderosa pine, and pinyon-juniper woodlands (in the Navajo Canyonlands Section where human settlement has evolved). Much of the human development in the Pagosa geographic area is at the interface with forest lands, presenting wildfire hazard mitigation challenges that are being actively addressed through county policy, community wildfire protection planning, and mitigation.

A related challenge is the network of access roads connecting Highways 160 and Highway 84 to the San Juan Public Lands. These roads provide access to residential subdivisions and other private in-holdings. They also provide recreation access to public lands for local visitors, as well as for visitors from out of the area. The pressure on these roads presents maintenance demands and costs that must be worked out collaboratively among local, State, and other Federal agencies; property owners; and public lands users. Growth in the Pagosa Geographic Area has reached a point where more domestic water and water storage are needed in order to meet increasing demand. This requires continued cooperation, in terms of exploring alternatives that involve storage and/or diversion facilities located on Federal lands (where protecting the ecological integrity of affected stream channels is mandated).

The Pagosa Geographic Area’s most striking heritage resource is the Chimney Rock Archeological Site. The user-supported interpretive tours, special events, and Visitor Center at this unique pre-Puebloan site are conducted and staffed by a very active group of volunteer citizens.
30.1 Management activities maintain or enhance the ecological sustainability and integrity of the area. The demands of residents and users are balanced with the protection of watersheds, wildlife habitat, vegetation, soil productivity, and undisturbed natural areas.

30.2 The Pagosa Geographic Area is a destination for hunters, hikers, and motor vehicle enthusiasts. It promotes partnerships and responsible stewardship in all recreational uses of the public lands. Collaboration between the USFS and BLM, and user groups is a primary resource for building and maintaining the recreational facilities, and for protecting the health of the land.

30.3 The local economy is supported and diversified by SJPL activities and programs (including maintaining roads, facilities, and campgrounds; supporting stewardship and partnerships; and providing a wide spectrum of recreation and tourism opportunities).

30.4 The USFS and BLM recognize the needs of the area’s growing population of residents and visitors. SJPL facilities (including roads, bridges, campgrounds, and trailheads) are designed and maintained to the proper standards for safe and efficient access to public lands.

30.5 The SJPLC actively cooperates with local governments, residents, and land users in order to maintain and enhance the safety and enjoyment of the public lands. This is accomplished through the protection of scenery, the mitigation of WUI fire danger, and land-ownership adjustments.

30.6 White fir is less abundant in the warm-dry and cool-moist mixed-conifer forests of the Pagosa geographic area. The rare bristlecone pine forests that only occur in the Pagosa geographic area are protected and sustainable.

The following areas have been identified for their recreation market, niche, and setting. While other resource activities occur within these areas, the desired condition for the recreation experience is specifically described for the following areas:

30.7 **Williams Creek Reservoir Developed Corridor area**: This area serves a community/designation recreation-tourism market providing local residents and visitors a setting for both motorized and non-motorized recreation. The desired condition for this recreation corridor is a Roaded Natural ROS setting that supports day and overnight recreation use for visitors who are seeking a natural environment. During hunting season, this area serves a wider destination market (including visitors from many western states). Developed campgrounds and designated dispersed campsites are rustic and low key, complementing the spectacular backdrop of the mountains of the Weminuche Wilderness. During hunting season, this corridor reaches capacity and experiences a high use and mix of recreation (including hunting, hiking, fishing, picnicking, and camping). This area also serves as a primary access point into the Weminuche Wilderness. Visitor information, parking, and other essential services support access to day and overnight Wilderness recreation. Road design and road maintenance is at a level that keeps speeds low to safely accommodate pedestrians. During winter, this corridor offers motorized and non-motorized winter recreation from a plowed road-head (including snowmobiling, skiing, and snowshoeing).
30.8 **Turkey Springs, Mill Creek, Jackson Mountain, Buckles Lake areas:** These areas serve a community recreation-tourism market as part of Pagosa Spring’s “backyard,” providing local residents a day-use recreation setting for both motorized and non-motorized recreation. The settings within these areas support day-use for those who enjoy easy access to hiking, mountain biking, cross-country skiing, and wildlife watching in a predominantly natural environment. The setting has aspects of both Semi-Primitive ROS and Roaded Natural ROS (depending, primarily, on the proximity to developed roads). Management actions are visible, but subtle, within this “working forest landscape” (offering evidence and aspects of forest restoration activities, including grazing, travel management actions, and essential visitor information and services).

30.9 **First Fork of the Piedra River area:** This area is a recreation-tourism market for local residents from Durango, Bayfield, and Pagosa Springs in a Semi-Primitive ROS setting that supports day and overnight recreation use for visitors seeking a natural environment. During hunting season, this area serves a wider destination market (including visitors from many western states.) Camping is dispersed, rustic, and low-key. During hunting season, this corridor experiences high use and a mix of recreation (including hunting, hiking, fishing, picnicking, and camping). This area has two developed trailheads offering access into the primitive Piedra Area. Road design and the low level of maintenance keeps speeds low to safely accommodate pedestrians. During winter, this corridor offers a low level of motorized and non-motorized winter recreation from the road-head (including snowmobiling, skiing, and snowshoeing).

30.10 **Wolf Creek Pass area:** This is a strong destination market for several local communities (including South Fork, Pagosa Springs, and communities in the San Luis Valley). This area offers spectacular scenic vistas, visitor interpretation, and a year-round rest stop for travelers on U.S. Highway 160. During winter months, this high pass supports recreation demand (including downhill skiing in the Wolf Creek Ski Area, backcountry skiing, and snowmobiling). Winter parking and access along this Roaded Natural ROS corridor is scarce and in high demand. Winter parking is facilitated by developed trailheads and by CDOT snowplowing. Essential visitor information and sanitation are provided. Segregation between motorized and non-motorized uses in some locations ensures opportunities for backcountry quiet. In summer, this pass serves as a scenic corridor and as a jump-off to the much more remote high alpine backcountry. This pass has scenic viewpoints where people stop to appreciate spectacular views; therefore, the SJPLC takes advantage of the opportunity for public interpretation and conservation education.
Pagosa Geographic Area Integrated Strategy Plan Components

As detailed in “Strategy” in Part 2 of the DLMP, the Pagosa Geographic Area includes the following special areas and unique landscapes (see Part 2 “Special Areas” for a full description):

- Wilderness (Weminuche and South San Juan)
- Other Congressional Designations (Piedra Area)
- Forest Service Recommended Wilderness Areas (portions of the Turkey Creek, Monk Rock, and Weminuche Adjacent IRAs).
- Recommended Wild and Scenic River Segments (The Piedra River, from Highway 160 to the Forks; East Fork of the Piedra, north of the Wilderness boundary; middle Fort of the Piedra; and West Fork of the San Juan River).
- Archeological Areas (Chimney Rock)
- Research Natural Areas (Williams Creek, Martinez Creek, Hidden Mesas, Navajo River, Piedra, Porpyry Gulch)
- Botanical Areas (O’Neal Hill, site of the globally rare Pagosa Springs bladderpod, *Lesquerella pruinosa*).
- National Recreation and Scenic Trails (portions of the Continental Divide National Scenic Trail).

Management Area Composition

Table 6 shows the distribution of MAs within the Pagosa Geographic Area (see Suitability in Part 2 of the DLMP for more discussion of MAs).

Table 6 - Pagosa Geographic Area Management Areas Distribution

<table>
<thead>
<tr>
<th>Management Area</th>
<th>Proposed Plan (Preferred Alternative) (acres)</th>
<th>Percentage of Geographic Area (USFS and BLM Lands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 1 Natural Processes Dominate</td>
<td>252,107</td>
<td>43%</td>
</tr>
<tr>
<td>MA 2 Special Areas and Unique Landscapes</td>
<td>9,383</td>
<td>2%</td>
</tr>
<tr>
<td>MA 3 Natural Landscapes, with Limited</td>
<td>169,450</td>
<td>29%</td>
</tr>
<tr>
<td>Management (commodity production in order to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meet multiple-use goals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA 4 High-Use Recreation Emphasis</td>
<td>12,457</td>
<td>2%</td>
</tr>
<tr>
<td>MA 5 Active Management (commodity production</td>
<td>102,509</td>
<td>17%</td>
</tr>
<tr>
<td>in order to meet multiple-use goals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA 7 Public and Private Lands Intermix</td>
<td>42,141</td>
<td>7%</td>
</tr>
<tr>
<td>MA 8 Highly Developed Areas</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>252,107</td>
<td>100%</td>
</tr>
</tbody>
</table>
The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
Part 2 of the Draft Land Management Plan, “Strategy,” describes management direction intended to move the San Juan Public Lands closer to the desired conditions stated in Part 1. Part 2 includes some general management principles, followed by 4 sections: Objectives; Suitability; Special Areas and Unique Landscapes; and Monitoring.

GENERAL MANAGEMENT PRINCIPLES

Sustainability
People are an integral part of ecosystems and fully depend upon them for their short- and long-term well-being. Balancing the need for short-term goods and services with the long-term need for ecosystem persistence is a management challenge for land managers. In order to meet this challenge, the lands within the planning area need to be managed for long-term sustainability. This means managing within the physical and biological capabilities of the land, protecting and preserving all of the ecological pieces, not irreversibly impacting ecosystem resilience or ecosystem resistance to change, and preserving the ability of ecosystems to meet the needs of future generations.

This Draft Land Management Plan aims to provide a sustainable framework of social, economic, and ecological conditions that will sustain native ecosystems and support diversity of native plant and animal species in the planning area.

Community-Based Stewardship
The San Juan Public Lands have a national reputation as a place where people are willing to actively engage in caring for the land and resources. Community-based stewardship attempts to incorporate local land stewardship ethics into a context of open citizen participation, inclusion of all interests, and the integration of ecological, social and economic knowledge. A variety of organizations and individuals volunteer to work in stewardship roles and are an integral part of the management of the San Juan Public Lands. Some user groups and permittees are willing to assume stewardship responsibilities in order to help maintain opportunities for their interests, and in order to contribute to land sustainability. Community-based stewardship provides more opportunities for creative solutions to land management issues and the SJPL managers intend to continue to foster relationships, as well as to set the stage for additional stewardship successes.

Fire
Fires do not recognize jurisdictional boundaries; therefore, local, State, and Federal fire protection entities have come together in recent years in order to develop coordinated mapping and community fire plans. SJPL managers have been a key participant in these community fire plans and are committed to participating in interjurisdictional fire planning in the future.
Water
Water is the lifeblood of Colorado; therefore, the allocation and management of water resources plays a crucial role in the vitality of Colorado’s economy and way of life. Water-dependent terrestrial and aquatic wildlife; as well as the scenic, aesthetic, ecological, agricultural, municipal, industrial, and recreational values of the planning area contribute substantially to the economy of the State, and to the enjoyment of the public. It is in the public interest to find reasonable solutions to challenging natural resource issues through the development of cooperative agreements. Cooperative approaches hold the promise of greater benefits to the public and the water resources than other means.

Water-resources management policy recognizes the distinctions between State and Federal roles and acknowledges the need to work cooperatively in order to achieve the best results; therefore, the following principles apply:

- The USFS and the BLM recognize and respect the authority of states to allocate water available for appropriation, and to manage water quality under the Clean Water Act.
- The USFS and the BLM are responsible for managing water uses within the planning area, consistent with both State and Federal law, as required under the Organic Administration Act of 1897, the Multiple Use-Sustained Yield Act of 1960, and the Federal Land Policy and Management Act of 1976.
- The USFS and the BLM agree to explore creative management strategies in order to assure continued operation of water-use facilities within the planning area while, at the same time, protecting aquatic resources. SJPL managers will seek opportunities that can be implemented in the near future in order to demonstrate a constructive, trusting relationship upon which all interested parties and partners can build.
- Recognition and respect for valid existing water rights is a fundamental tenet of responsible Federal land management; therefore, it is essential to maintaining order and predictability among water uses and water users. Frequently, the exercise of a water right is connected to, or dependent upon, the permitted occupancy or use of public lands. In these instances, it is incumbent upon the Federal land manager to pursue land, water, and other resource management objectives in a manner that minimizes potential adverse impacts to the ability to exercise these rights. As noted below, there are some cases where conflicts would continue to exist. However, such conflicts can and should be resolved through cooperation between the USFS; the BLM; water-rights holders; and where appropriate, tribal, State, and local governments; and other interested parties.
- Occasionally, conflicts will occur between different management responsibilities, such as between the requirement to protect and recover federally listed threatened and endangered species and the administration of water rights pursuant to State authority. These conflicts are best avoided through careful advanced planning. However, in the instances when conflicts do arise, they should be resolved by Federal and State authorities working together in cooperation with water-rights holders (and, where appropriate, tribal, State, and local governments; and other interested parties), not through unilateral regulatory action on the part of the USFS or BLM.
- The USFS and the BLM agree to maintain, protect, and restore watersheds, as appropriate, through cooperative adaptive management.
Native American Rights and Interests

The USFS and BLM work collaboratively with the 25 Native American tribes and pueblos (See Table 7) that claim cultural affiliation with the San Juan Public Lands. The goal is to ensure that management issues of concern to the tribes and to the pueblos are addressed. All applicable USFS and BLM policies addressing tribal treaty rights and Federal trust responsibilities will continue to be followed. The USFS and BLM will continue to recognize the unique sovereign nation status that the Native American tribes and pueblos have with the United States government.

Table 7 - Tribes and Pueblos that Claim Cultural Affiliation with the SJPL

<table>
<thead>
<tr>
<th>Southern Ute</th>
<th>Pueblo of Isleta</th>
<th>Pueblo of Sandia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Ute</td>
<td>Pueblo of Jemez</td>
<td>Pueblo of Santa Ana</td>
</tr>
<tr>
<td>Ute Mountain Ute</td>
<td>Pueblo of Laguna</td>
<td>Pueblo of Santa Clara</td>
</tr>
<tr>
<td>Navajo</td>
<td>Pueblo of Nambe</td>
<td>Pueblo of Santo Domingo</td>
</tr>
<tr>
<td>Jicarilla Apache</td>
<td>Pueblo of Picuris</td>
<td>Pueblo of Taos</td>
</tr>
<tr>
<td>Hopi</td>
<td>Pueblo of Pojoaque</td>
<td>Pueblo of Tesuque</td>
</tr>
<tr>
<td>Zuni</td>
<td>Pueblo of San Felipe</td>
<td>Pueblo of Zia</td>
</tr>
<tr>
<td>Pueblo of Acoma</td>
<td>Pueblo of San Ildefonso</td>
<td></td>
</tr>
<tr>
<td>Pueblo of Cochiti</td>
<td>Pueblo of San Juan</td>
<td></td>
</tr>
</tbody>
</table>

Managers of the SJPL will maintain and strengthen the existing relationship of government-to-government consultation between the USFS and the BLM, and these 25 Native American tribes and pueblos. SJPL managers will continue to ensure that the hunting rights granted under the Brunot Agreement of 1873 are upheld throughout the planning area, and that traditional wildlife resources are available for the use of affiliated Native Americans, under established treaties and agreements. SJPL managers will develop consultation protocols and other formal agreements between the USFS and the BLM and Native American tribes and pueblos -- ensuring direct communication between SJPL managers and Native American tribal officials.

SJPL managers will continue to allow Native Americans to collect botanical and other special forest products from public lands within the constraint of ecological sustainability. SJPL managers will also coordinate and collaborate with Native American governments in order to increase awareness and knowledge of culturally significant plants. SJPL managers will consider potential impacts on culturally significant plants in project design and implementation. Prescribed burn plans, noxious weed control, and other management projects should address and consider traditional uses of, and traditional management of, culturally significant plants. Important cultural areas and traditional cultural properties within the planning area will continue to be protected for current and future Native American use. SJPL managers will continue to consult with tribes and pueblos (and knowledgeable individuals) in order to identify important cultural areas and traditional cultural properties. If requested by the tribes and/or by the pueblos, SJPL managers will keep information on such localities and uses confidential. SJPL managers will continue to conduct Native American Graves Protection and Repatriation Act (NAGPRA) consultation with tribes and pueblos regarding collections of human remains and items of cultural patrimony.

SJPL managers will provide opportunities for participation and partnerships in educational, interpretive, social, and economic programs. SJPL managers will continue to work with the tribes and pueblos in order to educate the public on appropriate and respectful etiquette when visiting culturally sensitive sites.
AIR QUALITY

Program Emphasis

Class I Area (Weminuche Wilderness Area)
Maintaining pristine Class I Area air-quality conditions within the Weminuche Wilderness Area is the highest priority for managing air quality on the SJPL. Pristine conditions are measured directly through air quality monitoring; they are measured indirectly using air quality related values (AQRVs). AQRVs for the Weminuche Wilderness Class I Area are lake chemistry, soil chemistry, flora and fauna assemblages, atmospheric deposition and chemistry, snow and snowmelt chemistry, and visibility. Monitoring commitments will continue long-term, as stated in the Weminuche Wilderness Monitoring Plan (USFS 1991) and through agreements made with the EPA and the State of Colorado.

Smoke Management
Prescribed burns and wildland fire use have the potential to produce smoke that may affect the public. Receptors (including nursing homes, hospitals, and schools) that are sensitive to temporary air pollution will continue to be an important consideration for smoke management. In addition, the impact of smoke on the highly valued scenic vistas within the planning area will continue to be a concern. Smoke will be managed in conjunction with the State of Colorado, through burning permits, and will address local concerns as well. Tradeoffs between short-term air quality impacts and long-term forest health are recognized.

Other Air Pollutants
Several air pollutants have become major concerns on the SJPL. These include mercury, nitrogen, sulfur, carbon dioxide, and ozone. Most of these pollutants originate from outside of the planning area. SJPL managers will actively pursue actions designed to reduce the impacts of pollutants from sources both within and outside of the public lands. These measures will include active membership in the Four Corners Air Quality Task Force Prevention of Serious Deterioration (PSD) Permit Review, and monitoring commitments.

Program Objectives - Air

A.1 Improve flora and fauna AQRVs that are at risk (including lichens, amphibians, and aquatic organisms) to a level that is within the limits of acceptable change (compared to natural conditions) by the next planning period.

A.2 Over the implementation-life of the LMP, prevent or reduce visibility impairment and allow no more than a 5% change in contrast; a 5% change in extinction and visual range; or a change in color difference index ≥2, as compared to natural conditions for the Weminuche Wilderness Class I Area.

A.3 Over the implementation-life of the LMP, prevent or reduce acidic deposition and allow no more than a 10% change from established baseline for lakes with an acid neutralizing capacity (ANC) ≥25 µeq/L, and no change for lakes with an ANC<25 µeq/L.

A.4 Over the implementation-life of the LMP, prevent or reduce airborne nutrient and mercury deposition impairment of sensitive high-elevation lakes in the Weminuche Wilderness Class I Area; allow no mercury concentrations, no more than 2 µeq/L of ammonium, and no late summer nitrate.
SOILS

Program Emphasis

Under the direction of the LMP, the soils program will emphasize ecosystem sustainability and the protection of ecological integrity, biological diversity, and watersheds within the planning area. It will focus on acquiring the best available science relative to soil resources, as well as on ensuring that soils data, issues, and opportunities are adequately recognized and considered in all plans, projects, and management actions. The program will focus on maintaining or enhancing soil productivity by preventing or minimizing management-induced soil compaction, displacement, erosion, puddling, and severe burning. This will be accomplished by protecting ground-cover, soil organic matter, and soil nutrients, and by rehabilitating soils that have been detrimentally altered.

The emphasis of the soils program will provide project-level, site-specific soils information for projects where ground disturbance may occur. It will also provide soil resource inventories that describe soil resources spatially and descriptively, thereby providing important tools for predicting management impacts on soils and watersheds at a programmatic level.

Program Objectives - Soils

B.1 Within 10 years, restore or improve soil productivity on 20 miles of road that will be closed or decommissioned.

B.2 Within 5 years, improve the soil productivity in two middle-elevation Kentucky bluegrass-dominated mountain grasslands by decreasing the amount of bare soil, erosion, and soil compaction, as well as by increasing the amount of Arizona fescue and other desirable native plant species.

WATER

Program Emphasis

Protect or Improve Water Quality

Project design, BMPs, and mitigation measures guide the protection of water quality within the planning area. Many management measures and design criteria are contained in Forest Service Handbook 2509.25, Rocky Mountain Region Soil and Water Conservation Practices Handbook (which is relevant for BLM- as well as for USFS-administered lands in the planning area). Implementation of projects designed to improve water quality in areas where existing water quality is poor, (e.g., the abandoned mine lands reclamation program) will be an important step toward improving water quality. Benefits to pollutant reduction on State 303(d) listed streams (a list of impaired waters that do not meet State water quality standards), saline soil watersheds, and/or watersheds identified as having the highest level of cumulative impacts to aquatic systems (based on the Aquatic/Riparian/Wetlands Assessment (USFS 2006)) will be priorities of the SJPL watershed restoration program.

In order to contribute to watershed protection efforts on the upper Colorado River, saline soil watersheds will use stream-enhancement and/or stream-protection measures in order to minimize saline contributions. Monitoring of protection measure implementation and effectiveness will be a key component of meeting the intent of the Clean Water Act throughout the planning area.
Maintain or Improve Watershed Condition and the Function of Streams and Floodplains
As a result of the cumulative impacts of management activities, many watersheds throughout the planning area exhibit poor watershed conditions (USFS 2006) (see Appendix I, Volume 3). Watersheds with the most impaired watershed conditions, or those possessing the highest sensitivity to land management actions, will be given priority consideration for rehabilitation. This will be especially true if a watershed contains a water body on the State 303(d) List or a Total Maximum Daily Load (TMDL) has been developed (see Appendix J, Volume 3, Watersheds on USFS Lands Most Sensitive to Disturbance; Watersheds on USFS Lands with the Highest Levels of Anthropogenic Disturbance; see also Appendix K, Volume 3, Watersheds on the San Juan Public Lands with Salinity Concerns).

Maintaining healthy stream channel function will be of central importance on the SJPL, so that streams could effectively transport discharge and sediment and periodic flooding, provide aquatic and riparian habitat, and provide a broad spectrum of recreational opportunities. Initiation of this long-term approach over the next decade will benefit from the establishment of reference conditions for one or more unaltered streams within the planning area. A database of reference streams will be developed for comparison purposes, as well as for the documentation of stream health.

Manage Water Uses
Maintaining supplies of clean water and protecting watersheds were central motivations in the historic decision to reserve forests and rangelands as public domain. Watersheds within the planning area supply water for a variety of multiple uses (including consumptive and non-consumptive uses). As a result of the current drought, as well as the rapidly increasing populations in southwestern Colorado, the human need for new water developments has increased greatly. Under appropriate conditions, existing non-Federal water uses and proposed new uses on the SJPL will be authorized pursuant to applicable Federal authorities, current agency policies and directives (with additional consider given to any applicable interagency MOUs and agreements).

Where water is necessary for the uses within the planning area, water rights will be obtained. SJPL managers will obtain State appropriative or, where appropriate, Federal reserved water rights for historic, current, and future Federal purposes (Federal purposes typically include use for terrestrial and aquatic wildlife, livestock, recreation, aesthetics, facilities, pond and evaporation, irrigation, augmentation and exchanges, administrative sites, firefighting purposes, etc.) Funding to acquire these rights will come from multiple program areas (including from range, recreation, and watershed). USFS and BLM water uses databases will be maintained each year in order to accurately account for Federal water uses, as well as to prioritize acquisition of new water rights.

Successful management of water uses requires extra attention to administrative process and details. One important task will be a monthly review of water rights resumes for new water rights applications, change applications, or reassertion of conditional water rights, as well as for filing objections on all cases that may injure SJPL water rights (or potentially impact water-related resources within the planning area). Water-development authorizations (including groundwater), both new and re-issuances, will contain the necessary terms and conditions relating to the authorization and maintenance of these facilities in order to meet terrestrial, aquatic, and/or other resource management desired conditions and objectives in a manner that minimizes potential negative impacts to the environment. Finally, for evaluating priorities for in-stream flow, streams supporting federally listed species or SJPL Highlight Species, streams that have a high level of recreational use(s), and perennial streams that are currently undeveloped (no existing water developments) will be emphasized.
Program Objectives - Water Quality Protection

C.1 Annually, rehabilitate or restore 20 or more acres of disturbed land on saline soils in order to reduce salt delivery to the upper Colorado River Basin.

C.2 Annually, rehabilitate or restore 10 or more acres in State 303(d) listed water body watersheds or watersheds with Total Maximum Daily Load (TMDL) plans in order to reduce pollutant delivery if the pollution is related to non-point source activities.

C.3 Over the implementation-life of the LMP, actively participate in the development of 100% of the TMDL determinations and/or other appropriate options for the restoration of State 303(d) listed impaired water bodies within the planning area.

Program Objectives - Maintain or Improve Watershed Condition and Stream/Floodplain Function

C.4 Annually, treat approximately 20 acres of priority restoration watersheds in order to improve watershed conditions so that they move from the category of most highly impacted watersheds (80th percentile, most impacted) to a lower category (as determined by the San Juan Aquatic Assessment (USFS 2006) or other priority watershed ranking methodology).

C.5 Within 10 years, for BLM lands, bi-annually submit one or more high-priority streams for inclusion in the Colorado Water Conservation Board in-stream flow protection program.

C.6 Annually, decommission 6 linear miles of unneeded routes that may consist of roads and trail. Watersheds listed in the following appendices could be considered priority for decommissioning efforts: Appendix I, Watersheds on USFS Lands with the Highest Levels of Anthropogenic Disturbance on the SJPL (authorized and unauthorized road/trail densities); Appendix J, Watersheds on National Forest Lands Most Sensitive to Anthropogenic Disturbances; Appendix K, Watersheds on the San Juan Public Lands with Potential Salinity Issues.

Program Objectives - Managing Water Uses

C.7 Annually, acquire new State appropriated water rights for 30 water uses in the highest-priority areas (including water rights for livestock, recreation, fisheries, and irrigation) within the planning area.

C.8 Over the implementation-life of the LMP, all water rights are put to beneficial use and that use can be documented.

C.9 Monthly, enter into any water court case necessary in order to protect SJPL water rights and water uses/water resources.
Program Emphasis

The aquatics program strives to provide ecological conditions in the vast majority of stream, river, and lake systems sufficient to support a diversity of native and desired non-native fish species and/or other aquatic biota over the long term. Proactive management of aquatic habitats and populations is critical to reversing downward population trends. In order to best maintain and protect native and desired non-native fish species, USFS Management Indicator Species (MIS), and USFS and BLM Sensitive Fish Species, the design of land management activities in the planning area will accomplish objectives and meet desired conditions for fisheries. BMPs will be used, and mitigation measures will be implemented, in order to minimize any adverse impacts of management activities on populations and habitats of fish and other aquatic species.

Plan implementation and consistent monitoring of outcomes for fisheries and aquatic habitat will provide the impetus toward achieving desired conditions. Periodic inventories and surveys of streams, stream segments, and lakes are needed in order to determine the natural range and frequency of aquatic habitat conditions, the specific habitat quality, the species population levels, and stream/lake health. Habitat improvement projects should be prioritized where specific assessments have identified habitat-related constraints to fish populations. Monitoring will provide the information necessary to help identify needs for possible LMP amendments or other changes in management practices. Scientific efforts to track changing conditions in key areas and for specific species is an important step in accomplishing objectives and achieving desired conditions for the fisheries program. In general, water developments and other special uses should contain terms and conditions necessary in order to achieve LMP objectives and desired conditions.

LMP implementation involves close coordination with the CDOW and the USFWS. Although cooperation with the CDOW and the USFWS is critical, partnerships with other State and Federal agencies, as well as with interested individuals and organizations, are also an important means to achieve desired conditions and accomplish multiple objectives (and could yield much needed funding for fish habitat management activities).

Program Objectives - Aquatic Ecosystems and Aquatic Species

D.1 Annually, enhance or restore 5 to 15 miles of stream habitat in order to maintain or restore structure, composition, and function of physical habitat for USFS and BLM Sensitive Species.

D.2 Over the implementation-life of the LMP, connect 10 to 15 miles of fragmented stream habitat in order to provide for aquatic species migration and for the establishment of aquatic metapopulations, especially for Colorado cutthroat trout (USFS and BLM Sensitive Species), and for other BLM and USFS Sensitive Species.

D.3 Over the implementation-life of the LMP, establish 5 new populations of Colorado River cutthroat trout (USFS and BLM Sensitive Species) in cooperation with CDOW.
RIPARIAN AREAS AND WETLAND ECOSYSTEMS

Program Emphasis

Riparian areas and wetland ecosystems are complex ecosystems affected by the SJPL ecology, water, soils, and fisheries programs. The overall program focuses on acquiring information related to riparian areas and wetland ecosystems, and ensuring that ecological data, issues, and opportunities associated with those ecosystems are adequately recognized and considered in all plans, projects, and management actions. The goal is to sustain riparian areas and wetland ecosystems, and to protect the ecological integrity and biological diversity associated with them.

Program emphasis includes maintaining good vegetation cover and soil productivity in upland terrestrial ecosystems in order to prevent erosion and runoff, and to prevent sediment from reaching streams. Proper livestock management is emphasized in order to prevent adverse impacts to both uplands and riparian areas and wetland ecosystem sites. Project design, BMPs, and mitigation measures guide the protection of riparian areas and wetland ecosystems when projects are planned and implemented within these areas.

Program emphasis also includes determining the condition of riparian areas and wetland ecosystems using the BLM Technical Reference titled “Process for Assessing Proper Functioning Condition.” Restoration will be implemented on sites where non-functional or functional-at risk conditions exist.

Program Objectives - Riparian and Wetlands Ecosystems

E.1 Within 5 years, initiate restoration in 2 forest or shrubland riparian areas and wetland ecosystem types that currently are in a non-functional or functional-at risk condition by increasing the amount of native woody riparian vegetation in them.

E.2 Within 10 years, determine the functional condition of 100 miles of riparian areas and wetland ecosystems.

E.3 Within 15 years, restore ecological conditions on 5 damaged fens.

E.4 Within 5 years, eradicate tamarisk and Russian olive on 2 stream reaches or 2 seeps/springs.

TERRESTRIAL ECOSYSTEMS AND PLANT SPECIES

Program Emphasis

The SJPL ecology program emphasizes ecosystem sustainability and the protection of the ecological integrity and biological diversity of the planning area. It focuses on acquiring the best available science relative to terrestrial ecosystems found within the planning area, and ensuring that ecosystem data, issues, and opportunities are adequately recognized and considered in all plans, projects, and management actions. Acquiring the best available scientific information includes conducting inventories (in relation to vegetation types, rare plants, soils, ecological types, etc.), producing ecological assessments, developing vegetation classification systems, identifying plants and vegetation communities, conducting biological evaluations, monitoring, establishing Research Natural Areas and reference sites, using predictive models, and identifying research needs.
The program emphasizes ecosystem management, with the guiding principle being that protecting the composition, structure, and function of the ecosystems of the SJPL (including terrestrial, riparian and wetland, and aquatic ecosystems) will sustain those ecosystems, sustain the vegetation communities within those ecosystems, and preserve and sustain a broad array of species representing a majority of the native flora and fauna found within those ecosystems. Managing ecosystems includes the protection of abiotic (non-living chemical and physical factors found in the environment) features and ecosystem processes (including soil productivity, disturbance regimes, succession, and hydrologic processes).

The ecology program also focuses on plant species in order to preserve biological diversity and to meet the specific needs of individual plants (including rare species that may not be adequately covered by the ecosystem management approach). Rare species include federally listed species, SJPL Highlight Species, USFS Sensitive Species, and BLM Sensitive Species. Acquiring current information about plants species, including their habitat requirements and how they respond to management activities, will be critical to their protection and sustainability.

Ecology program emphasis includes ecological restoration (defined here as the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed). Ecological restoration is an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its integrity and sustainability (SER 2002).

SJPL timber, fire, fuels, and ecology programs will manage insects and diseases within the planning area through inventory and monitoring of insect and disease risk relative to current and desired vegetation conditions. Identifying areas where epidemic risks are high, and developing strategies for reducing those risks, will be the primary program objectives. Major vegetation types that display compositions, structures, and disturbance regimes that are similar to those found during the reference period (HRV conditions) tend to have lower risks of insects and diseases compared to those that are dissimilar to HRV conditions.

**Program Objectives - Terrestrial Ecosystems and Plant Species**

**F.1** Within 20 years, increase the amount of young spruce-fir forests and young cool-moist mixed-conifer forests from 1.5% to 15% primarily by allowing wildland fire use (including stand replacement fires) and, to a much lesser extent, timber harvesting in mature spruce-fir and mature cool-moist mixed-conifer forests.

**F.2** Within 20 years, increase the amount of young aspen forests throughout the planning area from their current status of 1% to 25% by clear-cutting mature aspen forests, and by allowing wildland fire use to occur in the mature development stage of aspen, spruce-fir, and cool-moist mixed-conifer forests. In order to increase the patch size of young aspen forests and to better mimic the large aspen patches that were common during the reference period (HRV conditions), timber harvesting occurs primarily adjacent to aspen clear-cuts that were conducted within the last 20 years.

**F.3** Within 20 years, increase the amount of ponderosa pine forests that have open canopies by changing 20,000 to 40,000 acres of ponderosa pine forests (excluding old-growth forests) from development stage mature-closed to development stage mature-open using timber harvesting treatments (including thinning and restoration), and by allowing wildland fire use to occur. An additional outcome from this objective is to increase the canopy cover of Arizona fescue by 10% in the treated ponderosa pine stands within 10 years of the implementation of the LMP.
F.4 Within 20 years, increase the amount of warm-dry mixed-conifer forests that have open canopies by changing 10,000 acres of warm-dry mixed-conifer forests (excluding old-growth forests) from development stage mature-closed to development stage mature-open by using restoration improvement harvesting treatments that target white fir for removal, and by allowing wildland fire use to occur. An additional outcome from this objective is to decrease the amount of white fir in the treated warm-dry mixed-conifer forest stands by 20% within 20 years.

F.5 Within 15 years, use low-intensity prescribed burns or wildland fire use on 30,000 acres of ponderosa pine or warm-dry mixed-conifer forests that have been without fire for decades in order to improve the composition, structure, and function of those forests.

F.6 Over the next 15 years, use timber harvesting or low-intensity prescribed burns in order to improve the stand structure in some mature ponderosa pine and warm-dry mixed-conifer forests and to enhance old-growth attributes.

F.7 Increase the amount of old-growth ponderosa pine and old-growth warm-dry mixed-conifer forests by 400% and 100%, respectively. This is a long-range objective that can only occur over decades, as current ponderosa pine and old-growth warm-dry mixed-conifer forests need time in order to succeed from their current condition to the old-growth condition.

F.8 Within 5 years, initiate restoration in 2 middle-elevation Kentucky bluegrass-dominated mountain grasslands by increasing the amount of Arizona fescue and other desirable native plant species, by decreasing the amount of exotic and undesirable native plant species, and by decreasing the amount of bare soil, erosion, and soil compaction.

F.9 Within 15 years, increase the abundance and distribution of perennial native warm- and cool-season bunchgrasses and biological soil crusts on 3,000 acres of semi-desert shrublands or semi-desert grasslands within the Dolores geographical area.

F.10 Within 15 years, increase the abundance and distribution of perennial native warm- and cool-season bunchgrasses and biological soil crusts on 2,000 acres of sagebrush shrublands within the Dolores geographic area.

F.11 Within 5 years, collect seeds from R2 Regional Forester’s Sensitive Plant Species and BLM Sensitive Plant Species in order to provide local genetic material for reintroduction efforts in the event existing occurrences of these species have declined or are extirpated.

F.12 Within 5 years, collect seeds from native graminoid species in order to provide local genetic material for revegetation efforts.

FIRE AND FUELS MANAGEMENT

Program Emphasis

The use of wildland fire, along with mechanical and other fuels management strategies, should create forest conditions that meet desired conditions for the vegetation types within the planning area. Providing appropriate management response to all wildfires and allowing fire to perform its natural role in the ecosystem, as much as possible, will be an integral part of the program emphasis. Recognizing that effective fire management spans jurisdictional boundaries, the fire and fuels program will also continue to partner with, and assist, local jurisdictions and communities in order to develop community wildfire protection plans designed to reduce the risk of wildfires.
Program Objectives - Fire and Fuels Management

G.1 Annually, for the next 10 years, complete an average of 8,000 acres of hazardous fuels reduction in the WUI.

G.2 Annually, for the next 10 years, complete an average of 5,000 acres of fuels reduction and resource enhancement.

G.3 Annually, manage from 1 to 30,000 acres of wildland fire use (WFU) within the planning area, either from 1 or multiple WFUs. (WFU is used as a resource management tool whenever the opportunity of natural wildland fire ignitions arises.)

G.4 Aggressive initial attack is undertaken on all wildland fires. The appropriate management response is evaluated immediately and suppression, management, or a combination of both actions is taken. Within the planning area, 98% of all wildfires are suppressed when they are less than 1 acre.

WILDLIFE

Program Emphasis

The emphasis of the SJPL wildlife program is to provide ecological conditions that support all native and desired non-native terrestrial wildlife species over the long term, and to promote recovery of federally listed species. The planning area provides for the range of habitat requirements for species by managing for the broad level ecosystem desired conditions. This strategy will involve a two-tiered approach:

- **First:** The structure, composition, and disturbance processes of ecosystems that maintain habitat are managed for attainable and sustainable desired conditions that meet a variety of management objectives. The program emphasis described under Terrestrial Ecosystems serves as the foundation for habitat conditions throughout the planning area. HRV conditions are used for comparison and guidance (rather than as desired conditions) in order to manage for suitable habitat that sustain wildlife species found within the planning area. Changes in land use within the planning area, as well as on adjacent lands (including private, public, and Native American tribal lands) often preclude the SJPL from mimicking historic conditions found during indigenous settlement (dating from the 1500s to the late 1800s).

- **Second:** Looking at more specific issues, species with conservation concerns are evaluated in order to determine limiting habitats, population influences, and special habitat needs not provided through ecosystem-level management. Species identified may need additional protection, as specified in conservation strategies for individual species or groups of species. Incorporating design components found in the desired conditions and guidelines detailed in this DLMP, species conservation strategies and recovery plans, or species assessments based on the best available science, will maintain or enhance key habitat and habitat effectiveness in order to provide diversity components and maintain wildlife sustainability. Species identified in the second tier of the two-tiered approach are listed in one of the following categories: threatened, endangered, and proposed species; SJPL Highlight Species; BLM Sensitive Species; and USFS Sensitive Species.
Sections of the DLMP will contribute toward recovery and delisting of threatened, endangered, and proposed species. This guidance will also contribute to preventing BLM and USFS Sensitive Species trending toward being listed. The SJPL Highlight Species that more specific analysis has indicated may need additional protection are listed in the guidelines component of the DLMP. All selected SJPL Highlight Species are addressed in the DLMP/DEIS documents.

LMP implementation and consistent monitoring of outcomes for habitat and species will provide the impetus toward the desired conditions. Monitoring will provide the data necessary to enable an evaluation of the two-tiered approach and will help identify needs for possible LMP amendments and/or other changes in management practices. Scientific efforts to track changing conditions in key areas and for specific species is important step in accomplishing objectives and achieving desired conditions for the wildlife program.

LMP implementation will involve close coordination with the CDOW and the USFWS. Although cooperation with CDOW is critical, partnerships with other State and Federal agencies; as well as with tribal governments and other interested organizations and individuals; will help the SJPLC better manage for wildlife, and will serve as an important way to achieve desired conditions and to accomplish multiple objectives.

The following objectives are based on expected budgets and on available resources. Objectives for other coordinated SJPL resource programs will also help to maintain and/or improve habitat conditions (as described under Ecosystem Diversity) in order to help the SJPLC achieve identified terrestrial wildlife desired conditions (see Appendix M, Table 3). For example, ponderosa pine restoration objectives achieved under fuels treatments will be guided by DLMP direction; with the goal being restoration of conditions and habitat characteristics (within the pine type) that benefit wildlife species. Benefits of these restoration objectives will extend to BLM Special-Status Species (including flammulated owl and northern goshawk) to demand species (including turkey and mule deer).

Program Objectives - Wildlife Program Objectives

H.1 Annually, provide a minimum of 500 acres of habitat improvement through restoration and other management for the duration of the LMP in order to provide diversity components that support sustainable populations of terrestrial wildlife throughout the planning area.

H.2 Southwestern willow flycatcher (T): Over a 10-year period, 3 breeding territories recover from capable to suitable condition through improved resource management within the riparian zone.

H.3 Gunnison Sage-grouse (H, BLM SS): Over a 10-year period, use mechanical and/or prescribed burn treatments in order to remove pinyon-juniper invasion in 3 locations consisting of 900 acres of capable Sage-grouse habitat.

H.4 Nokomis fritillary butterfly (H, USFS SS): Over a 10-year period, restore the hydrologic conditions and plant communities at 2 springs or seeps capable of supporting Nokomis fritillary while, at the same time, retaining the water development for livestock or other uses.
H.5 **Mule deer (H):** Within the first 5 years of the planning cycle, improve winter range through mechanical and prescribed burn treatments on at least 1,000 acres within the planning area.

H.6 **Bat group (Allen’s big-eared bat (H, BLM SS), big free-tailed bat (H, BLM SS), fringed myotis (H, BLM SS, USFS SS), spotted bat (H, BLM SS, USFS SS), Townsend’s big-eared bat (H, BLM SS, USFS SS), and yuma myotis (H, BLM SS)):** Over the implementation-life of the LMP, all mine closures at sites supporting bat populations include structures designed in order to provide for continued use as bat habitat.

H = Highlight Species
BLM SS = BLM Sensitive Species
USFS SS = FS Sensitive Species
T = Federally Threatened Species

**MANAGEMENT INDICATOR SPECIES**

**Program Emphasis**

The MIS program emphasizes ecosystem sustainability and the protection of the ecological integrity and biological diversity of the planning area. It focuses on acquiring the best available science relative to terrestrial ecosystems and the MIS found within the planning area, and ensuring that ecosystem and MIS data, issues, and opportunities are adequately recognized and considered in all plans, projects, and management actions.

The program emphasizes ecosystem management and the guiding principle that protecting the composition, structure, and function of the ecosystems of the SJPL (including terrestrial, riparian and wetland, and aquatic ecosystems) will sustain those ecosystems, sustain the vegetation communities within those ecosystems, and preserve and sustain a broad array of species representing a majority of the native flora and fauna found within those ecosystems (including MIS). The Historical Range of Variation (HRV) is used as an important concept for protecting MIS and sustaining the ecosystems they are associated with.

The MIS program also focuses on the specific needs of MIS on SJPL. Acquiring current information about these species, including their habitat requirements and how they respond to management activities, is critical to their protection and sustainability.

Desired conditions, objectives, and standards and guidelines for MIS are designed within the concepts described above. Forest level program monitoring connected with MIS is intended to help evaluate the effectiveness of Plan implementation. This information is used to assist in facilitating the identification of need for adjustment to Plan implementation in meeting the described Plan objectives and desired conditions.
Objectives - Management Indicator Species

I.1 Annually, provide a minimum of 500 acres of habitat improvement through restoration and other management for the duration of the LMP in order to provide diversity components that support sustainable populations of terrestrial wildlife (including MIS) throughout the planning area.

I.2 **Trout**: Annually, enhance or restore 5 to 15 miles of stream habitat in order to maintain or restore structure, composition, and function of physical habitat for trout MIS Species.

I.3 **Trout**: Over the implementation-life of the LMP, connect 10 to 15 miles of fragmented stream habitat in order to provide for trout MIS migration and for the establishment of trout MIS metapopulations, especially for Colorado cutthroat trout.

I.4 **Trout**: Over the implementation-life of the LMP, establish 5 new populations of Colorado River cutthroat trout in cooperation with CDOW.

I.5 **Abert’s squirrel**: Within the first 5 years of the planning cycle, restore ponderosa pine in order to improve habitat quality, as defined in the regional Abert’s squirrel assessment, on at least 1,000 acres within the planning area.

I.6 **Elk**: Within the first 5 years of the planning cycle, improve elk winter range through mechanical and prescribed burn treatments on at least 1,000 acres within the planning area.

I.7 **Mountain Bluebird**: Over a 10-year period, harvest and regenerate 5,000 acres of aspen in order to provide for a diversity of age classes in the aspen type and in order to provide for future mature aspen nesting habitat (thereby reducing the extent of Sudden Aspen Decline).

I.8 **American marten**: Over a 10-year period, harvest 500 acres of spruce-fir forest and 1,250 acres of cool-moist mixed-conifer forest producing stands of uneven size/age class trees within the spruce-fir and cool-moist mixed-conifer types in order to perpetuate effective marten habitat over time.

INVASIVE SPECIES

Program Emphasis

Within the planning area, invasive weeds are currently managed in accordance with an invasive species action plan. The plan lists prevention practices, early detection, rapid response strategies, and priority inventory and treatment areas. It covers a 3-year timeframe. Under the direction of the LMP, all SJPL resource programs will participate in invasive species management.

Invasive species move across jurisdictional boundaries and property lines; therefore, LMP implementation will involve close coordination and partnerships with local, State, and tribal governments; as well as with interested organizations and individuals. Partners and contractors will be considered when implementing invasive treatment activities.

Program Objectives - Invasive Species

J.1 Within 15 years, eradicate spotted knapweed, diffuse knapweed, Dalmatian toadflax, scentless chamomile, scotch thistle, and leafy spurge on San Juan Public Lands.

J.2 Within 15 years, increase annual treated acres of noxious weeds to 25% of known acres infested.

J.3 Within 15 years, annual backcountry treatment (including Wilderness Areas and WSAs) is 25% of the total annual noxious weed treatment target.
ACCESS AND TRAVEL MANAGEMENT

Program Emphasis

Access and opportunity to experience areas through both motorized and non-motorized travel is a key component of recreation, as well as a primary management emphasis for the SJPL. Efforts will focus on the designation of effective motorized and non-motorized travel routes over the long-term, consistent with desired conditions. Signing, enforcement, public information, and route maintenance and restoration will take place, as appropriate.

The transportation system program will emphasize a minimum transportation system that provides safe and efficient public and agency access to the public lands. Travel analysis will be the tool used to identify management opportunities for ensuring that this system is efficiently maintained, environmentally compatible, and responsive to agency and public needs. SJPL managers will work towards aligning the total miles of roads and trails on the SJPL with fiscal constraints. Opportunities will be sought to shift road management to the appropriate public road authority when it is determined that a specific road is primarily used for purposes other than SJPL access, is used for mail delivery, school bus routes, or some other local governmental purpose, or is used for year-round residential access to private property within or adjacent to SJPL. Opportunities will be sought to decommission those roads identified through travel analysis as unneeded. Reconstruction and maintenance activities will focus on diminishing impacts to resources, particularly water resources and aquatic ecosystems, and improving roadway safety while reducing the backlog of deferred maintenance.

Travel management planning during Land Management Plan implementation will result in the designation of a system of roads, trails and areas for motorized use by vehicle class and season of use. The principal goal of travel management planning is to reduce the development of unauthorized roads and trails and the associated impacts to water resources and aquatic ecosystems, wildlife conflicts impacts and user conflicts. The travel management planning process will aim to provide a variety of road and trail access for recreation, special uses, other forest resource management, and fire protection activities. Planning, design, and operation will seek to maximize user experience while addressing safety and resource protection needs. Routes not included in the transportation system will be prioritized for decommissioning based on resource protection needs.

Program Objectives - Access and Travel Management

K.1 Transfer five miles of road jurisdiction to other entities within 10 years of Plan implementation.
K.2 Perform maintenance activities on 75 percent of roads maintained for passenger vehicles (maintenance level 3, 4, and 5 roads) each year.
K.3 Decommission 100 linear miles of unneeded routes, which may consist of roads and trails, within 15 years of Plan implementation.
K.4 Perform condition surveys and monitoring of each designated route once every five years.
RECREATION

Program Emphasis

The primary recreation management goal is to ensure the continued availability of resource-dependant outdoor recreation experiences that the public seek, that are suitable for the landscape, and that are not readily available from other public or private entities. The SJPL recreation program will emphasize the extraordinary natural, cultural, and scenic resource values of the planning area. It will also emphasize the relationship of these assets to the high public demand, as well as to the appreciation for public land recreation, the proximity of the planning area to growing communities, and the critical need for public understanding related to, and stewardship of, the SJPL.

The SJPLC will provide place-based recreation management by focusing on activities and unique settings for which an area is best suited. Recreation suitability (derived through the ROS) will guide the direction of recreation management within the planning area. In combination with desired conditions of each MA, this suitability will guide recreation management with regard to access, intensity of visitor management, social encounters, naturalness, built environment, and carrying capacity.

Dispersed Recreation Experiences and Freedom of Choice

Dispersed recreation will continue to be an important benefit offered within the planning area. Dispersed recreation includes both day and overnight use and provides important recreational benefits (including the opportunity to enjoy natural landscapes, escape from crowds, engage in physical exercise, and/or recreate with family and friends). The management of these benefits will seek to balance the strong desire people have for freedom of choice (in terms of their recreation activity) with adequate protection of cultural and natural resources and the need to manage conflicting recreation uses. In spite of the large expanse of undeveloped area available for dispersed recreation use (both motorized and non-motorized), every acre is not suitable for every use. The challenge for visitors and managers is to protect multiple-use opportunities and to minimize conflicting uses while, at the same time, maintaining freedom of choice to the greatest extent possible.

Recreation Facilities

SJPL managers will continue to assess the future of SJPL recreation facilities in order to establish a program that is balanced, sustainable, realistic, and responsive to public needs. Services will be provided with allocated funds, revenues, and partnerships. SJPL managers will also seek other creative methods in order to maximize public benefits. Facilities will be redesigned, as necessary, in order to benefit a larger and more diverse audience, address demographic changes, and accommodate a broader spectrum and longer season of appropriate uses. New large-scale facilities are not anticipated during this planning cycle. A greater emphasis will be placed on stabilization of resource issues in dispersed recreation areas.

Communities and Partners

Local communities and partners have strong ties with the SJPL. These communities and partners have become ever more critical in helping the SJPL managers address complex resource management situations, declining recreation budgets, and the demands of growing communities seeking to benefit economically and socially from recreation and tourism on SJPL. Efforts in this area will focus on building existing partnerships with communities keenly interested in protecting and enhancing public land recreation access, as well as the use of the planning area for economic, scenic, and recreation benefits (including use of scenic byways, as well as in relation to heritage tourism).
Travel Corridors
Three scenic and historic byways (San Juan Skyway, Alpine Loop, and Trail of the Ancients) and numerous lesser known routes provide adventure and exploration unsurpassed in the nation. In particular, historic mining, ranching and views of rugged wilderness are easily enjoyed by thousands each year. These routes provide an important and effective interface between visitors and the public lands. Recreation management will protect and enhance opportunities for viewing scenery and cultural resources along these travel corridors. Most visitor service development will occur along these corridors. These travel corridors will serve as “information gateways” and facilitate access to more remote areas of SJPL. Partnerships and grants will be a primary method for achieving objectives related to these travel corridors. See Special Areas Plan Component in Part 2 of the DLMP for additional information on byways.

Structured Recreation Management Areas (SRMAs)
There are 4 Structured Recreation Management Areas (SRMAs). These areas demand attention because of their identified recreation markets, location, special resources and high public demand. The recreation program on BLM lands will concentrate management, marketing, monitoring and administration in the SRMAs. SRMAs have identifiable niches, management objectives and social, physical and administrative settings. SRMAs include the following places:

- The Silverton SRMA is a destination for OHV touring, extreme skiing and heritage tourism.
- The Durango and Cortez SRMAs are geared toward community accessible recreation, including mountain biking, rock climbing, hiking and nature viewing.
- The Dolores River Canyon SRMA includes opportunities for recreational and scenic floating, OHV use, and mountain bikes, and wild/remote river canyon recreation.

The SRMAs have desired condition statements under their respective Geographic Area (see Part 1, Vision) and more detailed descriptions in Appendix E, Volume 3. Recreation-related desired condition statements for some specific areas on USFS lands are also included under each Geographic Area, but these are not elaborated on in Appendix E.

Remote areas and Wilderness
This program area primarily focuses on monitoring and addressing activities that have the potential to degrade values related to Wildernesses Areas, WSAs, and other remote areas within the planning area. Protection and restoration of natural conditions will continue to be important within these areas (see Special Areas Plan Component in Part 2 of the DLMP for additional Wilderness Area information). Wilderness management direction contained in the 1998 Forest Plan Amendment (Number 21), is incorporated by reference into this DLMP, and will continue to be in effect.

Marketing
A cornerstone of successful management will be developing and providing effective public information about recreation opportunities and settings on the SJPL. Targeted marketing efforts can boost the likelihood that people could more easily find and participate in their desired recreation activity and setting. Marketing will also help to increase appropriate uses in underused areas while, at the same time, relieving conflicts and impacts on overused places. Marketing venues will be varied and will include the use of maps, guidebooks, the internet, information signs, brochures, and other marketing tools.
Program Objectives - Recreation

L.1 Over the implementation-life of the LMP, reduce deferred maintenance costs to under $500,000.

L.2 Within 5 years, all motorized and mechanized recreation travel is on designated routes and/or in designated areas.

L.3 Over the implementation-life of the LMP, complete minimum elements required in order to achieve desired conditions for all Wilderness Areas consistent with management direction provided within the 1998 Wilderness Management Direction.

L.4 Over the implementation-life of the LMP, complete the Recreation Activity Management Plans (RAMPs) for the SRMAs.

HERITAGE AND CULTURAL RESOURCES

Program Emphasis

Under the direction of the LMP, the SJPLC heritage and cultural resources program emphasis will be focused on three main areas of cultural resource management:

- **Protecting Archeological, Historical, Cultural, and Traditional Resources**: This includes both proactive and reactive efforts, as well as offering support to other resource programs. Efforts and support activities include: Section 106 of the National Historic Preservation Act (NHPA) support, inventories, identification, documentation, evaluation, monitoring, consultation, nomination, preservation, stabilization, and/or restoration of heritage and cultural resources. Existing site monitoring plans (including the Anasazi National Register District Monitoring Plan) will be implemented and new site monitoring plans for the Lost Canyon National Register District, the Spring Creek National Register District, and the Mesa Verde Escarpment will be developed and implemented. Heritage and Cultural Resource databases will be managed for efficient and accurate management and research, in cooperation with the Colorado Office of Archaeology and Historic Preservation. Restrictions, through the use of permits and/or visitation controls, will be implemented, when necessary, in order to protect sites from physical damage and excessive “wear and tear” from visitation.

- **Providing Research, Education, and Interpretive Opportunities**: Support research by qualified permitted individuals, organizations, colleges and universities. Provide on-site and off-site educational and interpretive opportunities through a wide variety of materials and media (including signage, brochures, publications, presentations, DVDs, and websites).

- **Working Collaboratively with Partners**: This includes site stewards; volunteers; State and other Federal agencies; local and tribal governments; schools and universities; and non-profit groups. It includes funding organizations in order to provide site protection, research, educational, and interpretive opportunities.
The SJPL has an active heritage and cultural resource program that focuses on identifying, preserving, interpreting, and providing research opportunities for the most significant resources. This program will inventory and evaluate existing and potential National Register Sites and Districts (including Spring Creek, Armstrong-Ritter Canyon, Sauls Creek, Turkey Creek, Animas Forks, Sound Democrat, and Gold Prince), and list these on the National Register, if appropriate.

Additional public participation and partnerships in heritage and cultural resources management will be established in order to conduct proactive preservation, research, education, and interpretive projects.

**Program Objectives - Heritage and Cultural Resources**

- **M.1** Over the implementation-life of the LMP, protect/preserve/stabilize at least 15 eligible heritage/cultural resources.
- **M.2** Annually, post protective signage on at least 2 heritage and cultural resources.
- **M.3** Over the implementation-life of the LMP, list 6 sites/Districts on the National Register of Historic Places (NRHP).

**SCENERY, VISUAL RESOURCES, AND THE BUILT ENVIRONMENT**

**Program Emphasis**

This SJPL program emphasizes careful development and design guidelines so that high scenic integrity may be conserved and sustained in order to meet public expectations. Demand for facilities on public land (including access roads, utility corridors, and cell phone relay towers) and energy development may result in scenic impacts. Ecological conditions may result in impacts to scenery as well. Large stands of ponderosa and warm-dry mixed-conifer are at risk of losing scenic value as a result of fire exclusion (which, in turn, has lead to dense stands, increased mortality from insects and disease, as well as risk of catastrophic fire). As a result of the lack of disturbance and competition from conifers, the scenic value of aspen is also declining. The highest priority for protection of scenic quality will be given to the areas of heavy public use (including scenic byways and scenic travel corridors, nationally designated trails, developed recreation sites, administrative sites, and backdrops for cities and towns).

This program also focuses on identifying and conserving the elements that make up the SJPL “niche, and appropriately integrating them into resource management activities, as well as into facility and site development. This includes maintaining the integrity of the expansive, unencumbered landscapes and traditional cultural features distinctive to the planning area. As residential development and populations grow, large tracts of undeveloped lands are becoming scarce and more valued in southwestern Colorado. Valued natural and cultural viewsheds are being lost incrementally as lands are developed and special features are removed or destroyed. The SJPL will continue to participate with partners in feasible efforts to secure scenic easements and to acquire lands in order to protect outstanding cultural and natural viewsheds along scenic and backcountry byways and along national scenic and recreation trails.
Another important strategy for managing scenery is to identify elements of the landscape that deserve management attention. As opportunities arise, scenic condition inventories will be conducted for valued landscapes (including the Dolores River Canyon and the Wild Horse Herd Management Area). In addition, a schedule of vegetation treatment locations and activities will be developed in order to address scenic quality related rehabilitation, enhancement and maintenance. The Scenery Management System and Visual Resource Management inventory for the SJPL will be validated and updated as a part of on-going site-specific project and programmatic analysis.

In order to continue to make scenery available for residents and visitors, efforts will also be made to ensure that scenic pullouts, vista points, waysides and access, and interpretive venues adequately support scenic viewing as a primary visitor activity.

**Program Objectives - Scenery, Visual Resources, and the Built Environment**

N.1 Annually, assess 1 project from each resource area (vegetation management, fuels reduction, oil and gas, utilities, wildlife, recreation) in order to conduct effectiveness and implementation monitoring.

N.2 Within 10 years, rehabilitate 50% of areas identified that currently do not meet scenic integrity objectives.

**INTERPRETATION AND CONSERVATION EDUCATION**

**Program Emphasis**

The interpretive and conservation education program plays a critical role in effective resource management and public appreciation of natural and cultural resources. A very dynamic interpretive and conservation/education program will offer a venue designed to create emotional and intellectual connections between people and the nature and culture of the San Juan Public Lands.

Strategies under this program should be designed to ensure consistent, coherent, and effective communication between the public and program managers through a variety of venues. Communication topics and themes will be identified that are of interest to the public, as well as those that will effectively convey important agency information and portray a quality image. Communication venues will target a diverse public. Important program outcomes will include increased public understanding of natural and cultural resources and their management, increased agency understanding of public viewpoints, increased cooperation in public land management, increased public understanding and compliance with public land regulations, and increased stewardship of public lands.

In order to achieve effective communication, both internally and externally, SJPL managers will work to develop a forest-wide framework for interpretive services development and delivery. The integration of interpretive services with public affairs and other staff areas will be fostered. Local, regional, and national partnerships with tourism and outdoor recreation providers and educators are critical in helping meet stewardship and visitor experience goals and expectations.
TIMBER AND OTHER FOREST PRODUCTS

Program Emphasis

The timber program emphasizes the use of vegetation management as a tool to help the manage forested vegetation types in order to achieve desired ecological conditions, and to balance social and economic desired conditions and objectives. There are many opportunities for vegetation management; however, the feasibility of these opportunities depends on future program levels and on forest products industry capacity and market demand. The timber program emphasis will focus on:

- landscapes in the WUI that have altered fire regimes and/or have areas with high fuel loadings;
- landscapes at high risk for developing epidemic levels of insect and/or disease infestation;
- areas where vegetation management could most effectively move age classes, size classes, density, and species closer to desired conditions; and
- areas treated previously in order to maintain sustainable conditions and to improve scenic integrity.

Changing vegetation composition and structure in order to achieve ecological desired conditions in forested areas is partially dependent upon the capacity of the timber industry. Strategies include:

- providing small-diameter and biomass products from thinning, and fuels treatments in order to support emerging biomass markets;
- utilizing trees killed by fire, insects, disease, and wind throw (where such harvests can be accomplished within acceptable limits of risk to other resource objectives);
- providing an appropriate balance of forest product quantity, size, species and quality in order to maintain forest products industry capacity at current or higher levels;
- integrating the timber and fuels programs in order to minimize unit cost, and undesired effects to other resources while, at the same time, maximizing product utilization; and
- using a combination of legal authorities and partnerships in order to make forest products available to forest users, provide cost-effective vegetative treatments, and maximize utilization of forest resources.

Program Objectives - Timber and Other Forest Products

P.1 The TSPQ (an estimated annual average output of timber from the planning area during the first decade under this DLMP) provides a stable, predictable, and sustainable supply of wood that will contribute to a stable, sustainable, and diverse forest products industry. (The TSPQ is a combined program of timber management treatments from lands designated as Lands Suitable for Timber Production and other lands. Table 8 presents the volumes to be harvested, summarized by conifer and aspen. See Appendix B for additional information regarding TSPQ, and the relationship of TSPQ to Long-Term Sustained-Yield Capacity or LTSYC.)

P.2 The planning area has a program of vegetation management in which timber sales are offered within the LTSYC. (LTSYC is defined as the highest uniform wood yield that may be sustained under specified management intensities consistent with multiple-use objectives after stands have reached desired conditions. The LTSYC for both Lands Suitable for Timber Production and other lands are displayed in Table 9. See Appendix B for additional information regarding the methods used to determine LTSYC.)
Table 8 - Estimated Volume Produced by Timber Sale Program Quantity (TSPQ) (Annual Average in the First Decade)

<table>
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<th>Other Lands</th>
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</tbody>
</table>

Table 9 - Estimated Annual Long-Term-Sustained-Yield Capacity (LTSYC) (Annual Average)

<table>
<thead>
<tr>
<th>Long-Term Sustained-Yield Capacity</th>
<th>Lands Suitable for Timber Production</th>
<th>Other Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MMCF/Year</td>
<td>MMBF/Year</td>
</tr>
<tr>
<td>Allowable Sale Quantity (ASQ)</td>
<td>4.8</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long-Term Sustained-Yield Capacity</th>
<th>Sawtimber</th>
<th>MMCF/Year</th>
<th>MMBF/Year</th>
<th>Other Lands</th>
<th>MMCF/Year</th>
<th>MMBF/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LTSYC)</td>
<td>8.6</td>
<td>35.8</td>
<td>2</td>
<td>7.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P.3 Timber harvest will be used as a tool to manipulate vegetation in order to achieve a variety of resource desired conditions and management objectives, and to provide a source of products that contribute to local, regional, and national economies. Most common applications will include:

P.3.1 Over the implementation-life of the LMP, utilize restoration and thinning harvests in the ponderosa pine and warm-dry mixed-conifer vegetation types in order to reduce stand densities, improve stand composition and structure, and develop fuel profiles that achieve or maintain stand conditions more resilient to disturbance while, at the same time, providing forest products to local industry on approximately 30,000 to 40,000 acres.

P.3.2 Within 20 years, emphasize selective harvests in cool-moist mixed-conifer and Spruce-fir vegetation types in order to maintain or achieve desired stand conditions, reduce hazardous fuels, and provide forest products to local industry, on approximately 5,000 to 10,000 acres.

P.3.3 Within 20 years, utilize coppice harvest (clear-cuts with regeneration by sprouting) in aspen vegetation types on approximately 8,000 to 10,000 acres in order to maintain or develop desired age class diversity and patch size, regenerate declining aspen stands, and provide forest products to local industry.
LIVESTOCK AND RANGELAND MANAGEMENT

Program Emphasis

Rangeland Planning
In order to meet national direction, NEPA analyses are slated for completion for all active grazing allotments by the end of FY 2009 for the BLM and FY 2010 for the USFS. NEPA decisions identify grazing actions, the need for rangeland improvements required to implement a proposed action, appropriate mitigation measures, and necessary monitoring activities so that outcomes trend towards desired conditions. Adaptive management tools should be used to improve on-the-ground management flexibility and extend the useful life of NEPA decisions. NEPA decisions may result in the modification and/or development of new Allotment Management Plans. Vacant allotments not initially analyzed under Rescissions Act planning or permit-issuance NEPA will be evaluated over the implementation-life of the LMP in order to determine their value for re-stocking, altering management, or closure and dedication to other uses or values.

Rangeland Monitoring
Implementation monitoring, or annual short-term monitoring, determines whether or not guidelines and management practices are implemented. This will include, but is not limited to, annual allotment monitoring in order to determine if utilization guidelines have been achieved, range improvements have been constructed and/or maintained to standards, actual use has been reported by grazing permittees, and pasture rotations have been followed (per Annual Operating Instructions). Effectiveness monitoring will help managers evaluate whether or not desired conditions are being achieved. Validation monitoring will help managers evaluate whether or not the information upon which guidelines and objectives are based is valid and correct (USFS 1996). On-the-ground indicators identified in Colorado State Public Land Health Standards (BLM 1997) are a frame of reference for determining whether or not management changes are necessary on public lands. Grazing allotments undergoing NEPA analysis and effectiveness monitoring on grazing allotments with a current NEPA decision will be monitoring priorities.

Range Improvements
Range improvement projects (including fences, water developments, noxious weed treatments, etc.), will be implemented, as necessary, in order to move the program toward satisfactory condition of rangelands and/or address other resource concerns. These projects would be described in site-specific NEPA documents.

Program Objectives - Livestock and Rangeland Management

Q.1 By the end of FY 2009 and FY 2010, complete NEPA on all active BLM and USFS allotments (as guided by BLM permit renewal schedules and the USFS Rescissions Act of 1995). Conduct periodic reviews of analyses and decisions in order to ensure that NEPA-based decisions stay current and sustainable for all permitted livestock grazing.

Q.2 Annually, conduct prescribed monitoring activities on at least 10% of active allotments. Use the information to make adaptive changes to management. Implement adaptive management principles through allotment management planning decisions.

Q.3 Within 15 years, all suitable rangelands within the planning area experience satisfactory rangeland conditions.
MINERALS AND ENERGY

Program Emphasis

The minerals and energy program emphasizes the orderly and timely development of mineral and energy resources of the public lands in order to benefit the nation while, at the same time, protecting other resources. The potential for occurrence of mineral and energy resources within the planning area has been assessed, and this information is available to the public, government agencies, and industry. SJPL managers will respond to proposals from industry, and from the public, for exploration and development of mineral and energy resources in a timely manner. SJPL managers will foster the development of mineral and energy resources on the public lands in compliance with all applicable laws and policies, and with consideration for ecosystem health and sustainability.

Federally owned mineral resources are managed under three categories with differing sets of laws and regulations:

- **Locatable Minerals**: These are subject to claim under the Mining Law of 1872, as amended;
- **Mineral Materials/Common Variety**: These are disposable by discretionary direct sale or free use; and
- **Leasable Minerals**: These are subject to lease under the Mineral Leasing Act of 1920, as amended.

Locatable minerals (including precious and base metals), mineral materials (including sand, gravel, and construction stone), and some leasable minerals (including coal, uranium and phosphate) are extracted by mining methods. Due to the similarity in development techniques and environmental effects, these minerals are discussed below as Solid Minerals. The leasable non-solid or “fluid” minerals category includes oil, gas and geothermal energy. Due to the differing methods and effects of development for these minerals, these minerals are discussed below as Oil and Gas Geothermal Energy.

The DLMP meets direction for the Federal oil and gas leasing program contained in the Federal Onshore Oil and Gas Leasing Reform Act of 1987. This Act and its implementing regulations require analysis and disclosure in the DLMP/DEIS of public lands available for oil and gas leasing, and the identification of specific lease stipulations to be applied to leases. It also gives authorization to the BLM for offering of USFS lands for oil and gas leasing. The DLMP does not approve the issuance of, or authorization for, surface-disturbing exploration or development of oil and gas leases. It will also implement the policies of the Energy Policy Act of 2005.

**Solid Minerals**

This part of the minerals and energy program emphasizes exploration, development, production, and reclamation activities for deposits of precious and base metals, as well as for certain valuable types of stone and rock. These minerals are “locatable,” that is, they are subject to claim under the Mining Law of 1872, as amended. Unless withdrawn by law or administrative order, the SJPL are open to entry for exploration and development of locatable minerals. Those SJPL containing valuable deposits of these minerals will be subject to purchase (patent). The public has a statutory right to explore for, and develop, this mineral resource. The surface management agency regulates locatable mineral exploration and development activity. SJPL managers will process all Notices of Intent to Operate, and Operating Plans, within statutory time limits; resolve all non-compliant surface uses of mining claims under applicable law and policy; process applications for mineral patent when current legal constraints are removed; and accomplish withdrawal of public lands from mineral entry where other resource values or uses are determined to be incompatible with, and of higher public need than, locatable mineral exploration and development.
Deposits of sand, gravel, and bulk stone are known as common varieties of mineral materials. These are considered to be part of the surface estate, disposable by sale or free use at the sole discretion of the SJPL managers.

Coal and some uranium deposits are subject to disposal by lease under the Mineral Leasing Act of 1920, as amended. Mineral leases for federally owned minerals will be issued by the BLM, in consultation with the USFS for NFS lands. Public lands within the planning area may not be leased or developed until the appropriate analysis under NEPA had been completed.

**Oil and Gas**

This SJPLC program emphasizes the orderly and environmentally responsible development of oil and gas (natural gas and carbon dioxide) deposits. These minerals are subject to disposal by lease under the Mineral Leasing Act of 1920, as amended. Mineral leases for federally owned minerals are issued by the BLM, with consultation with the USFS for NFS lands. This LMP implements direction (under the Energy Policy Act of 2005 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987) for leasing of public lands. USFS- and BLM-administered lands may not be offered for lease until the appropriate analysis under NEPA had been completed.

The DLMP/DEIS discloses the availability of public lands within the planning area for oil and gas leases, along with appropriate protective stipulations to be attached to leases (and under consent for BLM to offer USFS lands for lease). It does not issue leases or authorize surface disturbance. Those stages will require future NEPA analysis and decision.

**Geothermal Energy**

This SJPL program emphasizes the orderly and environmentally responsible development of geothermal steam as an energy source. Geothermal energy is subject to lease under the Mineral Leasing Act of 1920, as amended. Mineral leases for federally owned geothermal energy will be issued by the BLM, in consultation with the USFS for NFS lands. Public lands within the planning area may not be leased or developed until the appropriate analysis under NEPA had been completed.
DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS

Program Emphasis

Energy corridors have been incorporated into the DLMP as areas that are suitable in the West-Wide Energy Corridor (WWEC) Programmatic EIS for designation (under the Section 368 of the Energy Policy Act of 2005). These corridors are defined by a centerline and by a stated width that can be used for energy transmission projects. Within these areas, energy transmission projects would be an appropriate (suitable) use of land allocated to energy corridors. Project applicants would not be constrained to use an approved energy corridor, but would be encouraged to do so in order to streamline the regulatory process and/or reduce the timeframes that would be required in order to develop alternative alignment site proposals. Designating an energy corridor with a defined corridor centerline and width does not approve any specific project in the planning area. Specific energy projects will require a formal, agency-approved project right-of-way that will contain site-specific requirements. A ROW would occupy a smaller portion of any designated energy corridor, and the granting of a ROW will require site-specific environmental and engineering information.

Program Objectives - Designated Energy Corridors and Linear Energy Transmission Authorizations

R.1 Upon completion of the WWEC Programmatic EIS and ROD, designate a 1,320-foot wide corridor (as directed under Section 368 of the Energy Policy Act of 2005) with the centerline of the Trans-Colorado Natural Gas Pipeline.

R.2 Designate a 2,600-foot wide corridor (as directed under Section 368 of the Energy Policy Act of 2005) with a centerline following the Montrose/San Miguel County Line from the Tri-State Gas and Electric Nucla-Cahone 245 KV Electric Transmission line to the Trans-Colorado Natural Gas Pipeline Corridor upon completion of the WWEC Programmatic EIS and ROD (corridor is for electric transmission only).
ABANDONED MINE LANDS AND HAZARDOUS MATERIALS

Program Emphasis

The SJPLC will continue to update the inventory of abandoned mine sites within the planning area in order to identify, prioritize, and track reclamation needs and progress. Reclamation of abandoned mine lands will be prioritized based on the degree of threat to human health, the environment (especially to water quality), and public safety. Known physical hazards at abandoned mine land (AML) sites will be remediated, with the highest priority given to sites near high visitor use areas (including developed campgrounds and recreation areas), sites located near residences on adjacent private property, sites impacting water quality, and sites close to frequently traveled roads on the SJPL.

All mine reclamation and emergency response actions for releases of hazardous substances will be conducted in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Closure actions related to physical hazards will be conducted under NEPA. Precautionary measures will be taken in order to guard against releases and/or spills into the environment for all authorized USFS-and BLM-authorized management activities that involve hazardous materials or their use. Hazardous materials and waste management policies and controls will be integrated into all SJPL programs.

Program Objectives - Abandoned Mine Lands and Hazardous Materials

S.1 Annually, stabilize, rehabilitate, or restore 5 acres or more of abandoned mine lands on priority sites (as determined by SJPL managers and local stakeholders groups) in order to reduce heavy metals and other pollutants to area streams.

S.2 Annually, close or mitigate 1 or more abandoned mine site(s) that pose a high safety hazard to the visiting public and/or to employees.
LANDS AND SPECIAL USES

Program Emphasis

The lands program emphasizes several related activities, including land ownership adjustments, land use and access, and land withdrawals. Program emphasis includes:

- facilitation of the efficient and effective management of the public lands;
- ensuring that the wide and growing variety of demands by the public; commercial interests; State and other Federal agencies; and tribal and local governments are compatible with environmental protection;
- managing the legitimate needs for access to public and private lands, and
- meeting legal requirements for specific resource protection.

Program Objectives - Lands and Special Uses

T.1 Annually, survey and post 5 miles of boundary of special areas (including designated Wilderness Area lands).

T.2 Annually, survey and post 5 miles of property line adjacent to private land and boundaries, where trespass or encroachment is most likely.

T.3 Annually, acquire 2 new road and trail ROWs for high-priority access or to fill gaps in existing access to public lands.

T.4 Over the implementation-life of the LMP, review 100% of existing withdrawals by non-SJPL agencies and resolve all resulting need to continue, modification, or revocation withdrawals.

T.5 Within 5 years, cooperate in improvement of (and convey to appropriate county jurisdiction) 1 high-priority road within the planning identified as dominantly non-SJPL access use.
BACKGROUND

USFS- and BLM-administered lands are typically suitable for a variety of multiple uses (including outdoor recreation, range management, timber harvesting/production, and visitor enjoyment of terrestrial and aquatic wildlife habitat). Identification of areas generally suitable for various uses and activities is an important part of the strategy of this planning process, with the goal being the integration of social, economic, and ecological considerations into the LMP.

Lands are typically suitable for uses and activities unless one of the following conditions applies:

- use is prohibited by law, regulation, Executive Order, and/or agency resource management directives;
- use would result in substantial and permanent impairment of the productivity of the land or renewable resource; and
- use is incompatible with the desired conditions for the relevant portion of the planning area.

Suitability is described in two ways in this DLMP:

- **Suitability by Management Area (MA):** These mapped descriptions relate suitability to general uses and activities defined in each Management Area (non-contiguous land areas); and

- **Suitability by Program:** These descriptions of suitability relate uses and activities to the SJPLC-administered programs that accommodate them.

SUITABILITY BY MANAGEMENT AREA

Management Areas geographically define suitability for different uses and management activities. Activities and uses in MAs reflect the desired conditions found in Part 1 of the DLMP. MA uses and/or activities may be limited by unit-wide desired conditions and design criteria found in Parts 1 and 3. A description of MAs can also be found in Part 1 “GEOGRAPHIC AREA AND MANAGEMENT AREA DESIRED CONDITIONS.” Unless otherwise indicated, the most restrictive conditions would apply.

All lands within the planning area fall into one of seven different Management Areas (see Figure 10). These MAs provide a spectrum of management that ranges from little to no active management (as in MA 1 - Natural Processes Dominate) to heavily managed and highly altered areas (as in MA 8 - Highly Developed Areas).

To varying degrees, multiple uses would occur within all the MAs. MAs describe the level of management, investment and appearance of landscapes, and the suitable uses and activities that may occur within that area. For each MA, uses and activities are identified as either allowable, restricted, or prohibited.
The activities and use terms contained in the suitability tables for each MA are described below:

- **Wildland Fire Use**: Managing natural fires in order to achieve a management objective and/or a desired condition. Wildland fire is only part of an overall appropriate management response (which may be suitable in most MAs). The application of wildland fire use would always depend on site-specific conditions, current and predicted future weather, and fuel conditions.

- **Prescribed Burning**: Igniting fires in order to achieve a management objective and/or a desired condition. Managed active burning will be prescribed and monitored to burn at specified intensities over a defined area.

- **Mechanical Fuels Treatments**: This includes any method to masticate or thin vegetation by hand or by machine (including thinning with chainsaws or any commercial machine, shredder, chipper, or similar equipment).

- **Timber Production**: This involves the removal of wood fiber for commercial-utilization purposes. Harvesting for timber production purposes is scheduled and regulated.

- **Timbering Harvest as a Tool**: This involves the removal of wood fiber to achieve management objectives and/or desired conditions. If a MA is suitable for timber harvesting as a tool but not suitable for timber production, timber harvesting would only occur in order to achieve a management objective and/or a desired condition (including fuels reduction and/or wildlife habitat improvements).

- **Special Forest Products and Firewood for Commercial and Personal Use**: This includes firewood, Christmas trees, tree transplants, mushrooms, medicinal herbs, boughs, and cones. Commercial use would occur through a permitting process. Personal use (use not involving the sale of forest products) may require a permit.

- **Livestock Grazing**: This includes permitted livestock grazing (as authorized in designated areas, or allotments, under certain terms and conditions). Allotments contain lands determined to be both suitable and otherwise. Stocking rates shown on grazing permits would be based only on the suitable lands, as determined at the project level. (Suitability determinations are, by definition, general determinations derived from modeling exercises and are, by nature, approximations).

- **Recreation Facilities**: This includes infrastructure and structures placed on public lands for resource protection and/or for public enjoyment.

- **Motorized (Summer)**: This includes the use of motorized wheeled vehicles (including four-wheel drives, dirt bikes, and ATVs/ OHVs) during the year when the ground is not covered by snow.

- **Motorized (Winter)**: This includes the use of snowmobiles and other motorized winter vehicles during the snow-covered months.

- **Non-Motorized (Summer and Winter)**: This includes hiking, running, walking, horseback riding, cross-country skiing, snowshoeing, and/or other means of non-motorized recreation. Non-motorized use does not include mountain biking (which is included under “mechanized use”). Non-motorized use is generally suitable in most MAs.

- **Motorized Tools**: This includes tools involving internal combustion or electric motors (including the use of chainsaws for trail clearing, welding units, or generators). For some MAs, this use is specified for administrative use only (meaning personal or commercial use would not be generally suitable).

- **Mechanized**: This includes any wheeled vehicle (including mountain bikes, non-motorized carts, wheelbarrows, and other wheeled, non-motorized vehicles). For some MAs, this use is specified as limited to designated routes. This does not include wheelchairs suitable for use inside buildings.
• **Road Construction (Permanent or Temporary):** This includes the building of roads for a specified use or uses, either permanent or temporary.

• **Minerals - Leasable:** This would include oil and gas and other leasable minerals. This use would be permitted through site-specific analysis. Suitability for minerals leasable describes lease stipulations that may apply, and may then be made as part of a lease.

• **Timing Limitation Stipulation (TL) (Seasonal Restriction):** This includes the prohibition of surface-use during specified time periods in order to protect identified resource values. A TL would be used, when necessary, in order to restrict exploration activities on leased lands for a period of time greater than 60 days.

• **Controlled Surface Use (CSU):** This includes the allowance of use and occupancy (unless restricted by another stipulation). However, identified resource values would require special operational constraints that may modify the lease rights. CSU stipulations would be used for operating guidance, not as a substitute for NSO or TL stipulations.

• **No Surface Occupancy (NSO):** This includes the prohibition of use or occupancy of the land surface for fluid-mineral exploration or development in order to protect identified resource values. Even though NSO stipulations would prohibit surface occupation for exploration or development of oil and gas resources, the subsurface resources would be legally available if they could be accessed by means other than by occupying the surface specified in the NSO stipulation. Leasing an area with an NSO stipulation, rather than declaring it “not administratively available” for leasing, may allow for development through directional drilling if adjacent lands are available for leasing with surface occupancy or are privately owned.

• **Mineral - Saleable:** This includes gravel and decorative rock, which is permitted for commercial or personal use.

• **Minerals - Locatable:** This includes minerals that are subject to claim under the Mining Law of 1872 that are open to entry for exploration and development (unless withdrawn by law).
Figure 10 - Management Areas (MAs)

San Juan Public Lands
Management Areas

Legend
1 - Natural Processes Dominate: Designated Wilderness, Wilderness Study Areas and Backcountry Areas
2 - Natural Processes Dominate - Other Areas
3 - Natural Landscapes with Limited Management
4 - High Use Recreation Emphasis
5 - Active Management
6 - Public and Private Land Intermix
7 - Highly Developed Areas
8 - USFS/BLM - Ranger Districts / Field Office Boundaries
9 - San Juan National Forest Boundary
10 - Cities and Towns
11 - Major Lakes
12 - Major Rivers
13 - State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial data without notification.

NAD 83, Polyconic Projection
October 29, 2007
### SUITABILITY BY MANAGEMENT AREA (MA)

**MANAGEMENT AREA 1 (MA 1) - NATURAL PROCESSES DOMINATE**

#### Table 10 - Management Area 1 Suitability

<table>
<thead>
<tr>
<th>ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Mechanical Treatments would generally involve the use of hand-portable tools and generally be applied only in areas outside designated wilderness and Wilderness Study Areas (WSAs).)</td>
</tr>
<tr>
<td>Timber Harvesting as a Tool</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Motorized tools may be used in the Piedra Area and in areas outside of designated wilderness and WSAs.)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted (Mountain bikes are suitable in MA 1 landscapes outside of designated wilderness and WSAs.)</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (Designated Wilderness and the Piedra Area are withdrawn from mineral leasing. WSAs are administrative not available for mineral leasing. A NSO Stipulation would be applied to IRAs outside of designated Wilderness and WSAs.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (Designated Wilderness, the Piedra Area, and WSAs are withdrawn from locatable mineral entry. Limited road access and other constraints may increase the cost and complexity of locatable mineral exploration in other MA 1 lands.)</td>
</tr>
</tbody>
</table>
 MANAGEMENT AREA 2 (MA 2) - SPECIAL AREAS AND UNIQUE LANDSCAPES

These areas possess one or more special features or characteristics that make them, and their management requirements, unique from other areas within the planning area. As a result of this, suitability differs for each specific MA 2. Suitability for each MA 2, along with other specific guidance, is described later in this document, in the Special Areas and Unique Landscapes Section.

Management Area 3 (MA 3) - Natural Landscapes, with Limited Management

Table 11 - Management Area 3 Suitability

<table>
<thead>
<tr>
<th>ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
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<tr>
<td>Prescribed Burning</td>
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<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
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<tr>
<td>Timber Harvesting as a Tool</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Allowable</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Restricted (Facilities in MA 3s may be suitable to minimize resource impacts. Facilities for user convenience are not emphasized.)</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted (Summer motorized travel may occur in some MA 3 locations on designated routes.)</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted (Over-snow motorized travel may occur in some MA 3 locations.)</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted (Temporary roads construction may occur in some MA 3 locations in order to achieve hazardous fuels reduction and/or restoration objectives.)</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (NSO stipulations will be applied to IRAs within MA 3 landscapes. CSU and TL stipulations may be applied to specific locations, as necessary, in order to mitigate resource impacts.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Restricted (Limited road access and other constraints in MA 3 landscapes may limit or preclude mineral collection.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (Limited road access and other constraints may increase the cost and complexity of locatable mineral exploration in MA 3s.)</td>
</tr>
</tbody>
</table>
### MANAGEMENT AREA 4 (MA 4) - HIGH-USE RECREATION EMPHASIS

**Table 12 - Management Area 4 Suitability**

<table>
<thead>
<tr>
<th>ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
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<td>Prescribed Burning</td>
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<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting as a Tool</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Restricted (Key areas for cone, mushroom, and other gathering, and commercial firewood collection can be beneficial.)</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Facilities</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
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<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
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</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>NL</td>
</tr>
<tr>
<td>Minerals - Saleable</td>
<td>Restricted (Developed recreation facilities are proposed to be withdrawn from mineral entry.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (Developed recreation facilities are proposed to be withdrawn from mineral entry.)</td>
</tr>
</tbody>
</table>
### Table 13 - Management Area 5 Suitability

<table>
<thead>
<tr>
<th>ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting as a Tool</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Allowable</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Facilities</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (Depending on the area, leasable minerals may be stipulated in order to protect or mitigate impact to specific resources.)</td>
</tr>
<tr>
<td>Minerals - Saleable</td>
<td>Restricted (Depending on the area, saleable minerals may be stipulated in order to protect or mitigate impact to specific resources.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Allowable</td>
</tr>
</tbody>
</table>
### Table 14 - Management Area 7 Suitability

<table>
<thead>
<tr>
<th>Activities and Uses</th>
<th>Allowable - Restricted - Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting as a Tool</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Allowable</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (Depending on the area, leasable minerals may be stipulated in order to protect or mitigate impact to specific resources.)</td>
</tr>
<tr>
<td>Minerals - Saleable</td>
<td>Restricted (Depending on the area, saleable minerals may be stipulated in order to protect or mitigate impact to specific resources.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Allowable</td>
</tr>
</tbody>
</table>
### Table 15 - Management Area 8 Suitability

<table>
<thead>
<tr>
<th>ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting as a Tool</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>May be restricted</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>May be restricted</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>NSO</td>
</tr>
<tr>
<td>Minerals - Saleable</td>
<td>Restricted (Depending on the area, saleable minerals may be stipulated in order to protect or mitigate impacts to specific resources.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (MA 8s contain a provision for assessing the affected area for future mineral withdrawal.)</td>
</tr>
</tbody>
</table>
SUITABILITY BY PROGRAM

In some cases, suitability varies within a Management Area for a particular activity or use. For example, motorized use of existing roads and trails is allowed in some Management Area 3 locations, but not others. Another example is that timber production (commercial timber harvesting) is generally allowed in Management Area 5s, but not on steep slopes or unstable soils. Suitability direction not contained in the Management Areas is discussed by program, below.

MOTORIZED TRAVEL SUITABILITY

Within each MA suitability section, motorized suitability has been generally defined (see Figures 11 and 12). The MA boundaries were also a factor used in the development of the over-ground and over-snow motorized suitability maps. The travel suitability maps identified within this planning process identify areas that are generally suitable for designation of routes for both over-ground and over-snow motorized use. Some of the criteria for the eventual selection of specific routes may include the need for access, proximity to private property, desired recreation opportunities, erosion potential and slope, resource protection, route density, and wildlife habitat considerations. Suitability maps have been developed separately for over-ground motorized travel and for over-snow motorized travel. These suitable areas will be used as a framework in subsequent route-by-route motorized designations.

Over-ground motorized suitability is divided into three classes: 1) unsuitable, 2) suitable, and 3) suitable opportunity areas. Unsuitable areas are IRAs and/or areas that are not conducive to road system development for resource, wildlife habitat, and/or constructability reasons. Suitable areas are those that have an existing developed road and/or motorized trail system that adequately serves the recreation and resource access needs of the particular area. Suitable areas would not generally be considered for expansion of the transportation system. Suitable opportunity areas are those that may have an existing road and/or motorized trail system; however, there is a potential that this system may be improved by connecting existing roads or trails in order to create loop opportunities using existing unauthorized roads or trails, or by adding relatively short road or trail segments.

The over-ground motorized suitability provides a framework for subsequent route-by-route designation occurring outside of this LMP. A separate travel management planning process will be conducted under the framework of the Forest Service’s 2005 Travel Management Rule (which will work towards making route designations that conform to the suitability classifications defined in this DLMP/DEIS).

Over-snow motorized suitability is divided into two classes: 1) unsuitable, and 2) suitable. Unsuitable areas include regulated areas, Wilderness Areas, WSAs, and most RNAs. Areas utilized as critical winter habitat may also be determined as unsuitable for winter motorized use. In determining suitability for over-snow motorized uses, consideration was given to the availability of parking/staging areas and to the potential of reducing user conflicts. Due to the rapid progress in technology and capabilities of over-snow recreational vehicles, topography was not a consideration in determining suitability unless there was a related resource or wildlife concern.

The over-snow motorized suitability analysis is being evaluated as part of this planning process, and the finalized over-snow suitability area boundaries will be implemented upon adoption of the final approved LMP. However, implementation of closures will require subsequent NEPA analysis.
Figure 11 - Proposed Over-Ground Travel Suitability

San Juan Public Lands
Proposed Over-Ground Travel Suitability

Legend
- 1 - Unsuitable
- 2A - Suitable: Designated, Authorized or System Roads and Trails
- 2B - Suitable: Opportunity Areas
- USFS/BLM: Ranger Districts / Field Office Boundary
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct or delete or modify geospatial inputs without notification.

NAD 83, Polyconic Projection
October 29, 2007
Figure 12 - Proposed Over-Snow Travel Suitability

San Juan Public Lands
Proposed Over-Snow Travel Suitability

Legend:
1 - Unsuitable: Designated Wilderness, Wilderness Study Areas and Piedra Area
2 - Suitable
USFS/BLM - Ranger Districts / Field Office Boundary
Cities and Towns
Major Lakes
Major Rivers
State & Federal Highways

The USFS and BLM attempt to use the most current and complete geodatabase data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.

JET
NAD 83, Polyconic Projection
October 29, 2007
TIMBER SUITABILITY

The timber suitability maps (see Figure 13 - Tentatively Suitable Timber) display areas where timber harvesting could occur. These lands are designated as:

- **Lands Suitable for Timber Production (FSH 2409.13, Chapter 20):** These occur where timber production is compatible with desired conditions and objectives. These lands are in MA 5s where timber harvests will occur on a regulated, scheduled basis.

- **Other Lands (FSH 2409.13, Chapter 20):** These lands are considered not suitable for timber production. Timber harvest may occur on these lands for purposes other than for timber production, but is not scheduled or regulated. If timber harvest occurs on these lands, it is must be for the purpose of meeting other desired conditions and/or objectives (such as fuels reduction or wildlife habitat improvement). These lands are found in MAs 3, 4, 7, 8, and in some MA 2s.

Table 16 summarizes the timber suitability classification.

**Table 16 - Timber Suitability Classification**

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>ACRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for Timber Production</td>
<td>313,812</td>
</tr>
<tr>
<td>Other Lands</td>
<td>395,979</td>
</tr>
<tr>
<td>Lands Not Suitable</td>
<td>1,564,210</td>
</tr>
</tbody>
</table>
Figure 13 - Tentatively Suitable Timber

San Juan Public Lands
Timber Suitability
Alternative B

Legend
- Lands Suitable for Timber Production
- Other Tentatively Suitable Lands Where Timber Harvest May Occur
- Lands Generally Not Suitable for Timber Production or Harvest
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- State Lands
- Other Lands
- USFS/BLM – Ranger Districts / Field Office Boundary
- Forests
- City and Towns
- Major Lakes
- State and Federal Highways
- Major Rivers

The USFS and BLM attempt to use the most current and complete geographical data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify spatial results without notification.

NAD 83, Polyconic Projection
October 29, 2007
LIVESTOCK GRAZING SUITABILITY

Using the processes described in the BLM’s Land Use Planning Handbook (H-160-1) and the USFS’s Region 2 Desk Guide, a suitability analysis was conducted in order to meet the intent of 36 CFR 219.20 (a) (See Figure 14 - Suitable Cattle Lands and Figure - 15 Suitable Sheep Lands). This process is a general modeling process and is limited in precision and accuracy. It provides a determination of areas generally suitable for livestock grazing. The determination may be refined at the project level, if doing so will provide improved information to managers; however, it is not required at that level.

The analysis determined that of the 502,154 acres of BLM lands in the planning area, approximately 61% (304,929 acres) are suitable and capable for cattle, and approximately 64% (321,782 acres) are suitable and capable for sheep. Of the 1,862,769 acres of USFS lands in the planning area, approximately 52% (963,607 acres) are suitable and capable for cattle, and approximately 59% (1,107,158 acres) are suitable and capable for sheep.

Table 17 displays the Animal Unit Months (AUMs) available within BLM lands administered by the SJPLC (a similar determination is not required on USFS-administered lands because AUMs under term-grazing permit are determined on an allotment-by-allotment basis; therefore, they can vary according to management, and rangeland condition and trend).

Table 17 - AUMs Available on BLM Lands Administered by the SJPLC

<table>
<thead>
<tr>
<th>LIVESTOCK CLASS</th>
<th>BLM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>22,100</td>
</tr>
<tr>
<td>Sheep</td>
<td>2,204</td>
</tr>
<tr>
<td>Total</td>
<td>24,304</td>
</tr>
</tbody>
</table>
Figure 14 - Cattle Grazing Suitability

San Juan Public Lands
Lands Suitable and Available for Cattle Grazing

Legend
- Lands Suitable and Available for Cattle Grazing
- Lands Unsuitable for Cattle Grazing
- USFS/BLM - Ranger Districts / Field Office Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patented Lands
- State Lands
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, obviate or modify geospatial data without notification.

NAD 83, Polyconic Projection
October 29, 2007
Figure 15 - Sheep Grazing Suitability

San Juan Public Lands
Lands Suitable and Available for Sheep Grazing

Legend
- Lands Suitable and Available for Sheep Grazing
- Lands Unsuitable for Sheep Grazing
- USDA/BLM - Ranger Districts / Field Office Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patented Lands
- State Lands
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial data without notification.

NAD 83, Polyconic Projection
October 29, 2007
WATER DEVELOPMENT SUITABILITY

Water development is normally a suitable use for USFS-administered lands, and an allowable use for BLM-administered lands. New water development would be suitable for MA 4s, 5s, 7s, or 8s when water development can occur when, and where, it is compatible with other desired conditions and objectives for the area.

In most cases, MA 1s are not suitable for new water development because natural processes, natural settings, and/or relatively pristine characteristics are central to the desired conditions of the areas.

Suitability of MA 2s for new water developments depends upon the specific characteristics that the area management emphasizes or protects.

The suitability of MA 3s for new water development depends upon compatibility with the particular area’s guidance for road construction, motorized use, scenic quality, and ecological sustainability. Project-level decisions will address compatibility, as well as the ability of the project to sustain natural hydrologic regimes in determining suitability for new water development in MA 3.

MINERALS AND ENERGY SUITABILITY

The SJPL contains both known (historic and current) and potential (geologically favorable) areas for the occurrence of valuable mineral deposits and energy resources. An assessment of the San Juan National Forest portion of the SJPL was completed by the US Bureau of Mines (Neubert, 1992) and updated by the Forest Service (Van Loenen and Gibbons, 1994). The 1994 update included the results of field studies, literature review, sample collection and analysis, mine site visits, and review of Forest Service data. An assessment focusing on oil and gas potential and development was completed for the SJPL for this Plan, incorporating and updating the earlier report results (Gault Group, 2006).

Solid Minerals

Locatable Minerals
Most Locatable Minerals (such as precious and base metals, uranium, certain types of limestone), Mineral Materials (sand, gravel, and construction stone), and some Leasable Minerals (coal) are extracted by mining methods. Because of the similarity in development techniques and environmental effects, these minerals are discussed as Solid Minerals. The nonsolid or Fluid Leasable Minerals category includes oil, gas, and geothermal energy. Because of the differing methods and effects of development for these minerals, Oil and Gas and Geothermal Energy are discussed in separate sections below.

SJPL lands which have moderate to high potential for the occurrence of locatable mineral deposits include the Slick Rock/Dove Creek area (also known as the Uravan Mineral Belt; uranium, vanadium); the Rico-Dunton area (gold, silver, lead, zinc, copper); the La Plata Mountains (the California Mining District; silver, gold, lead, copper); the Silverton area (silver, gold, lead, zinc, copper); and the Needle Mountains (silver, gold, copper, uranium). Most locatable mineral sites are historic and not currently active. Only the Slick Rock/Dove Creek area and the Silverton area have ongoing lode claim mining activity. The Slick Rock/Dove Creek area also has activity on Department of Energy Uranium Leasing Program lease tracts on withdrawn public land. There are active placer mining claims along Mineral Creek and the Animas River downstream from Silverton, Cascade Creek below the La Plata Mountains, and Dolores River downstream from Rico.
High to moderate locatable mineral potential also occurs within the Lizard Head Wilderness (Mount Wilson/Navajo Basin area), the Weminuche Wilderness (Piedra headwaters area), and the South San Juan Wilderness (Quartz Creek area) (Van Loenen et al. 1997); but these areas are withdrawn from mineral entry under terms of the Wilderness Act of 1964 and cannot be claimed or developed unless there are valid existing rights.

The most important SJPL locatable mineral commodities, in descending order of number of claims filed, are uranium, vanadium, base metal (lead, copper, and zinc), silver, and gold. Base and precious metals were historically the most valuable of the locatable minerals, but today represent only a minor part of the current activity. The growing level of interest in uranium indicates the importance of energy development in the region today; vanadium likewise is of modern interest as a critical metal for hardening steel.

Limestone valuable for chemical and industrial use is locatable. No development is currently active on SJPL, but deposits of suitable limestone occur across SJPL. The Animas River Valley contains the most significant and accessible resources. Past proposals to mine this material led to withdrawal of deposits to protect scenic values along the US 550 highway corridor.

The suitability of SJPL for locatable mineral entry, a statutory right, is not directly affected by management areas. Management areas do not close suitable areas to mineral entry without further analysis and decision-making and withdrawal of an area from locatable mineral development. Potential availability, access and operating constraints may vary by management areas. Lands that are within MAs 1 and 8 contain provisions that are not generally compatible with mineral resource development; MA1 areas which are recommended in the Plan for designation as wilderness would require withdrawal from mineral location and leasing, to be pursued under a separate analysis and decision process. MA2 requires a specific management plan to be prepared, which may include an assessment for locatable mineral withdrawal, should the resources or values identified under that Management Area be incompatible with mineral activity. MA3 includes limitations on road density and motorized travel, as well as other constraints, that may increase the cost and complexity of locatable mineral exploration and development. MA4 includes an emphasis on recreational values and development, again with constraints that may affect the cost of mineral activity or support a proposal for withdrawal of the affected area. MA5 and MA7 would not materially affect availability of lands suitable for locatable mineral activity. MA8 areas would likely be recommended for locatable mineral withdrawal.

**Mineral Materials**

Other solid minerals such as mineral materials (gravel and stone) and coal are extracted by mining methods, but are not subject to claim under the Mining Law. Mineral materials are disposed of under discretionary sale authority. Coal deposits are developed under a federal leasing program.

Mineral materials, also referred to as “Salable” and “Common Variety” minerals, are generally low-value deposits of sand, clay, and stone used for building materials, aggregate, bulk fill, rip-rap, road surfacing, decoration, and landscaping. Disposal of these materials is discretionary; the public does not have a statutory right to these materials.

Deposits of limestone and aggregates were developed to build railroads, roads, and provide a source for concrete along with clay for brick and ceramics. Today, common variety mineral (e.g., sand and gravel) development continues to be important in the subregion and the surrounding western states.

SJPL has conducted an assessment of the potential for occurrence of mineral material deposits (Van Loenen et al. 1997), as summarized below.
Areas with known resources or are favorable for resources of sand and gravel may contain material ready for use, or suitable for screening, washing, or crushing to meet size or fine-material requirements. Areas of Quaternary age alluvium, colluvium and glacial drift, and areas of river terrace deposits, contain sand and gravel suitable for use with minimal treatment. Talus slopes of Late Cretaceous and Tertiary age igneous rock produce material suitable for crushing, lightweight aggregate, and dimension stone. Late Cretaceous and Tertiary age igneous intrusives produce dimension stone and large aggregate. Late Cretaceous sedimentary rock produces dimension stone and aggregates.

Large boulders occur across SJPL in stream deposits, glacial drift, and till, landslides, and floodplains. Most are found at higher elevations and those closest to existing roads are primary targets for purchase.

Unlike most locatable minerals, mineral material resources occur as a result of erosion, deposition, or exposure of widespread geological formations (rock types or layers). Common sites for natural concentrations of small to large amounts of such materials are canyon walls, stream channels, talus slopes, landslides, ancient river terraces, glacial moraines, and floodplains. Road cuts, quarries, and pits increase the amount of material available for extraction.

SJPL has about 20 currently active sand and gravel sites. Because of the informal nature of many borrow pits and lack of reporting, it is likely that this number does not include all sites. Because most mineral materials are collected from road cuts, stream channel banks, or alluvial deposits, the sites typically are located in valley bottoms. Ute Creek, the Animas River, and San Juan River above Pagosa Springs have active sites.

Current mineral material collecting areas are along roads and in areas of natural accumulation of rock (glacial deposits, talus slopes, weathered outcrops). Quarries on SJPL may be developed by private or commercial parties, or local, state or federal agencies.

The suitability of SJPL for the production of mineral materials is affected by management areas. MA1 is closed for mineral material collection. MA2 requires a specific management plan to be prepared, which may include criteria for collection of mineral materials or a closure to such collection, based on the special area management plan. MA3 includes limitations on road density and motorized travel, as well as other constraints, that may limit or preclude mineral material collection. MA4 emphasizes recreation and associated development, potentially resulting in constraints that may limit or preclude mineral material collection. MA5 and MA7 would not materially affect availability of lands suitable for this mineral activity. MA8 emphasizes urban interface uses, which may be compatible with mineral material collection, especially supported by short haul distances to use sites.

**Solid Leasable Minerals**

**Coal**

Coal beds crop out along the margins of the Paradox and San Juan basins in SJPL. These outcrops are of late Cretaceous and early Tertiary age.

Historically, small underground and surface mines to support local markets followed the northern edge of the San Juan Basin between Durango east to Pagosa Springs (more or less along the U.S. Highway 160 corridor). These mines and related prospects are largely abandoned. There are currently six coal mines operating in or adjacent to SJPL, four of which are located immediately west of Durango and two of which are located between Durango and the Piedra River. More recently, large-scale mines have been developed in the region outside of SJPL to feed regional power generation needs.
Coal Unsuitability Assessment

Under the terms of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), the SJNF and BLM conducted Coal Unsuitability Assessments to determine the suitability of lands for surface coal mining leasing and development operations. Twenty Unsuitability Criteria and appropriate Exceptions and Exemptions were applied to the Durango, East Cortez and Menefee Known Recoverable Coal Resource Areas (KRCRA) as identified by the U.S. Geological Survey. In summary, 13,400 acres (9%) of the Durango KRCRA, 720 acres (25%) of the East Cortez KRCRA, and 80 acres (100%) of the Menefee KRCRA were identified as unsuitable for surface coal mining operations. Based on the Unsuitability Assessments (BLM RMP 1985; SJNF LRMP 1983), 46,000 acres (31%) of the Durango KRCRA are identified as acceptable for further consideration for coal leasing, with an estimated reserve of 1.5 billion tons. One existing surface coal mine in the Durango KRCRA (Chimney Rock Coal Mine) with operations on both NFS and BLM lands was already in the lease extension application process during the Unsuitability Assessments. This application was denied for environmental reasons in 1985. Operations at the mine were terminated and the mine site has been reclaimed. No new coal lease applications have been received by SJPL since the completion of the Unsuitability Assessments.

SJPL has reviewed the existing BLM and FS Coal Unsuitability Assessments for this Plan Revision and found that the need does not exist to revise the Assessments. Acquisition of more detailed information will not affect the results; there have been no public comments or petitions to change the results; there has been no substantial governmental review of the Federal Coal Management Program; and SJPL has not received applications for coal leases or proposed coal mining operations for the affected KRCRA’s. The results of the 1983 FS and 1985 BLM Coal Unsuitability Assessments are incorporated and included by reference in this Plan Revision.

Fluid Leaseable Minerals

Oil and Gas

Oil and gas deposits occur in sedimentary basins throughout the SJPL. Areas of significant potential or known reserves and production are: the Paradox Basin area (roughly the lands west of the Dolores River- high, moderate and low for oil and conventional gas); the Northern San Juan Basin (approximately the area south of U.S. Highway 160 between Durango and Chimney Rock- high for coal-bed methane, moderate for conventional gas); and the San Juan Sag (the area east of Pagosa Springs- high for oil). The central area of the SJPL from the north rim of the San Juan Basin north to Silverton has no known oil and gas potential (See Figure 16).

Development and production is underway in the Paradox Basin area north of Cortez, with limited exploration occurring east and south of Cortez. Significant development and production is underway and planned in the San Juan Basin. Exploration is intermittent in the San Juan Sag, with no production to date or planned. Please refer to the Chapter 3 DEIS for the full report of the reasonable foreseeable development scenario.

Oil and Gas Leasing Availability Decision

The NEPA analysis for this Plan includes analysis necessary for offering specific lands for lease. The analysis discusses the availability of SJPL for oil and gas leases. In addition, it describes necessary protective stipulations to be attached to leases on National Forest-administered surface, BLM-administered surface, and non-federal surface where the oil and gas estate is owned by BLM. This Plan does not authorize surface disturbance for oil and gas exploration or development. Surface-disturbing activities on leases will require additional NEPA analysis and decisions. The oil and gas leasing decision in this Plan will not apply to existing oil and gas leases. When those existing leases expire or terminate, the leasing decision in this Plan will apply to any new leases issued.
San Juan Public Lands
Favorable Oil and Gas Resource Potential Summary and Potential High Development Areas

Figure 16 - Favorable Oil and Gas Resource Potential and Potential High Development Areas

Legend
Oil and Gas Potential
- QM High
- High
- High-Moderate
- Moderate
- Low
- None

Potential High Development Area
USFS/BLM - Ranger Districts / Field Office Boundary
Cities and Towns
Major Lakes
Major Rivers
State & Federal Highways
Figure 17 - Oil and Gas Leasing Stipulations

San Juan Public Lands
Oil and Gas Leasing Stipulations

Legend
Revised Oil and Gas Stipulations
- Withdrawn From Leasing
- Proposed For Withdrawal
- Administratively Not Available For Leasing
- No Surface Occupancy
- Controlled Surface Use
- Controlled Surface Use and Timing Limitations
- Timing Limitations
- Standard Stipulations
- USFS/BLM - Ranger Districts / Field Office Boundary
- San Juan National Forest
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for either their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial data without notification.

NAD 83, Polyconic Projection
November 8, 2007
The availability of SJPL lands for oil and gas leasing and development is affected by management areas. MA1 includes a provision for making lands administratively unavailable for lease or for leasing with a No Surface Occupancy stipulation, which requires mineral production from outside the affected area. Mineral development compatibility in MA 2 areas is dependent on the resource values emphasized and the management direction for each MA 2 area. MA3 includes limitations on road density and motorized travel, as well as other constraints, that may allow leasing but may limit or preclude oil and gas exploration or development. MA4 includes an emphasis on recreational values and development with constraints that may allow leasing but may limit or preclude oil and gas exploration or development. MA5 and MA7 would not materially affect availability of lands suitable for this mineral activity. MA8 emphasizes urban interface uses, which may allow leasing but may limit oil and gas exploration or development.

**Stipulations**

All SJPL oil and gas leases are subject to standard lease terms. These are the least restrictive terms under which an oil and gas lessee may operate. They meet Energy Policy Act direction to encourage development of federal energy resources. They require operators of oil and gas leases to minimize adverse impacts to air, water, land, visual, cultural, and biological resources and to other land uses and users, and to comply with all applicable laws, regulations and formal orders of the agency managing the leased lands. With the exceptions noted below, leases with standard lease terms allow year-round occupancy and use of leased lands. These leases provide full access and the highest potential for discovery and development of oil and gas resources. They also contain the greatest uncertainty for lease operators because some potentially restrictive conditions may not be known until a site-specific field review of the leased lands is conducted. This generally does not occur until an application for a permit to drill is submitted. Lease notices may be included to warn a potential lessee of the likelihood of such conditions, but the extent and restrictive nature of the conditions is still not known at the lease issuance stage. Operations may be prohibited on the affected parts of the lease, or costs may substantially increase due to protective measures required to protect the resource.

Standard lease terms (regulations at 43 CFR 3101.1-2) allow the SJPL (acting through the BLM or FS) to mitigate potential resource effects by moving the proposed drill site up to 200 meters, or delaying proposed operations by up to 60 days. If these provisions will not accomplish the required resource protection, special lease stipulations are necessary.

**Special Lease Stipulations**

Special lease stipulations are applied to an oil and gas lease if additional restrictions on the rights of lessees are required to protect environmental resources. Stipulations that would be applied to new oil and gas leases under this Plan are described Appendix H Resource Management Stipulations for New Oil and Gas Leases. Areas included within the various stipulations are shown on Figure 17 Oil and Gas Leasing Stipulations.

Guidelines for application of special lease stipulations for BLM and FS lands are contained in the Uniform Format for Oil and Gas Leasing Stipulations (Rocky Mountain Regional Coordinating Committee, March 1989). Special lease stipulations for oil and gas operations are imposed at the time of lease issuance. Three stipulations are used for oil and gas leases within the SJPL:

- **No Surface Occupancy (NSO):** Use or occupancy of the land surface for fluid mineral (oil and gas) exploration or development is prohibited to protect identified resource values. However, oil and gas under lands affected by NSO stipulation are legally available for extraction if extraction can be accomplished without occupying the surface (such as through directional drilling or draining the deposit from adjacent lands). Technological limitations and higher cost will affect the recovery of these resources, but they are available. Leasing with NSO meets Energy Policy Act direction to encourage development of federal energy resources.
The NSO stipulation is intended for application only where the SJPL determines that the standard lease terms are insufficient to provide the level of resource protection necessary to protect the public interest. An NSO stipulation is not needed if the desired level of protection can be accomplished by relocating a proposed facility or activity within the lease area or by avoiding that activity for a specified period.

The equivalent of an NSO for BLM land uses and activities other than oil and gas development is a NGD (No Ground Disturbance).

- **Controlled Surface Use (CSU):** Use or occupancy of the land surface for fluid mineral (oil and gas) exploration or development is allowed (unless restricted by a Timing Limitation (TL) stipulation), but identified resource values require special operational constraints that may modify lease rights. A CSU stipulation allows the SJPL to require that a proposed facility or activity be relocated by more than 200 meters from the proposed location if necessary to achieve the desired level of protection. CSU provides operating guidance, but does not substitute for NSO or TL stipulations. CSU allows year-round occupancy and accessibility to leased lands while providing mitigation of effects on other resources. Leasing with CSU meets Energy Policy Act direction to encourage development of federal energy resources.

  The CSU stipulation is intended for application where the SJPL determines the standard lease terms are insufficient to protect the public interest, but where an NSO is deemed overly restrictive. A CSU is not needed if relocating the proposed facility or activity by up to 200 meters would provide sufficient resource protection.

  The equivalent of a CSU for BLM land uses and activities other than oil and gas development is a SSR (Site-Specific Relocation).

- **Timing Limitation (TL):** Use or occupancy of the land surface for fluid mineral (oil and gas) exploration or development is prohibited during a specified period of the year. The scope of the TL stipulation goes beyond ground-disturbing activities to encompass any source of protracted or high-intensity disturbance that could interfere with normal wildlife behavior and adversely affect habitat use. The limitation is applied annually for a specified period lasting more than 60 days. The TL stipulation does not apply to the operation and maintenance of production facilities unless the analysis demonstrates the continued need for such mitigation and that less stringent project-specific mitigation measures (such as Conditions of Approval) would not be sufficient. The TL allows the SJPL to restrict exploration operations on leased lands for more than 60 days. The TL stipulation provides for partial accessibility for a portion of the year and maintains the potential for extraction of oil and gas, but may increase costs due to timing constraints (such as a short operating season). Leasing with TL meets Energy Policy Act direction to encourage development of federal energy resources.

  A TL stipulation is intended for application where the SJPL deems that standard lease terms are insufficient to protect the public interest, but where an NSO is overly restrictive. A TL is not needed if restricting the proposed operations by up to 60 days would provide sufficient resource protection.

Table 18 displays the availability of SJPL by acres of land for leasing and application of stipulations to leases. BLM acres are listed separately for BLM surface ownership and non-federal surface ownership. Figure 17 displays a map of the specific areas where stipulations will be applied to SJPL oil and gas leases issued under this Plan.
### Table 18 - Acres Available for leasing and Lease Stipulations

<table>
<thead>
<tr>
<th>FEDERAL MINERAL STATUS</th>
<th>ACRES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Forest (BLM Mineral &amp; Forest Service Surface Estate)</strong></td>
<td></td>
</tr>
<tr>
<td>Total National Forest, SJPL</td>
<td>1,873,427</td>
</tr>
<tr>
<td>Withdrawn from Leasing (designated Wilderness, Piedra Area)</td>
<td>480,953</td>
</tr>
<tr>
<td>Recommended for withdrawal from leasing (recommended Forest Service Wilderness, recommended suitable Wild River segment)</td>
<td>67,726</td>
</tr>
<tr>
<td>Wild River segment</td>
<td></td>
</tr>
<tr>
<td>Administratively Unavailable for Leasing</td>
<td>20,371</td>
</tr>
<tr>
<td>Total National Forest Available for Leasing</td>
<td>1,304,377</td>
</tr>
<tr>
<td>Available for Leasing with No Surface Occupancy Stipulation</td>
<td>741,524</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use Stipulation</td>
<td>248,636</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use &amp; Timing Limitation Stips.</td>
<td>77,176</td>
</tr>
<tr>
<td>Available for Leasing with Timing Limitation Stipulation</td>
<td>69,935</td>
</tr>
<tr>
<td>Available for Leasing with Standard Lease Terms</td>
<td>167,106</td>
</tr>
<tr>
<td><strong>BLM Public Lands (BLM Surface &amp; BLM Mineral Estate)</strong></td>
<td></td>
</tr>
<tr>
<td>Total BLM Surface &amp; Mineral Public Lands, SJPL</td>
<td>504,259</td>
</tr>
<tr>
<td>Administratively Unavailable/Deferred from Leasing (BLM Wilderness Study Area, Gunnison Sage Grouse habitat)</td>
<td>64,956</td>
</tr>
<tr>
<td>Total BLM Surface &amp; Mineral Public Lands Available for Leasing</td>
<td>439,303</td>
</tr>
<tr>
<td>Available for Leasing with No Surface Occupancy Stipulation</td>
<td>166,119</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use Stipulation</td>
<td>31,438</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use &amp; Timing Limitation Stips.</td>
<td>10,437</td>
</tr>
<tr>
<td>Available for Leasing with Timing Limitation Stipulation</td>
<td>197,686</td>
</tr>
<tr>
<td>Available for Leasing with Standard Lease Terms</td>
<td>33,623</td>
</tr>
<tr>
<td><strong>BLM Public Lands (BLM Mineral Estate Only; Non-Federal Surface)</strong></td>
<td></td>
</tr>
<tr>
<td>Total BLM Mineral Estate/Non-Federal Surface, SJPL</td>
<td>264,366</td>
</tr>
<tr>
<td>Administratively Unavailable for Leasing</td>
<td>7,911</td>
</tr>
<tr>
<td>Total BLM Mineral Estate/Non-Federal Surface Available for Leasing</td>
<td>256,455</td>
</tr>
<tr>
<td>Available for Leasing with No Surface Occupancy Stipulation</td>
<td>72,459</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use Stipulation</td>
<td>23,848</td>
</tr>
<tr>
<td>Available for Leasing with Controlled Surface Use &amp; Timing Limitation Stips.</td>
<td>2,325</td>
</tr>
<tr>
<td>Available for Leasing with Timing Limitation Stipulation</td>
<td>66,333</td>
</tr>
<tr>
<td>Available for Leasing with Standard Lease Terms</td>
<td>91,490</td>
</tr>
</tbody>
</table>

### Geothermal Energy

The SJPL contains limited reserves of geothermally heated water (identified by the U.S. Geological Survey as “Known Geothermal Resource Areas” (KGRA)) which have minor potential for development. Due to the low temperature, there are no likely industrial uses for these KGRAs. Recreational and small-scale space heating are the best uses. Currently, there are no leases or applications for leases in the SJPL.
DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS

Right-of-way (ROW) development for oil and gas interstate pipelines, and electricity transmission and distribution are generally suitable in existing energy corridors and along existing linear transmission facilities. Energy corridors, as designated, should be suitable for interstate and intrastate ROW distribution and energy-producing facilities, as required, in order to meet current and 10- to 15-year demand forecasts.

Table 19 shows a listing of designated corridors and existing linear energy transmission authorizations in which future facilities would be encouraged to locate. Figure 18 illustrates the approximate location of corridors and existing transmission facilities across the planning area. Transmission facilities include 69 kV and greater transmission lines and ancillary facilities (Report to Congress, 2005).

Oil and gas interstate pipelines identified as designated corridors are those that do not require Congressional notification (as required by the Mineral Leasing Act of 1920, as amended, in accordance with 30 USC 185(w)), and are between 16 and 24 inches in diameter. The Trans-Colorado pipeline routes are an existing designated corridor in the current San Juan National Forest Land Management Plan, suitable for upgrading only with Congressional notification.
Table 19 - Designated Energy Corridors and Energy Transmission Facilities in the SJPL

<table>
<thead>
<tr>
<th>designsated utilities</th>
<th>size</th>
<th>suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Area Power Administration – Currecanti to Lost Canyon</td>
<td>230 KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>San Miguel Electric Transmission - Burro Ridge to Cascade</td>
<td>115KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>Tri-State Electric Generation - Montrose to Hesperus</td>
<td>345KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>Tri-State Electric Generation - Nucla to Cahone</td>
<td>230 KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>Tri-State Electric Generation - Durango to Bayfield</td>
<td>115KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>Tri-State Electric Generation - Bayfield to Pagosa Springs</td>
<td>115KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>La Plata Electric Transmission</td>
<td>115KV</td>
<td>Upgrade existing facilities; additional facilities considered on a case-by-case basis.</td>
</tr>
<tr>
<td>Northwest Pipeline Corridor - (includes MapCO and Kinder Morgan)</td>
<td>Multiple pipelines</td>
<td>Upgrade existing facilities.</td>
</tr>
</tbody>
</table>

**Corridors Designated under Section 368 of the Energy Policy Act of 2005**

<table>
<thead>
<tr>
<th>designated utilities</th>
<th>size</th>
<th>suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated Utility Corridor. Trans-Colorado Pipeline Corridor</td>
<td>30-inch gas</td>
<td>Upgrade existing facilities.</td>
</tr>
</tbody>
</table>

---

8 West-wide Energy Corridor Programmatic Environmental Impact Statement (WWEC PEIS) is in progress in order to evaluate potential impacts associated with the designation of corridors on Federal land in the 11 Western States (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) for oil, gas, and hydrogen pipelines, as well as electricity transmission and distribution facilities.
Figure 18 - SJPL Existing and Proposed Utility Corridors and Communication Sites

San Juan Public Lands
Existing and Proposed Utility Corridors
and Telecommunication Sites

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify the spatial data without notification.
COMMUNICATION SITES

Within the planning area, proposals for communication and electronic sites are encouraged to use existing sites, within capacity and compatibility limits. Generally, existing communication sites have a low scenic integrity objective. Communication site development is generally suitable at designated communication sites when it is compatible with existing uses. Table 20 lists the location of current communication sites and suitable uses for each site. Figure 18 locates the sites geographically.

Table 20 - Communication Sites, Locations, and Suitable Uses

<table>
<thead>
<tr>
<th>COMMUNICATION SITE</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>ELEVATION (FT)</th>
<th>SUITABLE USES</th>
</tr>
</thead>
<tbody>
<tr>
<td>USFS Benchmark</td>
<td>37.76033</td>
<td>-108.5598</td>
<td>9,264</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>Menefee</td>
<td>37.31616</td>
<td>-108.2395</td>
<td>8,823</td>
<td>Low-Power; Broadcast and Non-Broadcast</td>
</tr>
<tr>
<td>USFS Missionary</td>
<td>37.358166</td>
<td>-107.76966</td>
<td>9,860</td>
<td>Low-Power; Broadcast and Non-Broadcast</td>
</tr>
<tr>
<td>USFS Kennebec</td>
<td>37.451</td>
<td>-108.03283</td>
<td>12,240</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>Kendall</td>
<td>37.78733</td>
<td>-107.63566</td>
<td>13,400</td>
<td>Low-Power; Non-Broadcast</td>
</tr>
<tr>
<td>USFS Tuckerville</td>
<td>37.4895</td>
<td>-107.4585</td>
<td>11,640</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>USFS Grassy</td>
<td>37.355166</td>
<td>-107.552166</td>
<td>9480</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>USFS Pargin</td>
<td>37.1885</td>
<td>-107.45766</td>
<td>8910</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>USFS Devil</td>
<td>37.28066</td>
<td>-107.2605</td>
<td>9922</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>USFS Oakbrush</td>
<td>37.1855</td>
<td>-107.089833</td>
<td>8623</td>
<td>Government and Broadcast Use Only</td>
</tr>
<tr>
<td>USFS Wolfcreek</td>
<td>37.484833</td>
<td>-106.8266</td>
<td>11680</td>
<td>Government Use Only</td>
</tr>
<tr>
<td>YellowJacket</td>
<td>37.252081</td>
<td>-107.458918</td>
<td>8397</td>
<td>Low-Power; Non-Broadcast</td>
</tr>
<tr>
<td>Coal Bank</td>
<td>37.688906</td>
<td>-107.766535</td>
<td>10660</td>
<td>Low-Power; Non-Broadcast</td>
</tr>
<tr>
<td>Spring Creek</td>
<td>37.1885</td>
<td>-107.457666</td>
<td>8910</td>
<td>Low-Power; Non-Broadcast</td>
</tr>
<tr>
<td>Caviness Mt.</td>
<td>37.36303</td>
<td>-108.15083</td>
<td>10,050</td>
<td>High-Power; Broadcast and Non-Broadcast</td>
</tr>
<tr>
<td>Dolores</td>
<td>37.4825</td>
<td>-108.5120</td>
<td>7420</td>
<td>High-Power; Broadcast and Non-Broadcast, State and Local Government Use Only</td>
</tr>
<tr>
<td>Escalante</td>
<td>37.4780</td>
<td>-108.5460</td>
<td>7080</td>
<td>Low-Power; Broadcast</td>
</tr>
<tr>
<td>Expectation Mountain</td>
<td>37.4665</td>
<td>-108.5260</td>
<td>11,600</td>
<td>Passive-Reflector</td>
</tr>
<tr>
<td>Parrott Peak</td>
<td>37.375</td>
<td>-108.102.85</td>
<td>11,740</td>
<td>Low-Power; Non-Broadcast</td>
</tr>
<tr>
<td>Storm Peak</td>
<td>37.8672</td>
<td>-107.6549</td>
<td>12,979</td>
<td>Passive-Reflector</td>
</tr>
</tbody>
</table>

1 These Lat/Long coordinates do not delineate the boundaries of the right-of-way use areas; rather, they give approximate locations. Boundaries of the use areas would be defined in individual site plans.
The planning area contains numerous parcels of enclosed private land (in-holdings) that are undeveloped. Land acquisition policies of both the BLM and the USFS recognize the value of acquiring such parcels, especially where the affected private lands contain unique or special values or benefits. Acquisition of these parcels would protect such values for the future and contribute to the SJPLC mission. (See Guidelines in Part 3 of this DLMP for identification of these parcels and prioritization for possible acquisition.)

USFS-administered lands within the planning area are generally suitable for long-term retention under Federal ownership. The USFS does not carry out comprehensive inventories of lands designed to identify potential for disposal or retention. However, USFS-administered lands are generally available for consideration for transfer of ownership where there is determined to be a public or resource benefit. Such actions may occur through land exchange, disposal of small tracts by direct sale under specific authorities, jurisdictional transfer between agencies, and/or through disposal for community purposes. Specific proposals may be considered on a case-by-case basis.

BLM-administered lands within the planning area are classified into categories that establish guidance regarding their suitability for long-term ownership. Category 1 (which is similar to the general guidance for USFS land ownership) is designed to retain lands already under Federal ownership. BLM Category 1 lands are suitable for a wide variety of resource uses that are best served by long-term Federal ownership and management (including native and natural species dominance, archeological values, special or unique plant and animal habitats, recreational opportunities, solitude and open space values, and undeveloped space between communities). Retention would support effective administration and resource protection.

BLM Category 2 identifies lands that are available for disposal through sales, exchanges, or other authorized transfer of ownership (see Figure 19, Lands Available for Disposal). These lands are not suitable for long-term retention under Federal ownership due to a lack of substantial public or resource values, the high cost or the inability of the BLM to manage the land(s), or the potential for greater public value under non-Federal ownership. Disposal can provide trading stock and contribute funds toward acquisition of land(s) with greater public values and benefits. Under the Recreation and Public Purposes Act, some lands identified for disposal may be suitable for transfer of ownership to local communities in order to meet community expansion needs (including expansion of facilities, infrastructure, open space and parks, etc.). Category 2 lands are generally isolated from other BLM or Federal ownership, lack legal public or agency access, or are subject to trespass use by adjacent landowners. In general, the cost of management, access, or resolution of trespass is not offset by resource or by public benefit (see Appendix X, Volume 3, for a listing of BLM Category 2 lands; see also Guidelines in Part 3 of this DLMP for priorities and methods of disposal). Unless identified in Appendix X, Volume 3, all other BLM lands are classified as Category 1 (i.e., lands suitable for a wide variety of resource uses that are best served by long-term Federal ownership and management). (See Guidelines in Part 3 of this DLMP for management of Category 1 lands.)
San Juan Public Lands
Lands for Disposal

Legend
- Lands For Disposal
- USFS/BLM - Ranger Districts / Field Office Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patent Lands
- State Lands
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notice.

NAD 83, Polyconic Projection
October 29, 2007
This section of the Plan includes specific management direction for a number of special areas possessing unique characteristics. Some special areas have specific Congressional or administrative designations, including:

- Wilderness Areas and Wilderness Study Areas (WSAs);
- Inventoried Roadless Areas (IRAs);
- Proposed Wilderness;
- Wild and Scenic Rivers (WSRs);
- Scenic, Historic, and Backcountry Byways;
- National Recreation and Scenic Trails, and National Historic Trails;
- Research Natural Areas (RNAs);
- Areas of Critical Environmental Concern (ACECs);
- Archeological Areas;
- Wild Horse Herd Management Areas;
- Wildlife Habitat Management Areas (HMAs); and
- Special Botanical Areas.

Other areas with unique characteristics that do not require special designation by Congress, or administratively by the USFS or BLM, are included in MA 2 as “Unique Landscapes.” These include:

Dolores River Canyon;
Rico;
McPhee;
Mesa Verde Escarpment;
HD Mountains; and
Silverton.
San Juan Public Lands
Special Areas and Unique Landscapes

Legend
- Special Areas and Unique Landscapes
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Private Lands
- State Lands
- Wilderness
- RetroArea

This USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.

NAD 83, Polyconic Projection
October 29, 2007
WILDERNESS AREAS AND WILDERNESS STUDY AREAS (WSAS)

Introduction

Wilderness is a unique and vital resource. In addition to offering primitive recreation opportunities, it is valuable for its scientific and educational uses, as a benchmark for ecological studies, and for the preservation of historical and natural features.

The Wilderness Act of 1964 defines Wilderness as:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Program Emphasis

Federal agencies manage Wilderness resources in a manner that ensures that their character and values are dominant and enduring. Wilderness management must be consistent over time, and between areas, in order to ensure their present and future availability and enjoyment as wilderness. Wilderness is managed in order to ensure that human influence does not impede the free play of natural forces or interfere with natural succession in the ecosystems, and to ensure that Wilderness Areas offer outstanding opportunities for solitude and/or for a primitive and unconfined type of recreation. Wilderness is also managed as one resource rather than a series of separate resources (FSM 2320.6).

Within the planning area, there are three Wilderness Areas on USFS-administered lands and seven WSAs on BLM-administered lands, as well as the Piedra Area (USFS) (which is a congressionally designated area managed to preserve its Wilderness characteristics). Wilderness Areas and WSAs are managed by USFS policy FSM 2320 and by BLM Handbook H-8560-1, respectively. Specifically, the Wilderness Areas and the Piedra Area are managed under a 1998 Forest Plan amendment that is incorporated by reference as part of this DLMP. BLM WSAs were designated in the 1980s, and a final recommendation was forwarded to the President in 1991. BLM WSAs are managed under BLM Handbook 8550-1 (and will continue to be until Congress designates them as Wilderness Areas or releases them for multiple-use values). If the WSAs are released, they would be managed in accordance with the direction for MA 1s (where natural processes dominate. See Table 21 for a listing of the existing Wilderness Areas, the Piedra Area, and the WSAs.
### Table 21 - Wilderness Areas and Wilderness Study Areas

<table>
<thead>
<tr>
<th>AREA NAME AND TYPE</th>
<th>ACRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJPL Wilderness Areas:</td>
<td></td>
</tr>
<tr>
<td>Weminuche</td>
<td>328,270</td>
</tr>
<tr>
<td>South San Juan</td>
<td>71,593</td>
</tr>
<tr>
<td>Lizard Head</td>
<td>20,658</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>420,522</strong></td>
</tr>
<tr>
<td>Piedra Area:</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>60,341</strong></td>
</tr>
<tr>
<td>SJPL Wilderness Study Areas:</td>
<td></td>
</tr>
<tr>
<td>Weber Mountain</td>
<td>6,153</td>
</tr>
<tr>
<td>Dolores River Canyon</td>
<td>15,889</td>
</tr>
<tr>
<td>Handies Peak</td>
<td>1,061</td>
</tr>
<tr>
<td>Menefee Mountain</td>
<td>7,153</td>
</tr>
<tr>
<td>McKenna Peak</td>
<td>20,830</td>
</tr>
<tr>
<td>West Needles Contiguous</td>
<td>958</td>
</tr>
<tr>
<td>Whitehead Gulch</td>
<td>1,764</td>
</tr>
<tr>
<td>Weminuche Contiguous</td>
<td>1,619</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>55,428</strong></td>
</tr>
</tbody>
</table>
San Juan Public Lands
Wilderness, Piedra Area, Wilderness Study Areas
and Recommended Wilderness

Legend
- Wilderness
- Piedra Area
- Wilderness Study Areas - BLM
- Recommended Wilderness
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patented Lands
- State Lands
- USFS/BLM - Ranger District/Field Office Boundary
- Cities and Towns
- Major Lakes
- State & Federal Highways
- Major Rivers
INVENTORIED ROADLESS AREAS (IRAs)

Introduction

Using criteria from USFS directives, the San Juan National Forest has conducted a new roadless inventory as part of the process for revising the Land Management Plan. This inventory identified 19 areas (totaling approximately 555,815 acres) as having “roadless character.” These areas were analysed for their potential inclusion in the National Wilderness Preservation System. The boundaries of Inventoried Roadless Areas described in the 2001 Roadless Area Conservation Rule will also be updated to reflect the new inventory. It should also be used to guide future rulemaking related to roadless area management. Table 22 shows the 19 areas included in the revision inventory.

Table 22 - Inventoried Roadless Areas (IRAs)

<table>
<thead>
<tr>
<th>Area Number</th>
<th>Inventoried Roadless Area</th>
<th>Acres</th>
<th>Geographic Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJ240</td>
<td>San Miguel</td>
<td>60,311</td>
<td>Columbine and Dolores</td>
</tr>
<tr>
<td>SJ284</td>
<td>South San Juan Adjacent</td>
<td>35,127</td>
<td>Pagosa</td>
</tr>
<tr>
<td>SJ285</td>
<td>Treasure Mountain</td>
<td>22,512</td>
<td>Pagosa</td>
</tr>
<tr>
<td>SJ286</td>
<td>Turkey Creek</td>
<td>25,326</td>
<td>Pagosa</td>
</tr>
<tr>
<td>SJ291</td>
<td>Graham Park</td>
<td>17,325</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ292</td>
<td>Piedra Area Adjacent</td>
<td>39,389</td>
<td>Columbine and Pagosa</td>
</tr>
<tr>
<td>SJ293</td>
<td>Runlett Park</td>
<td>5,600</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ294</td>
<td>Florida River</td>
<td>5,726</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ295</td>
<td>HD Mountains</td>
<td>25,140</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ302</td>
<td>East Animas</td>
<td>16,864</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ303</td>
<td>West Needles</td>
<td>4,497</td>
<td>Columbine</td>
</tr>
<tr>
<td>SJ304</td>
<td>Blackhawk Mountain</td>
<td>17,545</td>
<td>Dolores</td>
</tr>
<tr>
<td>SJ305</td>
<td>Storm Peak</td>
<td>57,623</td>
<td>Dolores</td>
</tr>
<tr>
<td>SJ306</td>
<td>Hermosa</td>
<td>148,139</td>
<td>Columbine and Dolores</td>
</tr>
<tr>
<td>SJ315</td>
<td>Ryman</td>
<td>8,665</td>
<td>Dolores</td>
</tr>
<tr>
<td>SJ310</td>
<td>Fish Creek</td>
<td>13,537</td>
<td>Dolores</td>
</tr>
<tr>
<td>SJ320</td>
<td>Weminuche Adjacent</td>
<td>38,410</td>
<td>Columbine and Pagosa</td>
</tr>
<tr>
<td>SJ235</td>
<td>Lizard Head Adjacent</td>
<td>5,558</td>
<td>Dolores</td>
</tr>
<tr>
<td>SJ309</td>
<td>Baldy</td>
<td>20,032</td>
<td>Dolores</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>555,815</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: GIS Inventory
Areas included in the Plan as Inventoried Roadless Areas (IRAs) meet the following criteria from the Wilderness Act and FSH 1909.12:

- they contain 5,000 acres or more; or
- they contain less than 5,000 acres, but are contiguous to existing Wilderness Areas or are recommended for Wilderness under other Federal ownerships.

IRAs do not contain classified roads. Classified roads are roads that are wholly or partially within, or adjacent to, USFS-administered lands that are determined to be needed for long-term motor vehicle access (including State roads, county roads, privately owned roads, USFS roads, and/or other roads authorized by the Forest Service [36 CFR 212.1]).

IRAs may contain improvements, including motorized trails, unauthorized, user-created roads, fences, Outfitter/Guide camps, and/or evidence of historical logging activities.

Recent timber harvesting areas, utility corridors, ski areas, and large reservoirs were excluded from the roadless inventory.
Figure 22 - 2006 Roadless Inventory

2006 Roadless Inventory

Legend
- 2006 Roadless Inventory
- USFS/BLM - Ranger Districts / Field Office Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Pristine Lands
- State Lands
- Wild and Scenic Rivers
- National Parks
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
RECOMMENDED WILDERNESS AREAS

This plan recommends areas for inclusion in the National Wilderness Preservation System (see Figure 22):

- portions of the Hermosa IRA (50,895 acres);
- portions of the Lizard Head IRA (2,632 acres);
- portions of the Weminuche Adjacent IRA (specifically, Elk Park and Monk Rock, totaling 1,428 acres); and
- portions of the Turkey Creek IRA (578 acres).

These areas will be managed to maintain their wilderness characteristics until Congress designates them as Wilderness or releases them for other multiple-use management (in which case, they would be managed under MA 1).

WILD AND SCENIC RIVERS (WSRs)

Introduction

Congress enacted the Wild and Scenic Rivers Act in 1968 in order to preserve the free-flowing condition, water quality, and outstandingly remarkable values (ORVs) of select rivers. The WSR Act directs that each river in the National Wild and Scenic Rivers System be administered in a manner that protects and enhances its outstanding natural and cultural values. The Act allows existing uses of a river to continue, and future uses to be considered (as long as the use does not conflict with the protection of river values).

The WSR Act Section 5(d)(1) directs Federal agencies to consider the potential of all rivers and streams for inclusion in the National Wild and Scenic Rivers System during their planning processes. All streams and rivers within the planning area were assessed as to their WSR eligibility and suitability. Volume 1 of this DLMP/DEIS describes the process used for the planning area (also see Appendix D, Volume 3 for additional details). In order to be found suitable for WSR status, rivers must meet the following criteria:

- they must be free-flowing (not in a reservoir and having mostly natural banks);
- they must have at least one ORV (ORVs can be in relation to fish, wildlife, recreation, scenery, ecology, cultural, historic, and/or other resource);
- their free-flowing character, water quality, and ORVs should be protected, even if there are other competing uses; and
- their WSR status would be the best method for protecting their ORVs.

Program Emphasis

During the planning process, the SJPLC determined the appropriate development level of rivers within the planning-area. This was based on water resources development, shoreline development, and accessibility. These constitute the river’s classification as “wild” or “scenic” or “recreation.”) Table 23 lists the rivers that have been found to be suitable for WSR status.
These rivers may eventually be designated as part of the National Wild and Scenic River System by the Secretary of the Interior, or as the result of an act of Congress (Secretarial designation requires that the State governor make application to the Secretary of the Interior). The identification of rivers as suitable through this land management planning process does not trigger any water rights or other protections under the WSRA. In order to manage the rivers for their potential inclusion into the National Wild and Scenic River System, existing authorities will be used to protect the identified river’s free-flowing character, water quality, ORVs, and recommended classification. (Details of the interim protective management are listed in FSM 1990.12_80.) Previous land management plans had similar direction, and have provided protection for the ORVs of the Los Pinos River, the Piedra River, and the Dolores and West Dolores Rivers over the past several decades.

### Table 23 - River Segments Suitable for Wild and Scenic River (WSR) Status by Class

<table>
<thead>
<tr>
<th>MAP NAME</th>
<th>WILD</th>
<th>SCENIC</th>
<th>RECREATION</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolores River - McPhee To Bedrock</td>
<td>48.84</td>
<td>23.15</td>
<td>37.04</td>
<td>109.02</td>
</tr>
<tr>
<td>Summit Canyon</td>
<td>0</td>
<td>12.15</td>
<td>0</td>
<td>12.15</td>
</tr>
<tr>
<td>Coyote Wash</td>
<td>7.60</td>
<td>0</td>
<td>0</td>
<td>7.60</td>
</tr>
<tr>
<td><strong>Dolores TOTALS</strong></td>
<td>56.44</td>
<td>37.30</td>
<td>37.04</td>
<td>128.77</td>
</tr>
<tr>
<td>Animas River - Bakers Bridge to Sultan Creek</td>
<td>0</td>
<td>0</td>
<td>27.19</td>
<td>27.19</td>
</tr>
<tr>
<td>Mineral Creek</td>
<td>0</td>
<td>0</td>
<td>8.65</td>
<td>8.65</td>
</tr>
<tr>
<td>South Fork Mineral Creek</td>
<td>0</td>
<td>0</td>
<td>7.41</td>
<td>7.41</td>
</tr>
<tr>
<td><strong>Animas River TOTALS</strong></td>
<td>0</td>
<td>0</td>
<td>43.25</td>
<td>43.25</td>
</tr>
<tr>
<td>Big Bend Creek</td>
<td>4.43</td>
<td>0</td>
<td>0</td>
<td>4.43</td>
</tr>
<tr>
<td>Big Lick Creek</td>
<td>0.76</td>
<td>0</td>
<td>0</td>
<td>0.76</td>
</tr>
<tr>
<td>Clear Creek</td>
<td>0</td>
<td>5.36</td>
<td>0</td>
<td>5.36</td>
</tr>
<tr>
<td>Corral Creek</td>
<td>1.65</td>
<td>0</td>
<td>0</td>
<td>1.65</td>
</tr>
<tr>
<td>Deer Creek</td>
<td>2.72</td>
<td>0</td>
<td>0</td>
<td>2.72</td>
</tr>
<tr>
<td>East Fork Hermosa Creek</td>
<td>0</td>
<td>0</td>
<td>6.70</td>
<td>6.70</td>
</tr>
<tr>
<td>Elk Creek</td>
<td>4.25</td>
<td>0</td>
<td>0</td>
<td>4.25</td>
</tr>
<tr>
<td>Hermosa Creek</td>
<td>0</td>
<td>28.08</td>
<td>0</td>
<td>28.08</td>
</tr>
<tr>
<td>South Fork Hermosa Creek</td>
<td>5.89</td>
<td>0</td>
<td>0</td>
<td>5.89</td>
</tr>
<tr>
<td>West Cross Creek</td>
<td>2.44</td>
<td>0</td>
<td>0</td>
<td>2.44</td>
</tr>
<tr>
<td><strong>Hermosa Creek TOTALS</strong></td>
<td>22.14</td>
<td>33.44</td>
<td>6.70</td>
<td>62.28</td>
</tr>
<tr>
<td>Los Pinos, above Vallecito Reservoir</td>
<td>21.89</td>
<td>0</td>
<td>0</td>
<td>21.89</td>
</tr>
<tr>
<td>Lake Creek</td>
<td>8.05</td>
<td>0</td>
<td>0</td>
<td>8.05</td>
</tr>
<tr>
<td>Flint Creek</td>
<td>7.03</td>
<td>0</td>
<td>0</td>
<td>7.03</td>
</tr>
<tr>
<td>Sierra Vandera Creek</td>
<td>3.67</td>
<td>0</td>
<td>0</td>
<td>3.67</td>
</tr>
<tr>
<td>Snowslide Gulch</td>
<td>3.51</td>
<td>0</td>
<td>0</td>
<td>3.51</td>
</tr>
<tr>
<td>Rincon la Osa</td>
<td>5.69</td>
<td>0</td>
<td>0</td>
<td>5.69</td>
</tr>
<tr>
<td>Rincon la Vaca</td>
<td>4.33</td>
<td>0</td>
<td>0</td>
<td>4.33</td>
</tr>
<tr>
<td><strong>Los Pinos TOTALS</strong></td>
<td>54.17</td>
<td>0</td>
<td>0</td>
<td>54.17</td>
</tr>
<tr>
<td>Piedra River N of Hwy 160</td>
<td>14.09</td>
<td>0</td>
<td>7.89</td>
<td>21.98</td>
</tr>
<tr>
<td>East Fork Piedra River in Wilderness</td>
<td>9.37</td>
<td>0</td>
<td>0</td>
<td>9.37</td>
</tr>
<tr>
<td>Middle Fork Piedra River</td>
<td>11.75</td>
<td>0</td>
<td>7.03</td>
<td>18.77</td>
</tr>
<tr>
<td><strong>Piedra River TOTALS</strong></td>
<td>35.21</td>
<td>0</td>
<td>14.92</td>
<td>50.12</td>
</tr>
<tr>
<td>West Fork San Juan River</td>
<td>8.60</td>
<td>0</td>
<td>8.70</td>
<td>17.30</td>
</tr>
<tr>
<td><strong>San Juan River TOTALS</strong></td>
<td>8.60</td>
<td>0</td>
<td>8.70</td>
<td>17.30</td>
</tr>
</tbody>
</table>
Figure 23 – Suitable Wild and Scenic Rivers in Relation to Management Areas

San Juan Public Lands
Suitable Wild and Scenic Rivers and Management Areas

Legend
Wild and Scenic River Suitable Segments
- Wild
- Scenic
- Recreational

Proposed Action Alternative
- 1 W - Natural Processes Dominate
  Designated Wilderness, SSA's and Piedra Area
- 2 - Natural Processes Dominate Other Areas
- 3 - Special Areas and Unique Landscapes
- 4 - Natural Landscape with Limited Management
- 5 - High Use Recreation Emphasis
- 6 - Active Management
- 7 - Public and Private Land Intermix
- 8 - Highly Developed Areas

USFS/BLM – Ranger Districts / Field Office Boundaries
San Juan National Forest
Cities and Towns
State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purposes may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial data without notification.
SCENIC, HISTORIC, AND BACKCOUNTRY BYWAYS

Introduction

Currently, driving for pleasure is one of the most popular forms of recreation within the planning area – with scenic byways and backcountry byways serving as some of the most popular routes. As the population increases, and as “Baby Boomers” grow older and become less able to engage in more physically active forms of recreation, larger numbers of visitors are anticipated to take up driving for pleasure. Heritage tourism, which is the fastest growing segment of the tourism industry, is often combined with a scenic drive.

Program Emphasis

Consistent with the primary goals of the National Scenic Byway Program, SJPL managers will guide the appropriate physical development of these travel corridors and their associated facilities, direct the conservation of unique and valued attributes surrounding the planning area, and provide leadership for byway management that supports efforts to benefit these routes.

The planning area is home to the 232-mile long San Juan Skyway, which was designated by the USFS as a National Scenic Byway in 1988 (also designated a State Scenic and Historic Byway, and as an All-American Road in 1997). The San Juan Skyway traverses some of the most spectacular, rugged, and pristine landscapes in America. The area is rich in culture -- from prehistoric habitations through to the colorful mining era that marked the San Juan Mountains in the 1800s (including the development of the narrow-gauge railways through the area).

The 65-mile long Alpine Loop National Backcountry Byway passes through the southern San Juan Mountains (often along routes that follow ancient paths of Native Americans as they returned to their traditional summer hunting camps). This rugged route connects the towns of Lake City, Silverton, and Ouray, Colorado. Spectacular high-elevation scenery and numerous historical markers explain the mining history of the area as the route travels through the towering San Juan Mountains.

The Trail of the Ancients Scenic Byway highlights the long and intriguing inhabitation of the Four Corners region by Native Americans. It takes visitors to remote archeologically, culturally, and historically significant sites in Colorado, Utah, and Arizona. The section of the byway within the planning area travels mainly within the Canyons of the Ancients National Monument (BLM), Hovenweep National Monument (NPS), Ute Mountain Ute tribal lands, and communities (including Cortez and Dolores). One hundred and fourteen miles of this scenic byway are within Colorado.

The byway program provides essential safety, information, and sanitary services; protect, conserve, and interpret valued resources; and promote a quality image of the SJPL. Planning and infrastructure for these popular driving routes is not keeping up with the increasing demand for recreation. Inventorying scenic conditions along the three byways, as well as developing corridor management plans and interpretive strategies will help identify management priorities and actions designed to enhance the visitor experience. Travel management planning will integrate effectively with the management of these byways.
Over the past decade, great strides have been made to identify and conserve key natural and cultural viewsheds associated with the byways. However, some spectacular and culturally significant viewsheds remain in jeopardy from potential land trades, as well as from incompatible development. These areas include the foreground viewshed areas along Highway 550 north of Durango, along the Alpine Loop National Backcountry Byway, and near Cortez. These viewsheds in “gateway” landscapes help visitors transition between the development associated with a community and the undeveloped natural appearance of the surrounding public lands, including ecologically important riparian areas and wetland ecosystems (such as along the Dolores River) and key winter wildlife habitat (such as north of Durango). SJPL Managers aim to take a leadership role in working with willing partners (including local, State, and other Federal agencies; the Trust for Public Land (TPL); local land trusts; the State Heritage Fund; non-profit organizations; CDOT; Fort Lewis College; and the Colorado State Tourism Office) in order to identify and protect these landscapes. Efforts will involve active communication and collaboration with the Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG) in order to ensure consistency of management along the byways.

SJPL managers will participate in partnerships with local communities, as well as with all other interested groups and individuals, in order to determine the appropriate marketing of the byways and to implement marketing actions to achieve byway goals. The first steps will include expanding the SJPL’s partnership with the Durango Mountain Resort, the Silverton Chamber of Commerce, and the Durango-Silverton Narrow-Gauge Railroad so that basic public services and information would continue to be available to byway travelers along U.S. Highway 550 (the “Million Dollar Highway”). Initial efforts will focus on three key sites: the town of Silverton, the Purgatory Flats Trailhead, and the Molas Pass Rest Stop.

**Desired Conditions - Scenic, Historic, and Backcountry Byways**

31.1 The byways are the main access routes, or gateways, to a wide array of recreation opportunities within the planning area; they have appropriate public information and services.

31.2 Cultural heritage sites along these three byways (including early historic mining, ranching, and Native American sites) are interpreted.

31.3 Scenic byways and adjacent landscapes provide high-quality scenery. Viewsheds along scenic byways are protected, and scenic integrity is maintained in order to meet the public’s desire for attractive natural landscapes. The byways contribute to recreation tourism and the regional economy. The byways are managed in order to protect the intrinsic qualities for which they were designated, consistent with current corridor management plans.

31.4 Byway goals and objectives are effectively integrated with the SJPLC’s recreation facility master plan and travel management plan.

31.5 Significant historic structures along these three byways are preserved and stabilized.

**Other Referenced Direction**

Refer to Corridor Management Plans and Byway Interpretive Strategies for more information.
Introduction

National recreation and scenic trails, and national historic trails, are federally recognized trails that connect people to local resources and improve their quality of life. More than 900 trails have been designated throughout the nation. Within the planning area, there are four designated national recreation and scenic trails: the Calico Trail, the Highline Trail, the Continental Divide National Scenic Trail, and the Colorado Trail. In addition, the Old Spanish Trail crosses the planning area, and is designated as a National Historic Trail. These trails are recognized through establishment reports and management plans for their scenic, historic, interpretive, and recreation values.

Desired Conditions - National Recreation and Scenic Trails, and National Historic Trails

32.1 Consistent with their designation, the significant scenic, historic, and natural resources for each trail are identified, interpreted, and protected. The values for which these trails were established are retained.

32.2 The Continental Divide National Scenic Trail and the Colorado Trail provide opportunities for remote backcountry recreation, challenge, and solitude, except where they come near area communities (where more people and development may be encountered).

32.3 The Continental Divide National Scenic Trail and the Colorado Trail are non-motorized trails and have high scenic integrity.

32.4 Interpretive venues are used to inform and educate visitors about the national recreation and scenic trails, and the Old Spanish National Historic Trail, as well as about resource stewardship.

32.5 Trail segments near area communities and/or major access points are planned and designed in order to be barrier-free.

Program Emphasis

Trail stewardship is emphasized through partnerships, marketing and interpretation, monitoring efforts, and maintaining and enhancing desired conditions.

The key to sustaining a successful network of national recreation and scenic trails, and national historic trails, is to continue to engage partners (including the Continental Divide National Scenic Trail Alliance, the Colorado Trail Foundation, and the Old Spanish Trail Association) and effective trail stewardship (including reconstruction, relocation, monitoring, volunteer recruitment and training, signage, and production of educational materials). Regular reviews of the partnership agreements between the SJPLC and partners will help to ensure clear role definition for the management and operation of these trails. Coordination with adjoining USFS- and BLM-administered lands that also contain the Continental National Divide Scenic Trail, the Colorado Trail, and the Old Spanish Trail is also an important element of successful trail management and interpretation.

Restrictions not already in effect for the use of motorized vehicles on segments of the Colorado Trail are to be developed. When, and if, conflicts develop, trail segments will be routed off of primitive roads. Travel management planning efforts will include review of motorized travel for the Calico Trail, and would determine consistency with the values for which the trail was established.
Monitoring of trail and resource conditions provides the basis for identifying work that could be effectively accomplished by partners. Monitoring also measures changes in setting indicators related to recreation benefits, including crowding on the trail and at camp areas, and scenic and environmental quality.

Marketing emphasis includes ensuring that all trailheads and trails have essential safety, orientation, and regulatory signs that are consistent with the natural setting of the trail. Marketing efforts also include the dissemination of accurate information regarding these trails to the public in an effective manner through a variety of media and venues (including the SJPL website, guidebooks, brochures, and Visitor Centers).

**Standards and Guidelines**

- **National Recreation and Scenic Trails**: Other resource activities should be designed in order to meet scenic quality objectives for these special designation trails (generally, a foreground and middleground of very high to high scenic integrity or visual resource management (VRM) Class II).

**Additional Referenced Guidance**


Under the direction of the LMP, the on-going monitoring of trail and resource conditions would provide the basis for identifying work that could be effectively accomplished by partners. Monitoring would also measures changes in setting indicators related to recreation benefits (including crowding on the trail and at camp areas), as well as scenic and environmental quality.
RESEARCH NATURAL AREAS (RNAs)

Introduction

Research Natural Areas (RNAs) are ecological reserves designated, in perpetuity, for non-manipulative research, education, and maintenance of biological diversity on public lands. RNAs represent relatively natural, unaltered ecosystems that serve as reference areas for land managers (so that they can assess the consequences of management actions on other similar lands). In RNAs, most management activities are prohibited unless they are needed in order to maintain desired conditions or to maintain the unique features for which the RNA was established.

Existing RNAs

The RNAs within the planning area that have previously been designated include the following:

- **Narraguinnep**: The Narraguinnep RNA is situated in the tablelands of the San Juan National Forest, approximately 13 miles northwest of Dolores. It totals approximately 1,900 acres at elevations ranging from 6,690 to 8,000 feet. The area is characterized by canyon topography and sedimentary geology. Key features include old-growth ponderosa pine forests, pinyon-juniper woodlands, mountain shrublands, and steep canyon side slopes.

- **Williams Creek**: The Williams Creek RNA is situated in the southern San Juan Mountains, approximately 15 miles northwest of Pagosa Springs. It totals approximately 550 acres at elevations ranging from 8,350 to 9,650 feet. The area is characterized by gentle mountain topography and volcanic geology. Key features include white fir-dominated cool-moist mixed-conifer forests and spruce-fir forests.

Proposed RNAs

Additional proposed RNAs include:

- **Electra**: The proposed Electra RNA is situated east of Electra Lake in the southern San Juan Mountains. It would total approximately 2,200 acres at elevations ranging from 7,400 to 8,800 feet. The area is characterized by glacial mountain topography associated with metamorphic and igneous geology. Key features include glacial topography, kettle ponds, old-growth ponderosa pine forests, mixed-conifer forests, aspen forests, wetlands, and fens.

- **Grizzly Peak**: The proposed Grizzly Peak RNA is situated in the Rico Mountains. It would total approximately 5,000 acres at elevations ranging from 10,000 to 13,700 feet. The area is characterized by rugged mountain topography. Three rock glaciers, and a number of well-defined cirque basins, occur within the RNA. Key features include periglacial topography, sedimentary geology, fens, old-growth spruce-fir forests, willow carrs, alpine tundra, Thurber fescue mountain grasslands, and wetlands.

- **Hermosa**: The proposed Hermosa RNA is situated in the southern San Juan Mountains, approximately 13 miles north of the town of Durango. It would total approximately 8,000 acres at elevations ranging from 7,000 to 12,000 feet. The area is characterized by highly dissected mountain topography and sedimentary geology. Key features include old-growth forests, Colorado cutthroat trout, alpine tundra, spruce-fir forests, aspen forests, ponderosa pine forests, mixed-conifer forests, and mountain shrublands.
• **Hidden Mesas**: The proposed Hidden Mesas RNA is situated in the southern San Juan Mountains, approximately 15 miles southwest of the town of Pagosa Springs. It would total approximately 4,400 acres at elevations ranging from 6,600 to 8,300 feet. The area is characterized by mesas, canyons, and sedimentary geology. Key features include old-growth ponderosa pine forests, mixed-conifer forests, pinyon-juniper woodlands, and mountain shrublands. The current road along Archuleta Creek is excluded from this RNA.

• **Martinez Creek**: The proposed Martinez Creek RNA is situated in the southern San Juan Mountains, approximately 9 miles north of Pagosa Springs. It would total approximately 1,800 acres at elevations ranging from 9,400 to 11,400 feet. The area is characterized by gentle to rugged mountain topography and volcanic and sedimentary geology. Key features include old-growth spruce-fir forests.

• **Navajo River**: The proposed Navajo River RNA is situated in the southern San Juan Mountains, approximately 19 miles east of Pagosa Springs. It would total approximately 7,000 acres at elevations ranging from 9,200 to 12,700 feet. It would be situated entirely within the South San Juan Wilderness Area. The area is characterized by rugged mountain topography and volcanic geology. Key features include Colorado cutthroat trout, alpine tundra, spruce-fir forests, Thurber fescue mountain grasslands, riparian areas and wetland ecosystems, and fens.

• **Piedra**: The proposed Piedra RNA is situated in the southern San Juan Mountains, approximately 23 miles northwest of Pagosa Springs. It would total approximately 6,900 acres at elevations ranging from 7,500 to 10,500 feet. It would be situated entirely within the Piedra Area. The area is characterized by rugged mountain topography and volcanic geology. Key features include old-growth warm-dry mixed-conifer and cool-moist mixed-conifer forests, spruce-fir forests, aspen forests, Thurber fescue mountain grasslands, and riparian areas and wetland ecosystems.

• **Porphyry Gulch**: The proposed Porphyry Gulch RNA is situated in the southern San Juan Mountains, approximately 21 miles north of Pagosa Springs. It would total approximately 12,000 acres at elevations ranging from 8,500 to 12,500 feet. It would be situated entirely within the Weminuche Wilderness Area. The area is characterized by rugged mountain topography and volcanic geology. Key features include alpine tundra, spruce-fir forests, Thurber fescue mountain grasslands, riparian areas and wetland ecosystems, and fens.

**Desired Conditions - RNAs**

33.1 Ecological integrity is intact for all ecosystem types.

33.2 Natural ecological processes (including succession, fire, insects, diseases, and flooding) occur mostly unencumbered by humans, and shape the composition, structure, and landscape pattern of the vegetation.

33.3 Non-native species are absent or rare.

33.4 Human influence and structures are absent or rare.
Suitability – RNAs

Table 24 shows the allowable, prohibited, and restricted management activities and uses for the RNAs.

Table 24 - RNA Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Restricted (May be used in order to meet desired conditions.)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (May be used in order to meet desired conditions.)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Grazing</td>
<td>Restricted (May be used in order to meet desired conditions.)</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>A provision would be required for assessing the affected area for future mineral withdrawal.</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECS) – BIG GYPSUM VALLEY

Introduction

The Big Gypsum Valley ACEC is located north of Disappointment Valley near the Dolores River. Portions of the ACEC are north of San Miguel County Road 20R (with the Dolores River Canyon on the west, and Colorado Highway 141 on the east). One portion of this ACEC is situated west of the Dolores River Bridge, along San Miguel County Road 20R. The Big Gypsum Valley is one of several parallel northwest-southeast trending valleys formed by the collapse of ancient salt domes. The DLMP/DEIS documents include an ACEC evaluation report that includes the relevance and importance evaluations for 22 areas that were nominated for consideration as ACECs within the planning area.

Desired Conditions - Big Gypsum ACEC

34.1 Gypsum soils have occurrences of endemic gypsiferous vascular and non-vascular plant species, and a high cover of biological crusts.

Program Emphasis

Relevant and important ACEC values will be maintained. NatureServe rankings for relevant and important values include the outstanding (B1) biodiversity significance rank, which is based on two excellent (A-ranked) and two good (B-ranked) occurrences of Gypsum Valley cat-eye (*Cryptantha gypsophila*). This plant is critically imperiled State-wide and globally (G1, S1). Other rare plants in this ACEC include three lichens: gypsum rim lichen (*Lecanora gypsicola*), which is critically imperiled State-wide and globally (G1, S1); nodule cracked lichen (*Acarospora nodulosa var. nodulosa*), which is imperiled globally and critically imperiled State-wide (G2, S1); and largeleaf gypsoplaca (*Gypsoplaca macrophylla*), which is globally vulnerable and critically imperiled State-wide (G3, G4, S1). A grass species rare to the State is also present: Gyp dropseed (*Sporobolus nealley*), which is secure globally and critically imperiled State-wide (G5, S1). Plans of Operation are prepared for all mining activities proposed in Big Gypsum Valley ACEC.

Objectives - Big Gypsum ACEC

- Designate approximately 7,605 acres in Big Gypsum Valley as an Area of Critical Environmental Concern (see Figure 25), due to the need to apply the special management, in order to enhance condition of the relevant and important values.
- Close ACEC to motorized use, except for the existing county road and State highway.
- By 2010, reclaim ATV route that crosses gypsum site (in T 44N R 16W Sections 32, 33 and T 43N R 16W Section 5).
Figure 25 - Areas of Critical Environmental Concern (ACECs)

San Juan Public Lands
Areas of Critical Environmental Concern (ACEC)

Legend
- Areas of Critical Environmental Concern
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patented Lands
- State Lands
- Wilderness
- Pioche Area
- USFS/BLM - Ranger District / Field Office Boundary
- Cities and Towns
- Major Lakes
- State & Federal Highways
- Major Rivers

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
**Suitability**

Table 25 shows the allowable, prohibited, and restricted management activities and uses for the proposed Big Gypsum ACEC.

**Table 25 - Big Gypsum ACEC Suitability**

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>N/A</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>N/A</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>N/A</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>N/A</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to grazing within existing allotments with guidelines to protect fragile soil communities.</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Restricted to existing county roads within the ACEC units.</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (temporary roads)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas)</td>
<td>Restricted to existing roads and trails that avoid gypsiferous habitat sites.</td>
</tr>
<tr>
<td>Minerals - Leasable (other)</td>
<td>Restricted to existing roads and temporary roads for approved projects that avoid gypsiferous habitat sites.</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted to CSU stipulation for avoidance of gypsiferous habitat sites.</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Restricted to CSU stipulation for avoidance of gypsiferous habitat sites.</td>
</tr>
</tbody>
</table>
Standards and Guidelines

- Locate all new ground-disturbing activities (including ROWs, seismic operations, and temporary rangeland management facilities) away from known gypsum soil locations.
- Locate all new ground-disturbing activities (including ROWs, seismic operations, and temporary rangeland management facilities) away from known gypsum soil locations.
- Issue oil and gas leases in the ACEC with CSU stipulations in order to locate facilities outside of a 200-meter buffer of known gypsum-soil locations.
- Manage livestock grazing in order to reduce adverse grazing impacts on relevant and important values of gypsum soils and sensitive plant communities.
- By 2010, reclaim ATV route that crosses gypsum site (in T 44N R 16W Sections 32, 33 and T 43N R 16W Section 5).
- Protect relevant and important values, and apply special management strategies, where standard or routine management is not adequate in order to protect the values from risks or threats of damage/degradation or to provide for public safety from natural hazards.

Additional Referenced Guidance

43 CFR Part 3809.

Monitoring

A long-term monitoring program would be established for the Big Gypsum Valley ACEC. In order to establish baseline information on the current condition of gypsum soils and sensitive plant community values, it will include a Colorado Natural Heritage Program (CNHP) inventory of the designated ACEC. Once the baseline condition assessment information was compiled, the ACEC will be monitored a minimum of once every 4 years in order to identify any potential adverse impacts that might occur, identify trends in resource condition and/or deterioration, and determine whether or not any actions taking place in the area are causing detrimental changes to the soil and vegetation values deemed relevant and important. Any changes will be noted and recorded in the CNHP database and reported to the land manager so that appropriate action may be taken.
FALLS CREEK ARCHEOLOGICAL AREA

Introduction

Falls Creek Valley may contain archeological resources that could aid in efforts to study the earliest agricultural and sedentary societies in the southwestern United States. The area is an important and highly valued place for Native Americans, who view it as part of their heritage. The Falls Creek Archeological Area contains one of the earliest and best dated Basketmaker II sites ever documented. These sites are preserved and protected for their scientific, educational, social, and cultural values.

The area is frequented on a year-round, daily basis by residents and visitors taking advantage of the close proximity to Durango in order to enjoy the scenic beauty, open space, and recreational opportunities (see Figure 26). The historic landscape, including the irrigated hayfields of the Hidden Valley Ranch, is managed by the SJPLC. They provide a window into the area’s ranching heritage (offering one of the only hayfields open to public recreation anywhere in the region). These fields are managed in order to provide nutritious forage for big game dependent upon this mild, southern exposure lowland for winter habitat.

Desired Conditions - Falls Creek Archeological Area

35.1 Archeological sites are protected and preserved for their scientific, educational, social, and cultural values.
35.2 Native American values are respected and preserved, and tribal members are provided special access to the area.
35.3 Access to the Falls Creek Rock Shelter is allowed to educational institutions through a Special Use Permit.
35.4 Historic viewsheds (including the historic hayfields) are protected, enhanced, and preserved.
35.5 Native American tribes and Pueblos are consulted with regard to the development of appropriate off-site educational materials.
35.6 NAGPRA repatriation of items removed during the 1930s excavation is completed (including analysis of these items necessary in order to complete the cultural affiliation study).
35.7 The area continues to provide big game winter range habitat.
35.8 Wetlands are managed in order to retain the floral and faunal diversity that currently exists.
Figure 26 - Archeological Areas

San Juan Public Lands
Archaeological Areas

Legend
- Archeological Areas
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Potential Lands
- State Lands
- Wilderness
- Wild and Scenic Rivers
- USFS/BLM - Ranger District/Field Office Boundary
- Cities and Towns
- Major Lakes
- State & Federal Highways
- Major Rivers

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on this map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
Program Emphasis

The management emphasis for Falls Creek is protection and preservation of archeological sites and providing compatible recreational opportunities. This area will also be managed for wildlife diversity, with an emphasis on winter range value (especially for elk and deer).

Objectives - Falls Creek Archeological Area

- Within 5 years, create a dispersed recreation plan that is congruent with desired conditions and that would be incorporated into the management plan for the Falls Creek Archeological Area.
- Within 1 year, implement a site-steward program.
- Within 5 years, implement intensive digital/photogrammetry documentation of the rock art; develop and implement a rock art preservation plan in order to mitigate deterioration.
- Within 5 years, develop appropriate and sensitive off-site interpretive and educational materials. Make the information from the collection analyses available to researchers.

Suitability

Table 26 shows the allowable, prohibited, and restricted management activities and uses for the Falls Creek Archeological Area.
### Table 26 - Falls Creek Archeological Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (Archaeological and historic resources must be protected from impacts from fire.)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted (Archaeological and historic resources must be protected.)</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td></td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Restricted</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowed</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Archaeological and historic resources must be protected.)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted to designated roads and trails.</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Administratively Not Available</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (A provision would be required for assessing the affected area for future mineral withdrawal.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
CHIMNEY ROCK ARCHEOLOGICAL AREA

Introduction

The Chimney Rock Archeological Area is a treasure without parallel in the public lands system. The site has been recognized as being “the ultimate outlier” of the Chaco culture (which flourished from A.D. 900 through A.D. 1130). In recognition of its national significance, the Congress has designated Chimney Rock as part of the Chacoan Outliers Protection Act of 1995 system. The Chimney Rock area exhibits many of the same hallmarks associated with Chacoan culture that earned Chaco Cultural National Historical Park a World Heritage listing. In addition, the Chimney Rock area also exhibits unique features associated with its location and setting within the landscape. It is the north-easternmost Chacoan site, and is hypothesized to be an astronomical observatory. It is valued by Native Americans as part of their ancestral heritage (see Figure 26).

Desired Conditions - Chimney Rock Archeological Area

36.1 Archeological sites are protected and preserved in the Chimney Rock Archeological Area.
36.2 Chimney Rock provides a heritage tourism experience with an emphasis on educational interpretation of the area.
36.3 Native Americans are allowed to use the area, and their values are respected and preserved.
36.4 Fuels treatment projects (including timber sales) reduce fire danger and protect archeological sites.
36.5 Water rights are maintained.
36.6 General recreational opportunities for the public are provided, in accordance with the dispersed recreation plan.

Program Emphasis

The Chimney Rock Interpretive Association currently manages this Archeological Area with volunteers under a USFS Special Use Permit. Under the direction of the LMP, Chimney Rock sites will be preserved and protected for their scientific, educational, and cultural values; and be managed in a manner designed to contribute to tourism (which is one the most powerful regional economic drivers in southwestern Colorado). Visitor services and preservation of the sites would be greatly improved by stabilizing and preserving the Great House, upgrading the existing Visitor Center; and by completing intensive architectural documentation. Adjacent archeological resources on Peterson Mesa should be researched in order to understand their potential relationship to the Chimney Rock Archeological Area. If found to be related, the Chimney Rock Archeological Area boundaries should be expanded in order to include those resources.

Maintaining and developing additional partnerships will be critical for preserving, interpreting, and better understanding the area (including partnerships with Native Americans, the Chimney Rock Interpretive Association, Fort Lewis College, the Chaco Interagency Management Group, the National Park Service, and the University of Colorado).
Objectives - Chimney Rock Archeological Area

- Within 6 years, and in cooperation with the Chimney Rock Interpretive Association, construct an expanded visitor facility.
- Within 5 years, stabilize and preserve the Great House.

Suitability

Table 27 shows the allowable, prohibited, and restricted management activities and uses for the Chimney Rock Archeological Area.

**Table 27 - Chimney Rock Archeological Area Suitability**

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
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<tr>
<td>Prescribed Burning</td>
<td>Restricted</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Significant archaeological resources must be protected.)</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted (Significant archaeological resources must be protected.)</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Restricted to existing facilities and facilities identified in the Chimney Rock Management Plan.</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to paved entrance road.</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Restricted to designated roads and trails.</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowed</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Significant archaeological resources must be protected.)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted to paved entrance road.</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted to maintenance of existing paved entrance road.</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Administratively not available</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (A provision would be required for assessing the affected area for future mineral withdrawal.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
Introduction

The Spring Creek Herd Management Area is located approximately 18 miles south of Naturita, Colorado (in San Miguel County). The herd management area is comprised of approximately 16,455 acres (approximately 14,835 acres or 90% are public lands).

Desired Conditions - Wild Horse Herd Management Area

37.1 The Spring Creek Basin wild horse herd population is within an acceptable range.

37.2 Adequate genetic viability and variability exists in order to maintain a healthy wild horse herd.

37.3 Vegetation provides sufficient cover in order to reduce salinity and to prevent sediment from reaching Disappointment Creek and the Dolores River.

Program Emphasis

Wild horses and burros are managed under the Wild Free-Roaming Horse and Burro Act of 1971, as amended (PL 92-195). The 1985 San Juan/San Miguel RMP designated a wild horse emphasis area for the Spring Creek Basin, with direction to maintain an appropriate management level (AML) of 50 horses. Portions of the Spring Creek Herd Management Area also emphasize watershed management (in order to reduce salinity into the Colorado River and for the watershed health of the McKenna Peak WSA).

A Wild Horse Herd Management Area Plan (HMAP) was approved in October of 1986. It was revised in 1994. The HMAP objective is to maintain AML at 50 adult horses. In 2005, additional analysis was completed in order to determine whether or not the existing AML was appropriate (based on an opportunity to provide additional AUMs for the herd area). The analysis showed that current AML was appropriate, considering that rangeland health standards (43 CFR 4180) were not being met, and that the few available AUMs would not improve herd genetics (#EA-800-2005-027 2005).

Objectives - Wild Horse Herd Management Area

- By 2010, as determined by a census, gather excess horses and provide for their adoption.
Figure 27 - Wild Horse Herd Management Area

San Juan Public Lands
Wild Horse and Burro Management Area

Legend
- Spring Creek Wild Horse Herd
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Treated Lands
- State Lands
- Wilderness
- Retire Area
- USFS/BLM - Ranger District/Field Office Boundary
- Cities and Towns
- Major Lakes
- State & Federal Highways
- Major Rivers

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.
Table 28 shows the allowable, prohibited, and restricted management activities and uses for the Spring Creek Wildhorse Herd Area.

### Table 28 - Spring Creek Wildhorse Herd Management Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Few suitable areas for fuels treatment in HMA,)</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Restricted opportunities for firewood; however, gathering other forest products may be acceptable as long as gathering is not detrimental to wild horse management.</td>
</tr>
<tr>
<td>Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Restricted (Dispersed recreation for viewing opportunities is encouraged.)</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to on roads only.</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted to on roads only.</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted to on roads only.</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Allowable</td>
</tr>
</tbody>
</table>

### Additional Referenced Guidance

The Wild Free-Roaming Horse and Burro Act of 1971; the Public Rangeland Improvement Act of 1978; the Taylor Grazing Act of 1934, as amended (TGA); the Federal Land Policy and Management Act of 1976 (FLPMA); Code of Federal Regulations (CFR) 4700, Protection, Management, and Control of Wild and Free-Roaming Horses and Burros; 43 CFR 4100; the Colorado Public Land Health Standards EA and FONSI, 1997; Vegetation Treatment on BLM lands in the 13 Western States, 1991; Weeds-Revised Integrated Weed Management in the San Juan Field Office (CO-038-99-035 EA); BLM Manual 9015; BLM Partners Against Weeds, 1996; various BLM Instruction Memoranda and Information Bulletins relating to wild horse and burro management; Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act (8 CCR 1203-10); the Spring Creek Basin Wild Horse Management Plan, 1994; and the Wild Horse Appropriate Management Level (AML) in the Spring Creek Basin Herd Management Area (HMA) (EA #CO-800-2005-027).
Introduction

Wildlife habitat management areas provide for habitat features that are special, or limiting, to certain wildlife species. They provide the opportunity for maintaining diversity components for species sustainability found within each area’s Habitat Management Plan (including the restoration, maintenance, and/or improvement of these features for the target species, as well as for other species with habitats within the area). Timing stipulations and use restrictions may be applied in these areas in order to preserve diversity components. The Perins Peak Wildlife Habitat Management Area consists of approximately 1,512 acres of BLM-administered public lands, and approximately 3,400 acres of State lands administered by the CDOW. The area is located northwest of, and immediately adjacent to, Durango. Historically, the area has served as winter range for large herds of elk, mule deer, and a remnant population of bighorn sheep. Breeding populations of golden eagle, prairie falcon, and peregrine falcon add to the significance of the area. The area also supports populations of Meriam’s wild turkey. More than half of the elk herd of CDOW Game Management Unit 74 is dependent upon this area in severe winters. Rapid development in the Durango area has increased impacts to wildlife resources in the area due to land conversions, migration corridor disruption, and increased recreational pressures to disturbance-sensitive wildlife species.

Desired Conditions - Perins Peak Wildlife Habitat

38.1 Habitat diversity components are secure, undisturbed, and sufficient to sustain the wildlife populations that depend on the Perins Peak HMA in an urbanizing environment.

Program Emphasis

Under the direction of the DLMP, management emphasis would focus on habitat features and effectiveness for raptor reproduction, big game winter range, and other improvements for non-game birds and small mammals, in coordination and conjunction with adjacent CDOW lands. The Perins Peak Wildlife Habitat Management Plan (CO-03 WHA-T1), which was prepared by the BLM in cooperation with the USFWS and the CDOW, outlines the emphasis and management objectives for the area. Within this HMP, a comprehensive list of management objectives is provided for raptors, big game winter range, habitat improvements, and public access.
Suitability

Table 29 shows the allowable, prohibited, and restricted management activities and uses for the Perins Peak Habitat Management Area.

Table 29 - Perins Peak Habitat Management Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Restricted (Project design would maintain or improve effectiveness and be of primary benefit to habitat and species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (Project design would maintain or improve effectiveness and be of primary benefit to habitat and species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Project design would maintain or improve effectiveness and be of primary benefit to habitat and species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted (Project design would maintain or improve effectiveness and be of primary benefit to habitat and species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Grazing</td>
<td>Restricted (Project design maintains or improves effectiveness and be of primary benefit to habitat and species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Timing, noise levels, and impact to habitat effectiveness will be compatible with habitat and species objectives described in the HMP)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted (Construction timing, construction type, route, and use and timing of use conforms with habitat and species needs described in the HMP.)</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted - (CSU and TL, as defined for leasable minerals, maintains habitat effectiveness for species objectives outlined in the HMP.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
Other Referenced Guidance

The Perins Peak Wildlife Habitat Management Plan (CO-03 WHA-T1).

WILLOW CREEK WILDLIFE HABITAT MANAGEMENT AREA (MA 2)

Introduction

Wildlife habitat management areas provide for habitat features that are special, or limiting, to certain wildlife species. They provide the opportunity for maintaining diversity components for species sustainability found within each area’s habitat management plan (including the restoration, maintenance, or improvement of these features for the target species, as well as for other species with habitats within the area). Timing stipulations and use restrictions may be applied in these areas in order to preserve diversity components.

The Willow Creek Habitat Management Area contains approximately 900 acres of BLM-administered public lands, and approximately 2,000 acres of adjacent State wildlife area. The primary objective of these areas is to provide habitat for the Gunnison sage-grouse on State and BLM-administered lands. Detailed desired conditions are described in the Gunnison sage-grouse Rangewide Conservation Plan (CDOW 2005) for the Dove Creek sub-population (including connectivity to the Monticello sub-population). Gunnison Sage-grouse are known to occur on private lands on, and adjacent to, the State wildlife area. Managing Gunnison Sage-grouse on public lands or on State-owned lands has not been possible until the recent acquisition by the CDOW of private lands in the Willow Creek and Coal Bed Canyon area.

Desired Conditions - Willow Creek Wildlife Habitat Management Area

39.1 The area provides a designated area of publicly managed land for the continued conservation and sustainability of the Gunnison Sage-grouse.

Program Emphasis

Under the direction of the LMP, program emphasis is on managing Gunnison Sage-grouse habitat, in partnership with the CDOW, for the Dove Creek Sage-grouse sub-population. Management objectives for the area will be developed in cooperation with the CDOW, and will be contained in the Draft Willow Creek Habitat Management Plan.

Objectives - Willow Creek Wildlife Habitat Management Area

- Over the 10-year-life of the HMP, reduce 25% of the cheatgrass infestation.
- Within 5 years of implementation of the HMP, remove all encroaching pinyon-pine and juniper trees in sagebrush areas.
- Within 5 years of implementation of the HMP, remove all tamarisk within riparian areas and wetland ecosystems.
- Within 10 years, improve 100 acres of sagebrush habitat for reproduction and brood-rearing through vegetation management.
- Within 10 years, provide water sources in all identified brood-rearing habitat.
Suitability

Table 30 shows the allowable, prohibited, and restricted management activities and uses for the Willow Creek Habitat Management Area.

Table 30 - Willow Creek Habitat Management Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Restricted (Project design maintains or improves effectiveness and is a primary benefit to habitat and species objectives in the HMP)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (Project design maintains or improves effectiveness and is a primary benefit to habitat and species objectives in the HMP)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Project design maintains or improves effectiveness and is a primary benefit to habitat and species objectives in the HMP)</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Grazing</td>
<td>Restricted (Project design maintains or improves effectiveness and is a primary benefit to habitat and species objectives in the HMP)</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Timing, noise levels, and impacts to habitat effectiveness will be compatible with habitat and species objectives described in the HMP)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted (Timing of use and route restrictions maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (CSU and TL, as defined for leasable minerals, maintain habitat effectiveness for species objectives outlined in the HMP)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>

Other Referenced Guidance

The Gunnison Sage-Grouse Rangewide Conservation Plan, 2005; the Dove Creek Conservation Plan, 1998; and the Willow Creek Habitat Management Plan (Draft).
Figure 29 - Special Botanical Areas

San Juan Public Lands
Botanical Areas

Legend
- Botanical Areas
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Public Lands
- State Lands
- Wilderness
- Special Areas
- USDA Forest Service Boundary

Note: The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map, and this map is for information only. The USFS and BLM reserve the right to correct, update, or modify geospatial inputs without notification.

NAD 83, Polyconic Projection
October 29, 2007
Introduction

Botanical Areas are botanical reserves designated in order to protect and preserve unique or rare plant species, or plant communities and their habitat. The O’Neal Hill Special Botanical Area is located approximately 14 miles north of the Town of Pagosa Springs. It totals approximately 130 acres at an elevation of about 8,100 feet. The area occurs on relatively flat plains and hills, and is primarily associated with the mountain grassland vegetation type and the Mancos Shale geologic formation. The largest known population of the globally rare plant species, Pagosa Springs bladderpod (*Lesquerella pruinosa*) occurs here. This yellow-flowered member of the mustard family occurs only in the Pagosa Springs area and in northern New Mexico.

Desired Conditions - O’Neal Hill Special Botanical Area

40.1 *Lesquerella pruinosa* has self-sustaining populations.

40.2 Favorable habitat conditions exist for *Lesquerella pruinosa*.

40.3 Invasive plant species in the botanical area are absent or rare.

Program Emphasis

Unless deemed necessary, most management activities are prohibited in this area to maintain the unique features for which the Special Botanical Area was established. The protection provided by this Special Botanical Area designation will help maintain self-sustaining populations of this rare plant species, and help prevent the need for its designation as threatened or endangered under the Endangered Species Act of 1973.

Suitability

Table 31 shows the allowable, prohibited, and restricted management activities and uses for the O’Neal Hill Botanical Area.
### Table 31 - O'Neal Hill Special Botanical Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Restricted (May be used in order to meet desired conditions.)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (May be used in order to meet Desired Conditions.)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Grazing</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>A provision is required for assessing the affected area for future mineral withdrawal.</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
Introduction

The Chattanooga Iron Fen Special Botanical Area is situated in the Mineral Creek Valley, which is approximately 5 miles northwest of the Town of Silverton. It is fed by groundwater from the east, highly acidic groundwater from mineralized springs emerging from the west, and by acid mine drainage. Limonite terraces within the fen perch the water table and form an extensive network of pools and ponds.

The vegetation of the Chattanooga Iron Fen is characterized by acid-tolerant shrubs and a thick groundcover of sphagnum and other mosses. Engelmann spruce dominates the tree layer. Bog birch and whortleberry dominate the shrub layer. Mosses, bluejoint reedgrass, water sedge, beaked sedge, and alpine spicy wintergreen form the herbaceous layer. Open water accounts for approximately 25% to 30% of the surface.

Until its discovery in the Chattanooga Iron Fen, the range of *Sphagnum balticum* in North America was thought to extend only down from the north to southern British Columbia. A rare liverwort, *Jungermannia rubra*, also occurs in this fen.

The Burro Bridge Iron Fen Special Botanical Area is situated at the confluence of Mineral Creek and the middle fork of Mineral Creek (which is approximately 4 miles northwest of the Town of Silverton). Springs at the first drainage south of Browns Gulch (on the east side of Mineral Creek Canyon) provide the iron-rich water that has created the fen, as well as the limonite ledges within it.

The Burro Bridge Iron Fen is dominated by acid-tolerant shrubs and a thick groundcover of sphagnum and other mosses. Engelmann spruce dominates the tree layer. Bog birch and whortleberry dominate the shrub layer. Mosses, bluejoint reedgrass, water sedge, and alpine spicy wintergreen form the herbaceous layer. The fruticose lichen (*Cladina rangiferina*) is common on the margins of Burro Bridge Iron Fen. The next closest location for this lichen is in northern Montana.

Desired Conditions - Burro Bridge Iron Fen Special Botanical Area

41.1 The rare mosses, lichen, and liverwort have self-sustaining populations.

41.2 Habitat conditions for the rare mosses, lichen, and liverwort, as well as for other native plant species in the area, remain suitable for their continued persistence within the fens.

41.3 The ecological integrity of these fens is intact (including their native biota, organic soils, and hydrology).

41.4 Invasive plant species are absent or rare.

Suitability

Table 32 shows the allowable, prohibited, and restricted management activities and uses for the Chattanooga and Burro Bridge Iron Fen Botanical Areas.
Table 32 - Chattanooga and Burro Bridge Iron Fens Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - PROHIBITED - RESTRICTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Only if ecological values would be unaffected.)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (A provision would be required for assessing the affected area for future mineral withdrawal.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
Introduction

The Dolores River Canyon is situated in Dolores and San Miguel Counties. It includes the river canyon from McPhee Dam to the Dolores WSA boundary at the San Miguel County bridge on County Road 20R in Gypsum Valley southwest of Naturita, Colorado (see Figure 20). In 1975, the U.S. Department of the Interior (USDOI) and the U.S. Department of Agriculture (USDA) recommended WSR status for roughly 94 miles of the river downstream of Bradfield Bridge. The river canyon from Bradfield to Bedrock was identified as a Structured Recreation Management Area (SRMA) in the San Juan/San Miguel RMP and a Recreation Area Management Plan was completed in 1989. This portion of the Dolores River Canyon will continue to be managed as an SRMA (see Appendix E, Dolores River SRMA).

The Dolores River Canyon has historically been recognized as a nationally significant, unique resource capable of providing outstanding primitive and unconfined recreation opportunities associated with the river, canyons, and mesas; unique plant and animal communities found within the canyon that contain threatened and endangered species habitat; and extremely diverse topography and geology that create outstanding scenic vistas and excellent solitude opportunities.

Desired Conditions - Dolores River Canyon

42.1 Significant biological resources and unique features of the Dolores River Canyon play an important role in the character of the canyon, with resources identified by the CNHP continuing to thrive.

42.2 Significant resources in the canyon (including cultural resources, outstanding scenery, unique geology, desert bighorn sheep, river otter, flannelmouth suckers, bluenose suckers, roundtail chub, old-growth ponderosa pine, boxelder riparian community, and Fremont cottonwood galleries) are protected and preserved.

42.3 Invasive species (including tamarisk, Russian knapweed, and Canada thistle) are minor components of the riparian systems of the Dolores River and its tributaries.

Program Emphasis

Table 26 describes the management emphasis of each segment of the Dolores River Canyon.
<table>
<thead>
<tr>
<th>Dolores River Canyon Feature</th>
<th>Management Emphasis</th>
<th>Acres/ Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canyon Corridor</td>
<td>Recreation - whitewater boating</td>
<td>94 miles</td>
</tr>
<tr>
<td></td>
<td>Eligible Wild and Scenic Rivers</td>
<td>30,000 acres</td>
</tr>
<tr>
<td></td>
<td>McPhee to Bradfield - Recreational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bradfield to Dove Creek Pump station - Wild</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dove Creek Pump Station to Disappointment Creek - Scenic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disappointment Creek to Big Gypsum Valley - Recreational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Big Gypsum Valley to Bedrock - Wild</td>
<td>15,900 acres</td>
</tr>
<tr>
<td>Ponderosa Gorge: Bradfield Camp Ground to Dove Creek Pump Station</td>
<td>Scenic canyon, old-growth ponderosa pine, wilderness characteristics of outstanding solitude, primitive/semi-primitive recreation, whitewater boating</td>
<td></td>
</tr>
<tr>
<td>Wildlife</td>
<td>Desert Bighorn Sheep critical habitat</td>
<td>2,000 acres</td>
</tr>
<tr>
<td></td>
<td>Aquatics - trout- McPhee Dam to Bradfield Bridge</td>
<td>12 miles</td>
</tr>
<tr>
<td></td>
<td>Aquatics - Roundtail Chub, Flannel mouth sucker, Bluenose sucker</td>
<td>94 miles</td>
</tr>
<tr>
<td></td>
<td>River Otter</td>
<td>70 miles</td>
</tr>
<tr>
<td></td>
<td>Peregrine Falcon</td>
<td>70 miles</td>
</tr>
<tr>
<td></td>
<td>Amphibians - red spotted toad, tiger salamander, canyon treefrog</td>
<td></td>
</tr>
<tr>
<td>Coyote Wash unique plant community</td>
<td>Potential Research Natural Area (RNA) - Hanging Gardens</td>
<td>329 acres</td>
</tr>
<tr>
<td>Riparian Management</td>
<td>Forrestria pubescens riparian community, boxelder community, Fremont cottonwood galleries</td>
<td>15,900 acres</td>
</tr>
<tr>
<td>Bradfield, Boxelder, Lone Dome</td>
<td>Developed campgrounds</td>
<td>80 acres</td>
</tr>
<tr>
<td>Water resources</td>
<td>Flow sufficient for channel maintenance and whitewater recreation</td>
<td></td>
</tr>
</tbody>
</table>
## Suitability

Table 33 shows the allowable, prohibited, and restricted management activities and uses for the Dolores River Canyon MA 2.

### Table 34 - Dolores River Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted to areas above Canyon Rim within ponderosa and oak brush treatments.</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted to areas above canyon rim within ponderosa and oak brush treatment area, and within 200 yards of developed facilities within canyon.</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted to areas above Canyon Rim within ponderosa and oak Brush treatment area.</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>N/A</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Restricted to areas above Canyon Rim within ponderosa and oak brush treatment area.</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Restricted to grazing within existing allotments.</td>
</tr>
<tr>
<td>Facilities</td>
<td>Restricted to currently developed recreation sites in the canyon.</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to existing county roads within the canyon.</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted to existing county roads within the canyon.</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (temporary roads)</td>
<td>Restricted to existing county roads within the canyon.</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas)</td>
<td>Prohibited within Dolores WSA. Restricted to NSO in canyon and TL in Desert Bighorn Lambing Areas.</td>
</tr>
<tr>
<td>Minerals - Leasable (other)</td>
<td>Uranium leases are restricted to lands withdrawn to the Department of Energy (DOE).</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
Objectives - Dolores River Canyon

- By 2012, tamarisk is eradicated in New Mexico Privet riparian areas and wetland ecosystems of the Dolores River Canyon (in cooperation with The Tamarisk Coalition and The Nature Conservancy), on the main stem of the Dolores River.

Design Criteria - Dolores River Canyon

- Management activities and recreational use avoids or minimizes impacts to rare or unique plant communities.
- Refer also to Dolores River Corridor Management Plan, 1990; and the BLM Alpine Triangle Cultural Resources Management Plan, 1994.

Monitoring - Dolores River Canyon

Under the direction of the DLMP, monitoring of significant resource values would be done in cooperation with the CDOW and the CNHP. It would include monitoring of significant biological resources at least once every 4 years in order to identify trends in resource condition and/or deterioration, and to determine whether or not any actions taking place in the area are causing detrimental changes to the resource values. Any changes would be noted and recorded in the CNHP database and reported to the land manager.

Monitoring of recreation use levels, types of recreation, and impacts related to recreation use would be conducted, on an average, once every 5 years.
Introduction

The Mesa Verde Escarpment area includes the BLM lands adjacent to Mesa Verde National Park. Originally slated for inclusion in the designation of Canyons of the Ancients National Monument, this area has the highest density of Ancestral Puebloan architectural sites on BLM lands within the planning area. These highly significant sites are critical to understanding Ancestral Puebloan life-ways across the landscape.

Desired Conditions - Mesa Verde Escarpment

43.1 Mesa Verde Escarpment offers appropriate recreation and interpretive opportunities while, at the same time, preserving archeological resources.

43.2 User-made trails are re-routed or eliminated in order to avoid impacts to archeological sites.

43.3 Hazardous fuels are managed in order to protect and preserve archeological resources, and to reduce the risk of wildfire to adjacent private lands.

43.4 Cultural viewsheds are preserved; incompatible uses or developments are prevented.

43.5 Vegetation is managed in order to protect and enhance cultural resources.

Program Emphasis

The management emphasis for the Mesa Verde Escarpment is on the protection and preservation of the area’s outstanding archeological sites, as well as on the development of appropriate recreational opportunities (in collaboration with private land development). This area is surrounded by private lands that have not yet been developed; however, focused management of this area is needed to address the impacts related to currently proposed and probable future, development. Collaboration with the developers and new landowners will be emphasized in order to develop an understanding and appreciation of the archeological resources, as well as an understanding of the importance of protecting them. A proactive management approach will take full advantage of the educational, interpretive, recreational, preservation, and scientific opportunities available.

Objectives - Mesa Verde Escarpment

- Within 5 years, implement site-steward and “adopt-a-site” programs.
- Over the implementation-life of the LMP, develop 3 interpretive trails.
- Develop and implement an integrated archeological, recreation, and interpretation plan.

Suitability

Table 34 shows the allowable, prohibited, and restricted management activities and uses for the Mesa Verde Escarpment MA 2.
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<th>MANAGEMENT ACTIVITIES AND USES</th>
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</tr>
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<td>Prescribed Burning</td>
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</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Facilities</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted to designated roads and trails.</td>
</tr>
<tr>
<td>Road Construction (temporary roads)</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>NSO</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted in order to protect significant archaeological resources.</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
HD MOUNTAINS (MA 2)

Introduction

The HD Mountains (MA 2) total approximately 49,000 acres (see Figure 20). (The name HD is thought to be derived from the brand of an early Twentieth Century cattle company.) The area’s elevation ranges from just over 6,000 feet to just under 9,000 feet. Private and State lands (located primarily along the flanks of the USFS-administered lands) make up a small portion of the HD area (and are not subject to the direction of the LMP). A 25,140-acre IRA within the HD Mountains forms the core of the Management Area.

The roadless area provides many social and ecological benefits. As urban areas grow in southwestern Colorado, undeveloped private lands continue to be converted to urban areas and rural infrastructure. In the increasingly developed landscape in the vicinity of the HD Mountains, this large unfragmented tract of land serves a critical role (in that it provides functioning watersheds and biological strongholds that promote diversity for plant and animal populations). The area provides a large, relatively undisturbed landscape with opportunities for dispersed outdoor recreation (opportunities that diminish as open space and natural settings are developed elsewhere). The area also serves as a bulwark against the spread of non-native invasive plant species and provides a reference area for study and research related to development in the roadless area.

The HD Mountains area encompasses the northeastern portion of the San Juan Basin (which is a geologic structure containing one of the largest natural gas reservoirs in the world). The majority of the area has been leased for oil and gas development, and markets have prompted additional interest and investments in gas wells and associated facilities and infrastructure in the San Juan Basin. Natural gas development in the HD Mountains is controversial due to the potential impacts to roadless area values, surface and ground water, wildlife habitat, cultural resources, property values, tax revenues, employment, and air quality in the Weminuche Wilderness Area and the Mesa Verde National Park Class 1 air-quality areas.

Companies or individuals holding existing valid leases have legal, non-discretionary development rights. Over the next few decades, as gas is produced and transported, the impacts of development will be evident; however, in the long-term, the SJPLC would manage so that facilities (including all surface and subsurface features related to management activities) would be reclaimed when no longer needed, and so that altered lands would be restored to natural conditions. Planning for, and administering, management activities with the intent to ultimately reclaim development areas will make for a more rapid and successful recovery to natural conditions. An important element of this recovery effort is the approximately 22,400 acres of the roadless area that would remain unroaded under the gas field development plan authorized by the Northern San Juan Basin Final EIS and Record of Decision (NSJF EIS and ROD).

Although the primary values and important characteristics listed below are not all unique to the HD Mountains, the fact that they all occur in the same area makes the HD Mountains unique and deserving of special management approaches. The overall goal of management approaches in the HD Mountains is to maintain, improve, and/or return these values and characteristics to the landscape. These values and characteristics are described below.
Primary Values and Important Characteristics

Roadless Area: The HD Mountains area includes the 25,140-acre HD Mountain 2006 IRA. This area is important for recreational opportunities, pristine and primitive conditions, wildlife habitat, and roadless values (including those described above). The roadless area may also take pressure off of the more heavily used Wilderness Areas and WSAs within the planning area by providing solitude and quiet, as well as dispersed recreation opportunities.

Wildlife Habitat: The HD Mountains area, and the associated IRA, represent important, unfragmented wildlife habitat. They also provide connectivity to other important wildlife habitats. The combination of elevation, exposures, and vegetation also means that much of the area is winter range. In addition, important migration corridors for big game and other migrating wildlife are present in the area. The relatively unique occurrence of oak brush on north-facing slopes in the HD Mountains adds to the importance of the area as bear habitat.

Archeological Resources: The HD Mountains area contains important archeological resources (including the Spring Creek National Register District; the Sauls Creek, Armstrong-Ritter, Turkey Creek, and Peterson Gulch Proposed National Register Districts; and other archeological sites) -- resources offering unique information and values. These sites and districts may provide information related to Chimney Rock, neighboring populations in the lower San Juan Basin (including Gobernador Valley and Chaco Canyon), and settlements to the west (including Mesa Verde and Canyons of the Ancients National Monuments). They may also provide important clues about chronology and settlement patterns, relationships with temporally parallel neighboring populations, and resource utilization across the HD Mountains area landscape.

Geology and Geomorphology: The HD Mountains area is noteworthy for its geology, topography, and landslides. It also contains many areas of steep, unstable, erosive soils and slopes, as well as the Fruitland Formation. (The Fruitland Formation is one of the most productive formations for natural gas in the San Juan Basin.) The Fruitland Formation is exposed at the surface in the HD Mountains area, in a feature known locally as the Outcrop. The Outcrop is an important hydrogeologic feature connected to the Fruitland Formation coal-bed methane gas reservoir and fresh water aquifer.

Surface and Ground Water Resources: Due to the area’s dry climate and the unique hydrogeology of the Fruitland Formation, surface water and groundwater are critical resources in the area. There are important water resources connected to the Fruitland Formation, and fresh-water springs are present in the core area of the HD Mountains area.

Vegetation: The HD Mountains support a variable mix of vegetation types, ranging from sagebrush to cool-moist mixed-conifer forests. Old-growth ponderosa pine forests and aspen forests still stand in portions of the HD Mountains area. The stands of old-growth ponderosa pine in the HD Mountains area are particularly important (because this is a rare resource on the SJPL).

Social and Economic Values: The existing and potential natural gas resources in the HD Mountains area have significant direct and indirect economic benefits for the local and regional area related to gas-field development. The area also provides important social and economic value to the local area (including motorized and non-motorized recreation, primitive solitude, hunting, enjoyment of scenic vistas, and benefits related to gas-field revenues and taxes). Examples of these values include low residential property taxes, as well as new or improved city and county facilities, services, and infrastructure.
**Recreation**: Recreational opportunities in the HD Mountains area include wide open vistas, as well as views of Chimney Rock and the Piedra River Valley (to the east) and the Pine River Valley (to the west). The core roadless area provides opportunities for hiking, hunting, and horseback riding in an environment of natural sights and sounds. There are motorized trails on the western and eastern flanks of the HD Mountains.

**Livestock Grazing**: Livestock grazing is an important use of the HD Mountains area (which has several active allotments that would continue to be utilized). This use is not expected to increase or decrease significantly in the future.

**Fire and Fuels Management**: Fire and fuels management are important activities in the HD Mountains area. These management activities would be aimed at reducing fire risk to private lands and residences along the flanks of the core area, as well as improving the overall health of the lands within the planning area and restoring a more natural condition.

**Desired Conditions - HD Mountains**

44.1 Specific actions for cultural resource are protected, preserved, and interpreted as directed in the Northern San Juan Basin Cultural Resources Management Plan.

44.2 High priority historic and prehistoric resources are stabilized and preserved for future generations.

44.3 The Spring Creek, Sauls Creek, Armstrong-Ritter, Turkey Creek, and Peterson Gulch National Register Districts/Proposed National Register Districts are maintained in an undisturbed condition and protected from impacts (including from vandalism, visual intrusion, surface disturbances, and erosion).

44.4 Motorized travel occurs on designated motorized roads and trails within the boundaries of the Spring Creek, Sauls Creek, Armstrong-Ritter, Turkey Creek, and Peterson Gulch National Register Districts/Proposed National Register Districts.

44.5 Scenic integrity meets an overall moderate scenic integrity objective, and areas of high scenic integrity are maintained, wherever practicable.

44.6 Although private land and mineral access may be authorized, as appropriate, opportunities to protect private and other key resources is sought through cooperative efforts with local, State, Native American tribal, and other Federal agencies.

44.7 Coordination between local, State, Native American tribal, and other Federal agencies is effective and on-going (especially regarding the integration of management for the San Juan Basin gas field.)

44.8 Water quality is maintained at current, or improved, conditions. Water quantity is maintained at current levels, unless affected by natural factors (including drought).

44.9 In general, management activities maintain or improve roadless area values, wherever practicable, with a long-term goal of returning the landscape to an unroaded condition. Existing roads in areas such as Spring Creek, Sauls Creek, Turkey Creek, Goose Creek, Lange Canyon, Fosset Gulch, and the Relay Tower Road, as well as motorized trails proposed under the NSJB FEIS ROD travel management plan, remain open to motorized travel indefinitely.

44.10 Development practices allow for efficient extraction of fluid-mineral resources in order to maximize recovery and related economic benefits (including property tax base and other indirect social and economic benefits to the local and regional area).

44.11 Mineral resources are developed so that the area can be returned to a relatively natural setting as production phases out.
44.12 Existing mineral leases are reasonably developed using the minimum size and amount of facilities necessary. Future mineral leases are issued with NSO stipulations.

44.13 Facilities are designed and constructed with the goal of ultimately reclaiming them to closely resemble pre-construction conditions.

44.14 Facilities are located in order to minimize or avoid construction in steep, erosive, unstable, highly visible, and/or other critical resource areas (including water-influence zones; areas with low potential for revegetation; and areas of known habitat for sensitive, threatened or endangered plant and animal species).

44.15 Where facilities are required, they are co-located, to the extent practicable, in order to reduce overall disturbance and indirect impacts (e.g., vehicle trips, air quality impacts, etc.).

44.16 Reclamation plans are an integral component of management activities.

44.17 Natural resources unique to the area (including old-growth ponderosa pine forests, wildlife habitat, and water sources) are effectively protected and managed in conjunction with other actions.

44.18 Wildlife habitat effectiveness and connectivity is maintained.

44.19 Wildlife habitat and big game winter range are protected, enhanced, or replaced.

44.20 Management activities avoid disturbance to old-growth vegetation.

44.21 Forest health, restoration, and fuels management are routine and recurring management activities (especially along the flanks of the HD Mountains). Forest ecosystem health is consistent with minimally disturbed natural systems. Fire-return intervals and risks of catastrophic fire are consistent with the range of natural variability for the various forest communities. Stand structures and vegetative compositions are representative of more natural conditions.

44.22 Forest health, restoration, and fuels projects are completed in order to reduce fire risk to private lands and residences along the flanks of the HD Mountains, with an overall goal of improving forest health while, at the same time, maintaining and/or returning the area to a more natural forested condition.

44.23 Invasive plant species (including noxious weeds) are absent or rare in the HD Mountains area.

44.24 Management activities complement primitive recreation and roadless values.

44.25 Livestock grazing management complements roadless values and natural forest conditions.

44.26 Motorized travel occurs on designated roads and trails during appropriate times. Mineral development roads authorized by the NSJB FEIS ROD are closed year-round to public motorized use (see the NSJB FEIS for travel management direction.)

44.27 Air-quality impacts from management activities are reduced or avoided using BMPs and the best available technology.
Program Emphasis

The NSJB FEIS Record of Decision (ROD) was signed on April 4, 2007, and provides guidance for gas-field development in the HD Mountains area. The development approach required by the NSJB FEIS ROD balances valid existing gas development lease rights with legitimate social and environmental issues. It also sets the stage for the long-term goal of returning the area to a natural condition. Under the direction of the LMP, the SJPLC program approach would include comprehensive implementation, monitoring, mitigation, and reclamation plans for all phases of project development that address gas seepage, water quality/quantity, landslide, wildlife, vegetation, recreation, transportation, visual, noise, health and safety, air quality issues, as well as the minimization of impacts to the IRA.

In addition, a Cultural Resources Management Plan (CRMP) will be developed in consultation with the State Historic Preservation Office (SHPO) and other consulting parties. The CRMP will provide a framework in which to address cumulative impacts to cultural resources, and will provide strategies for proactive management of cultural resources within the NSJB EIS Area of Potential Effect (which includes the HD Mountains area) (see the Cultural Resources section of the NSJB FEIS for more CRMP details).

In addition, hazardous fuels reduction projects will continue to prioritize the WUI related to SJPL/private land boundaries.

Noxious weeds are managed cooperatively with State of Colorado (especially in relation to impacts to the Little Squaw Creek drainage).

Objectives - HD Mountains

- Every 5 years, unless otherwise determined by the Authorized Officer, operators conducting oil and gas activities in the NSJB EIS project area would complete elk and deer habitat enhancement project(s). The project(s) must enhance acreage in elk habitat or deer winter range in the HD Mountains area (preferably on State and/or SJPLC-administered lands) in an amount that is equal to, or greater than, the acreage disturbed in elk habitat or deer winter range by oil and gas activities in the NSJB EIS project area.

- Permanently close all roads that are not designated as open in the travel management plan (roads not used by industry to access coal-bed methane (CBM) sites and not used for administrative purposes). Measures would be taken in order to effectively close such roads to all motorized use (including to full-size vehicles, ATVs, motorcycles, OHVs, and snowmobiles). Measures would include, but are not limited to, blocking roads at least one site distance up the roadbed by the placement of large boulders, livestock gates, and/or earthen barriers interspersed with tree trunks and branches; or obliterating and re-contouring areas back to the original slope.

- Every 5 years, stabilize, rehabilitate, or restore 1 mile or more of gullied channel in order to reduce erosion and sediment delivery.

- Annually, treat the full length of Crowbar Creek and Sauls Creek in order to control noxious weeds (primarily musk thistle).

- Twice per year, treat Spring Creek, Salt Canyon and Fosset Gulch in order to control noxious weeds (primarily musk thistle).
Suitability

Table 36 shows the allowable, prohibited, and restricted management activities and uses for the HD Mountains MA 2.

**Table 36 - HD Mountains Suitability**

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</tr>
<tr>
<td>Prescribed Burning</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted (Treatments generally would not be allowable in the core roadless area.)</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>Facilities</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted (Summer motorized travel is suitable and may occur on designated routes. Seasonal motorized restrictions may apply in order to protect resources and wildlife habitat areas.)</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
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</tr>
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</table>
Introduction

The Rico “special area” includes the USFS-administered lands adjacent to the Town of Rico. Approximate boundaries include Telescope Mountain to the northeast, Spruce Gulch to the southeast, Burnett Creek to the southwest, and Horse Creek to the northwest. The Rico area is located in a sub-alpine region of the San Juan Mountains, with elevations ranging from 8,800 feet in town to 12,681 feet on nearby Blackhawk Mountain. The area’s climate is best described as having four distinct seasons with significant winter snows, as well as the associated springtime run-offs. The large volumes of water from the winter snow-melt support a vast conifer and aspen forest with interspersed meadows. The high altitude and southerly latitude of the Rico area offer diverse and sometimes extreme climatic conditions that can range from warm and pleasant sunny days in the middle of January to harsh snowstorms in the summer months. Due to the high altitude, significant temperature drops usually occur at night. Snowstorm events can be substantial, and it is not unusual for roads to be closed, power to be disrupted, and/or emergency services to be delayed.

The Rico area is located primarily on the east side of the Dolores River (which is fed by several tributaries). The headwaters of these tributaries begin in the cirques and basins formed by the numerous surrounding mountain peaks. The majority of these peaks (including Expectation, Dolores, and Telescope) have elevations of over 12,000 feet. The area supports an array of big game wildlife (including deer, elk, sheep, mountain lion, and black bear). Elk and deer are primary resources. Small game is also plentiful (including blue grouse and snowshoe hare). The Dolores River, Silver Creek, and many other local tributaries, support a diverse plant and wildlife ecosystem. Canada lynx have recently been reintroduced into the San Juan National Forest and are often seen in the area.

The historic mining industry in the Rico area has provided a rich cultural history; however, it has also left behind a legacy of environmental damage. Impacts are primarily from previous mining activities (including mill tailings, mine dumps, shafts and tunnels, water-quality degradation, and lead contamination to some of the area’s soil).

The Town of Rico is relatively remote. The nearest towns to the north are Telluride and Mountain Village (which are approximately 28 miles away, over Lizard Head Pass). The nearest towns to the south are Dolores (which is approximately 40 miles away), and Cortez (which is approximately 50 miles away).

Rico is a community that aims to preserve its small mountain town historic character, even as the population grows. The community utilizes the natural resources of the surrounding public lands in order to assist in building a new post-mining economy. The relatively undeveloped, non-resort character of Rico is rapidly becoming rare in Colorado (as it is in other western states). Preserving the feel and appearance of the historic compact “mountain town” land pattern of the existing town is extremely important to the residents and property owners of Rico. New development areas beyond the historic town plat will complement the existing town site by focusing development adjacent to town on the north and south sides while, at the same time, preserving natural forest areas to the east and west of town. Management of population growth, new development, and overall rate of growth are essential to preserving the unique character and relationship between the USFS/BLM and the Rico community (Rico Master Plan 2003, p. 2-4).
Desired Conditions - Rico

45.1 Management of SJPLC-administered lands contributes to, or enhances, the historic “mountain town” scale and appearance of the Rico.

45.2 Trailheads and informational signage direct locals and visitors to the appropriate desired recreational experience.

45.3 Land ownership patterns are improved and consolidated between the town, private landowners, and the SJPLC in order to enhance community development objectives and to reduce resource impacts (including to the viewshed on the surrounding public lands).

45.4 Trails accessing SJPLC-administered lands from within town boundaries emphasize non-motorized recreation modes in order to emphasize the community’s quiet-use character.

45.5 Restoration and preservation of the natural space, beauty, and terrain of the area is recognized as the principal resource asset to the town.

45.6 Undeveloped areas and IRAs on SJPLC-administered lands near and/or around Rico provide quality elk and other large game habitat and wildlife corridors. These areas also provide quality hunting and wildlife viewing, as well as pristine backcountry non-motorized recreational experiences.

45.7 Undeveloped and unroaded areas on SJPLC-administered lands near and/or around Rico continue to provide habitat for wildlife and continue to contribute to the sustainable reintroduction of the Canada lynx.

45.8 Select historic structures associated with the area’s past mining history are stabilized, protected, and interpreted.

45.9 Area residents, as well as the visiting public, are directed to appropriate areas for non-motorized and motorized recreation opportunities through a variety of informational, educational, and interpretational venues.

45.10 In-stream flows on the upper Dolores River above McPhee Reservoir are maintained in order to enhance and preserve the scenic quality of the Dolores River (and the surrounding watershed), and to protect fisheries, riparian, and aquatic habitat.

45.11 The watersheds surrounding Rico are maintained and enhanced, with a focus on water-quality improvement for perennial streams entering the Dolores River.

45.12 Water quality entering the Dolores River is improved due to collaborative remediation efforts to clean up mining-impacted lands in the Rico area.

45.13 The Silver Creek watershed remains the municipal water source for the town of Rico until such time as additional and/or new water sources are developed.
Program Emphasis

Under the direction of the LMP, focused management of this area will address the impacts that occur in tandem with private land development and the maintenance of the interconnected SJPL resources. A sustainable management approach that maintains the close relationship between the people of Rico and the landscape of public lands will allow these goals to be met.

The Rico special area would offer an opportunity for the SJPLC to work collaboratively with the people of Rico in order to develop sustainable management practices for the planning area. SJPLC managers will develop a Memorandum of Understanding (MOU) for projects in the Rico area in order to outline common goals and to achieve sustainable management approaches throughout the implementation-life of the LMP.

Objectives

Management of the Rico special area will emphasize a proactive working relationship between the town of Rico and the SJPLC that serves to preserve and protect the uniqueness of the Rico community. Annual meetings between the town and the SJPLC will be encouraged in order to review community and public land management objectives specific to the public lands within the Rico MA 2. In addition:

- Within 5 years, develop a parking lot outside of the town limits for the Burnett Trailhead in order to provide an adequate staging area for motorized recreational experiences; as well as to preserve the quiet of the community while, at the same time, providing motorized opportunities.
- Annually, sign a minimum of 1 trail within the Rico area in order to inform and direct appropriate recreation use.
Suitability

Table 37 shows the allowable, prohibited, and restricted management activities and uses for the Rico MA 2.

**Table 37 - Rico Area Suitability**

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Allowable</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted to mitigating natural disturbances (including insect or disease epidemics) and preventing adverse impacts to the surrounding viewshed, watershed, and overall land health.</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Restricted to mitigating natural disturbances (including insect or disease epidemics) and preventing adverse impacts to the surrounding viewshed, watershed, and overall land health.</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Production (scheduled on a rotation bassi)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Allowable</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Restricted to grazing allotments</td>
</tr>
<tr>
<td>Facilities</td>
<td>Restricted (Primitive facilities, including parking areas, staging areas, and adequate signage, are generally suitable to direct and inform recreation activities.</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to motorized routes and trails designated within the Rico area</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted to motorized areas designated within the Rico area</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted (Permitted in order to provide access to valid existing rights, including mining claims). Temporary construction may occur in some areas in order to achieve resource restoration objectives.)</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Restricted (A NSO would be applied to IRAs within the Rico area. CSU and TL stipulations may be applied to specific locations, as necessary, in order to mitigate resource impacts.)</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (Limited road access and other constraints in the Rico area may limit or preclude mineral collection.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Restricted (Limited road access and other constraints in the Rico area may limit or preclude mineral collection.)</td>
</tr>
</tbody>
</table>
**Introduction**

The Silverton special area includes the Alpine Loop Backcountry Byway, portions of the San Juan Skyway, the Silverton SRMA, and the town of Silverton (see Figure 20). The Silverton Ski Area and the Durango-Silverton Narrow-Gauge Railroad also operate within this area. A portion of the Continental Divide National Scenic Trail and the Colorado Trail pass through this area.

The Silverton area has outstanding outdoor opportunities, extraordinary scenery (accessed by two byways and an extensive network of rough roads and trails), sensitive plant and animal habitats, and diverse year-round nature-based recreation and adventure tourism. The Town of Silverton’s history, and vintage architecture, is recognized by residents and visitors as a precious cultural resource. The Town of Silverton, which has strong community values and a “sense of place,” is a place where it’s possible to “step back in time.”

The top two reasons that more than 300,000 people visit the area annually are heritage tourism and recreation. These are the two main economic contributors to local communities. Activities for visitors include camping, hiking, mountain biking, wildlife and wildflower viewing, winter sports, OHV-use, and heritage tourism. The area is well-suited to day trips, as well as to multi-day excursions.

Situated primarily above 9,000 feet, this is largely a sensitive and beautiful subalpine-to-alpine environment. This area has important biological value (including its essential function as a linkage area for wildlife across the San Juan Mountains, and north to other parts of Colorado). The valleys and mountain passes provide key linkage corridors for migratory wildlife and wide-ranging carnivores (e.g., Canada lynx). The high country provides a large block of alpine and tundra habitat that is contiguous with adjacent public lands. This provides key habitat areas for a suite of unique species specially adapted to this fragile and harsh environment (including the endangered Uncompahgre fritillary butterfly, the white-tailed ptarmigan, and the brown-capped rosy finch). The Silverton area contains peat-forming wetlands called fens. Fens require thousands of years to develop and cannot easily be restored once damaged. Rare and sensitive plants are found only in these fens. The Silverton area is also the only area where iron fens are found within the planning area. Iron fens are a unique type of fen found in areas with geology that produces acidic, metal-rich conditions. The San Juan Mountain Range is one of only a few regions in the world that contain iron fens (see the Special Areas Plan Component for descriptions of the iron fens).

Many local residents are active stewards of this area, and have strong concerns regarding the protection of the unique environment. Concerns expressed by residents and visitors include issues related to recreation and travel management, cultural resource protection, sheep grazing, protection of scenic views and fragile tundra, adequate visitor information and services, mining impacts, economic benefits, conflicts between residents and tourists, and conflicts between motorized and other users.

The combination of road access, rewarding vistas, and outstanding remnants of the hard-rock mining heritage make the Silverton area one of the most spectacular high-elevation landscapes in the United States.
Desired Conditions - Silverton

46.1 Interpretation of the historic landscapes and features of the Silverton special area is made available through a range of effective and appropriate venues. Information is designed to enhance the touring experience and to encourage the greatest extent of appreciation and protection of these precious assets.

46.2 Commercial summer and winter recreation opportunities are available through permitted Outfitter/Guides and the Silverton Ski Area.

46.3 Recreational uses (including motorized/non-motorized travel or camping) are at sustainable levels within ROS settings.

46.4 Recreation management compatible with the area’s cultural and natural resource management goals is allowed and promoted.

46.5 High-priority historic resources are stabilized and preserved for future generations.

46.6 The built environment supports essential visitor services, heritage tourism and interpretation, and recreation opportunities (as identified in the Recreation Activity Management Plans (RAMPs)). Design elements (including scale, materials, and colors) complement the natural environment and are consistent with the architectural vernacular of local historic structures.

46.7 Support services are located within, or close to, gateway communities.

46.8 Local communities serve as gateways to the Silverton area; take an active role in stewardship of surrounding public lands; and receive lifestyle, community, and economic benefit. The site-stewardship program and the SJPLC presence are fully effective for resource protection, visitor contact, education, and safety.

46.9 Natural resources unique to the area (including Canada lynx/lynx habitat, fens, bighorn sheep, Uncompahgre fritillary butterfly, ptarmigan, and rosy finch) are effectively protected and managed in conjunction with other actions.

46.10 Water quality meets or exceeds State standards.

46.11 Although private land access is provided, as required, opportunities for protection of key resources are sought through the county development process, easement options, and acquisition.

46.12 High-priority parcels of land are protected and preserved through methods that include acquisition, land exchange, or conservation easements. (No specific target is proposed for this action, since its funding is totally dependent upon available land and water conservation fund allocations.)

46.13 Where public lands are isolated by surrounding private parcels, and where other resource values are minimal, the BLM considers sales (disposals) to the surrounding landowner in order to improve management of private and public lands. (These disposal lands are not depicted on a current map; however, they would be clearly delineated as current land surveys are conducted.) Land exchanges are another tool available for land tenure adjustment (ownership consolidation) employed in San Juan County. The proposals meet the test of public benefit, and the BLM costs of processing are borne by the private landowner proponents.
46.14 The responsibility to provide appropriate marketing and adequate interpretation, conservation education, and recreation information is understood and shared by agencies, partners, commercial Outfitter/Guides, and businesses.

46.15 Coordination between the Rio Grande, Gunnison, and Uncompahgre National Forests; the Gunnison BLM Field Office, and the SJPLC is effective and on-going (especially with regard to the integration of management for the San Juan Skyway, the Alpine Loop Backcountry Byway, and the Silverton area.)

46.16 The transportation system throughout the Silverton area meets the desire of visitors for access, provides a range of interesting touring experiences, and is designed in order to limit access to sites in need of protection.

46.17 Mining clean-up activities address resource protection and public safety.

**Program Emphasis**

Protecting the heritage of the amazingly persistent hard-rock miners is vital to preserving the nation’s history, as well as the allure of the Silverton area. Historic sites within the Silverton area include mills, dams, hydro-electric power houses, water flumes, shaft houses, tramways, miners’ cabins, assayer offices, boarding houses, powder houses, toll roads, railroads, mining camps, and countless mine shafts and adits. These sites are deteriorating in the harsh environment and as a result of the impacts from the increasing numbers of visitors. Private land development also threatens the integrity of the cultural landscape.

As the result of the configuration of mineral patents, San Juan County has a somewhat fragmented land-ownership pattern. In some cases, several acres of public land are isolated by private lands (sometimes the public land “splinters” are small fractional parts of an acre). Most of these parcels would not be fully known until a land survey is conducted for the private lands. When the patents in San Juan County were issued, this splintered private/public property ownership was of very little consequence. In more recent years, however, the uses of the private lands have shifted from mining to recreation and residential (seasonal and permanent). A proliferation of cabins on parcels of 5 acres or more has increased the applications to the BLM for ROWs for service infrastructure. Some consolidation of ownership would assist private owners and the BLM to better manage the land. This consolidation of ownership would be implemented by BLM land acquisitions, sales (disposals), and land exchanges. Access to public land interest areas away from county roads could be augmented by acquiring access easements. In keeping with the BLM mission of “serving communities,” lands near the town of Silverton may also be made available for recreation and public purposes, and the competitive or direct sale for expansion of residential and business property and/or provision for recreational or infrastructure facilities may occur.

Residents, visitors, and public land managers all see many opportunities for sustainable conservation of the Silverton area. Due to its complex resource values, and to the high levels of public interest, successful strategies for conservation will continue to depend upon partnerships (including with local, State, Native American tribal, and other Federal agencies; historic preservation advocates and agencies; non-profit organizations; interpretive associations; commercial recreation providers; and local businesses). Management tools (including land acquisition, land exchange, and conservation easements) would be critical to the protection of high-priority lands within the larger cultural landscape, the mitigation of resource impacts, and the improvement in land ownership patterns. As one of the “crown jewels” of the BLM lands, designation as a National Conservation Area or National Monument may also be considered, in order to give the area appropriate recognition and protection.
The Alpine Triangle CRMP provides guidance for the management and interpretation of cultural resources in the Silverton special area (see Appendix E). Under the direction of the DLMP, management will be intensive and include visitor facilities for interpretation and resource protection (including parking, trailhead facilities, signage, and trail maintenance). Regulations and visitor guidance will also play a role in protecting resources, as well as in enhancing visitor experience (including camping restrictions, travel management for motorized and non-motorized uses, resource protection, and visitor safety related to mines).

Successful implementation of the DLMP will depend upon collaborative management that addresses cross jurisdictional boundary issues (including Canada lynx habitat protection, cultural and scenic viewshed protection, and adequate visitor services). Cooperation with State historic and heritage programs; San Juan, Ouray, and Hinsdale Counties; local communities and their residents; local, State, Native American tribal, and other Federal agencies; non-profit organizations; interpretive associations; businesses; and public land permittees will be emphasized. Expansion of on-the-ground signs and patrols to effective levels will also be key to successful heritage tourism and resource protection. Special emphasis will be given to the protection of cultural viewsheds that are in jeopardy due to the impacts of incompatible private development.
Suitability

Table 38 shows the allowable, prohibited, and restricted management activities and uses for the Silverton MA 2.

Table 38 – Silverton Area Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Restricted (Wildland fire use would be allowed in high-elevation spruce-fir, and in order to protect historic structures and private property.)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted (May be used in order to improve wildlife habitat, including for as bighorn sheep.)</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Restricted to Christmas trees, post and poles, mushrooms and medicinal plants collected in the area.</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Restricted to grazing allotments.</td>
</tr>
<tr>
<td>Facilities</td>
<td>Restricted in order to protect resources, direct traffic, and to provide essential visitor services.</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Allowable</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Allowable</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted (Allowable for access to valid existing rights and for effective public access.)</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Minerals - Locatables</td>
<td>Allowable</td>
</tr>
<tr>
<td>Minerals- Saleable (materials)</td>
<td>Restricted (Allowable where natural, cultural, and/or scenic values are not degraded.)</td>
</tr>
</tbody>
</table>
Introduction

The McPhee unique landscape area includes the Anasazi National Register Archeological District and McPhee Dam (see Figure 26). With over 997 archeological sites, the Anasazi Archeological District contains one of the densest concentrations of Ancestral Puebloan sites in the southwestern United States. These sites were identified and documented during the Dolores Archeological Project. In 1977, the National Register of Historic Places District was established in recognition of this unique concentration of nationally significant cultural resources and landscapes (with sites including Basketmaker III and Pueblo II sites).

McPhee Dam was constructed on the Dolores River in order to provide storage for irrigation water in southwestern Colorado. McPhee Reservoir also provides outstanding recreation opportunities for boating, fishing, hiking, and ATV-use.

 Desired Conditions - McPhee

47.1 McPhee offers diverse recreation for communities while, at the same time, preserving archeological resources.

47.2 McPhee provides big game winter range, and sharptail and sage-grouse habitat.

47.3 Vegetation is managed in order to protect and enhance cultural resources.

47.4 Interpretive and educational opportunities enhance visitor experience and increase stewardship of sites.

47.5 User-made trails are re-routed or eliminated in order to avoid impacts to archeological sites.

47.6 Hazardous fuels are managed in order to protect and preserve archeological resources, and to reduce the risk of wildfire to recreational facilities.

47.7 Cultural viewsheds are preserved; incompatible uses or developments are prevented.
**Program Emphasis**

Under the direction of the LMP, management of the McPhee area emphasizes protection and preservation of archeological sites while, at the same time, providing recreation opportunities and protecting big game winter range and sage-grouse habitat. Focused management will address the intensive recreational use of the area, as well as the on-going impacts to significant archeological resources. An integrated archeological, recreation, and interpretive plan should be developed. The existing monitoring plan will be implemented in order to improve management and to protect archeological resources in the area. A proactive management approach will take full advantage of the educational, interpretive, scientific, and research opportunities available within the area. These proactive approaches include interpretive trails, “Passport In Time” projects, campground programs, and “Archaeology Month” programs. In order to improve management, archeological testing will be conducted on sites that were 100% surface collected in order to determine if subsurface deposits exist. This information can be used to determine future management and uses of these sites. Archeological sites could also be assessed in the waterline in order to ascertain impacts associated with fluctuations in reservoir levels. Data recovery will be conducted, if necessary, in order to mitigate adverse impacts.

**Objectives - McPhee MA 2**

- Within 5 years, implement site-steward and “adopt-a-site” programs.
- Over the implementation-life of the LMP, develop 2 interpretive trails.
- Within 10 years, test 2 sites for subsurface archeological deposits.
Suitability

Table 39 shows the allowable, prohibited, and restricted management activities and uses for the McPhee MA 2.

Table 39 - McPhee Unique Landscape Suitability

<table>
<thead>
<tr>
<th>MANAGEMENT ACTIVITIES AND USES</th>
<th>ALLOWABLE - RESTRICTED - PROHIBITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire Use</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Restricted</td>
</tr>
<tr>
<td>Mechanical Fuels Treatment</td>
<td>Allowable</td>
</tr>
<tr>
<td>Timber Harvesting</td>
<td>Restricted (Significant archaeological resources must be protected.)</td>
</tr>
<tr>
<td>Timber Production (schedule on a rotation basis)</td>
<td>Restricted</td>
</tr>
<tr>
<td>Commercial Use of Special Forest Products and Firewood</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Livestock Grazing</td>
<td>Allowable</td>
</tr>
<tr>
<td>Recreation Facilities</td>
<td>Restricted to existing facilities (Significant archaeological resources must be protected prior to the development of any new facilities.)</td>
</tr>
<tr>
<td>Motorized (Summer)</td>
<td>Restricted to designated routes</td>
</tr>
<tr>
<td>Motorized (Winter)</td>
<td>Restricted</td>
</tr>
<tr>
<td>Non-motorized (Summer)</td>
<td>Prohibited</td>
</tr>
<tr>
<td>Non-motorized (Winter)</td>
<td>Restricted</td>
</tr>
<tr>
<td>Motorized Tools for Administrative Work</td>
<td>Restricted (Significant archaeological resources must be protected.)</td>
</tr>
<tr>
<td>Mechanized (e.g., Mountain Bikes)</td>
<td>Restricted to designated roads and trails.</td>
</tr>
<tr>
<td>Road Construction (permanent or temporary)</td>
<td>Restricted</td>
</tr>
<tr>
<td>Minerals - Leasable (oil and gas, and other)</td>
<td>Administratively not available</td>
</tr>
<tr>
<td>Minerals - Locatable</td>
<td>Restricted (A provision would be required for assessing the affected area for future mineral withdrawal.)</td>
</tr>
<tr>
<td>Minerals - Saleable (materials)</td>
<td>Prohibited</td>
</tr>
</tbody>
</table>
This section of the DLMP provides programmatic direction for monitoring and evaluating DLMP implementation. Monitoring is the process of taking periodic observations in order to detect changes and/or trends in resources and environment. Evaluation is defined as interpreting or judging information collected from monitoring.

The purpose of this section is to provide direction in order to facilitate successful monitoring and evaluation. In brief, the steps to monitoring are:

- **Establish Monitoring Priorities**: As part of the annual program budgeting process, priorities are established in order to conduct monitoring. This is due to the fact that it is not possible to address all of the questions related to management issues or programs. The Monitoring Strategy described at the end of this section describes priorities related to collecting, managing, and evaluating data (and forms the plan of what data is to be collected). Criteria from the LMP are used to establish annual priorities for monitoring.

- **Identify Responsible Parties, and Potential Cooperators**: Resource program managers accept responsibility for ensuring that monitoring is completed, and identify ways to gather and evaluate data in conjunction with other agencies or with other interested parties.

- **Evaluate the Data**: Resource managers will evaluate the data collected, with the goal of answering the monitoring questions, and determine if changes are needed in plan direction or outputs.

- **Publish and Distribute the Annual Monitoring Report**: Resource managers will write, acquire approval by the SJPLC Supervisor, and distribute the annual monitoring report. This report will summarize the information collected and the relevant evaluations.

**MONITORING PURPOSE**

Effective land use plan monitoring and evaluation improve both management and planning decisions. Monitoring and evaluation are components of adaptive management. As resource conditions change, on-going monitoring and evaluation help identify the need to adjust desired conditions, goals, objectives, standards, and guidelines. This process would help the SJPLC, and the public, determine how the LMP is being implemented, whether or not plan implementation is achieving desired outcomes, and whether or not assumptions made in the planning process are valid. Monitoring and evaluation allows the SJPLC to incorporate new understanding and technology; changes in law, policy, and resource conditions; and growing concerns, trends, and changing social values into land management planning.

Under the direction of the LMP, monitoring and evaluation are separate, sequential activities designed to determine how well objectives are being met, as well as how closely management standards and guidelines have been applied. Monitoring necessarily includes the collection of data and information, either by observation or by measurement. Evaluation entails the analysis of the data and information collected during monitoring. The evaluation results are used in order to:

- answer the monitoring questions;
- determine whether or not a LMP revision or amendment was warranted; and
- ascertain whether or not LMP implementation should be modified.
Evaluation results form a basis for adaptively managing the public lands within the planning area. Monitoring and evaluation keep the LMP up-to-date and responsive to changing issues. This process accomplishes these goals by verifying the effectiveness of the standards and guidelines and other LMP direction by anticipating program and project impacts on resources, and by providing information for LMP amendments. Three types of monitoring are discussed in this section:

- **Effectiveness Monitoring**: This determines whether or not LMP strategies and objectives are being met.
- **Implementation Monitoring**: This determines whether or not projects are implemented according to LMP direction (standards and guidelines).
- **Validation Monitoring**: This verifies whether or not assumptions and models used in LMP implementation are appropriate, and determines whether or not implementing the direction and desired conditions in the LMP is effective at achieving the goals and objectives.

As the SJPLC plans and implements its monitoring and evaluation program, there are several important guidelines to consider. Under the direction of the LMP, monitoring should:

- be purposeful and conducted in order to answer specific questions;
- be done at the appropriate spatial and temporal scale (typically not at the project scale) in order to answer the questions;
- be done in collaboration with others (including local, State, Native American tribal, and other Federal agencies; the interested public; researchers; and non-profit organizations) in order to share the workload (including obtaining data from other sources), gain expertise, and build credibility and trust;
- use the best available science and established protocols in order to collect and evaluate the data;
- use modern information management techniques and tools;
- apply stringent selection criteria so that a monitoring activity is only conducted if it is feasible, realistic, and affordable; and
- emphasize evaluation as much as the collection of the data.

The National Forest Management Act (NFMA) requires the USFS to do specific monitoring tasks (36 CFR 219). The Federal Land Policy and Management Act (FLPMA), as codified in BLM planning regulations (43 CFR 1601.0-5(k)(8) and 43 CFR 1610.4-9) require that BLM land use plans establish intervals and standards for monitoring and evaluations (based on the sensitivity of the resource decisions involved). The level and intensity of any additional monitoring is dependent on available staffing, funding, and agency priorities. (See Appendix Z for a listing of high and very high priority monitoring strategies for biodiversity conservation developed in conjunction with The Nature Conservancy for BLM lands at lower elevations. This level of monitoring goes beyond the needs of plan-level monitoring and is useful for monitoring biodiversity over a broader mix of ownerships.)
INFORMATION MANAGEMENT

Under the direction of the LMP, monitoring and evaluation involve more than just collecting data. These processes encompass the full range of information management steps, and include the appropriate recording in corporate information systems.

Once the purpose, or reasoning, for monitoring has been determined (including seeking answers to a particular monitoring question), careful consideration goes into identifying what feature or variable needs to be measured, as well as how it will be measured (protocol). If no protocols exist to acquire the needed information, research staff will be consulted in order to assist in developing the necessary protocols.

After the SJPLC determines how information will be gathered, data collection begins. Using data from other sources saves the SJPLC the cost of collecting the information. Once data are obtained and have been edited to established quality standards, the data is stored in a corporate electronic database with a spatial context. The data is then analyzed and interpreted.

The interpreted information is evaluated by the Interdisciplinary (ID) Team in order to answer the monitoring question, and to give it meaning within the context of the LMP. A variety of analytical tools and evaluation procedures are available in order to effectively interpret the data. The results are reported to the SJPLC Leadership Team (for them to consider and to take appropriate action based upon). The results are also documented in the annual monitoring and evaluation report. Monitoring data, evaluation results, and the annual report should be electronically accessible to the public.

USFS MANAGEMENT INDICATOR SPECIES (MIS) MONITORING

Management Indicator Species (MIS) are species which are monitored in order to assess the effects of management activities on their populations and on the habitats with which they are associated. Changes in MIS populations or their habitats could indicate that current management is adversely affecting the composition structure, or function of those habitats, resulting in Plan direction and desired conditions not being met and the need for adaptive management. MIS motivate development of plan objectives, analysis of plan direction, and monitoring of plan implementation. The five species selection categories are described under the Species section of this Plan. No MIS were selected for species viability issues. Species with viability concern are identified as Threatened, Endangered, or Sensitive (TES) and managed through the TES programs within the context of this Plan. MIS is not part of the BLM directives system and not implemented on BLM lands.

Forest Service regulations and policies establish the need to evaluate MIS population trends at the forest scale and to relate those trends to changes in habitats resulting from land management across the Forest (36 CFR 219.19 (a) (6)). To conform with the requirements and intent of these regulations, the San Juan National Forest will monitor the status and trend of MIS populations and the condition and trend of their habitats across the Forest at spatial and temporal scales’ generally at the Forest plan scale or larger. Monitoring will occur within the context of Forest Plan direction and according to monitoring approaches described in the monitoring section of the Forest Plan.

When forest-level monitoring indicates identified levels of change, follow-up analysis is initiated to investigate the root cause of the change. If cause/effect determinations are related to identified management issues and actions, then adaptive management strategies will be implemented to correct deficiencies.
At the more site-specific project scale, analysis will relate changes expected from proposed project activities to forest-wide trends in MIS habitat status and condition, and relate how those changes would contribute to forest-wide population trends and Forest Plan direction. Where it will aid analysis and project planning, localized data may be collected but is not necessary to meet forest monitoring objectives. Population and habitat trend monitoring are inappropriate at the project level due to the dynamics of scale relating to populations and supporting habitat.

Trout are identified as a MIS to plan and monitor management activities that could adversely affect aquatic habitats. Management activities that could adversely affect aquatic ecosystems include hard-rock mining, livestock grazing, timber harvesting, road construction, water-development projects, and the introduction of non-native fish species. Trout are also identified as MIS in order to address water quantity issues associated with water depletions due to reservoirs, diversions, and oil and gas development and to address water quality issues associated with soil erosion and sedimentation due to ground-disturbing activities. Specific habitat features to be monitored include water quantity and quality, and key habitat components for fisheries including bank stability, width-to-depth ratio, pool/riffle ratio, pool depth, and substrate. Trout population trends will be monitored periodically and summarized on a five-year basis. Monitoring will occur cooperatively with CDOW based on an established protocol.

Abert’s squirrel is identified as a MIS to plan and monitor management activities that could affect the structure and function of ponderosa pine forest habitats, not because of specific concerns for the viability of this species. Management activities that could affect ponderosa pine habitats include timber harvesting, oil and gas development, fuels reduction projects, livestock grazing, and road construction. Specific habitat features to be monitored include the size, density, and connectivity of ponderosa pine trees. Abert squirrel populations will be monitored periodically and summarized on a five-year basis by sampling within suitable habitat using established methods. Initially monitoring will employ an established, tested protocol employing a feeding sign index (Dodd, N. L., S. S. Rosenstock, C. R. Miller, and R. E. Schweinsburg. 1998. Tassel-eared squirrel population dynamics in Arizona: index techniques and relationships to habitat conditions. Arizona Game and Fish Department, Research Branch, Technical Report 27. Phoenix, AZ.).

American marten is identified as a MIS to plan and monitor management activities that could affect the structure and function of spruce-fir and cool-moist mixed conifer forest habitats, not because of specific concerns for the viability of this species. Management activities that could affect these habitats include timber harvesting, recreation, fuel reduction projects, and road construction. Specific habitat features to be monitored include the density and connectivity of conifer trees, the amount and distribution of large wood on the forest floor, and the degree of fragmentation due to roads and trails. Marten populations will be monitored periodically and summarized on a five-year basis by sampling within suitable habitat. Initially, winter track surveys will be used to build on the foundation of monitoring data gathered in the past through cooperation with other agencies.

Mountain bluebird is identified as a MIS to plan and monitor management activities that could affect the structure and function of aspen forest habitats, not because of specific concerns for the viability of this species. Management activities that could affect aspen habitats include clearcut timber harvests. Specific habitat features to be monitored include the size and density of aspen trees, and the size of aspen clearcuts. Mountain bluebird population trends will be sampled periodically and summarized on a five-year basis. Initial monitoring will continue to build on the well established Monitoring Colorado Birds cooperative program.
Elk is identified as a MIS to plan and monitor management activities that occur in winter range habitats (pinyon-juniper woodlands, sagebrush shrublands, mountain shrublands, and ponderosa pine forests), and to contribute to the Forest Service meeting state objectives for these species. Management activities that occur in winter range habitats include timber harvesting, oil and gas development, fuels reduction projects, and recreation activities. Over the planning period of 1983 to 2003, elk population trends did not correlate with elk habitat trends and changes in elk habitat on the Forest do not appear to affect elk numbers (SJNF MIS Species Assessment). However, elk are behaviorally and physiologically affected by many management activities which will be the focus of monitoring. Specific features to be monitored are human activities that affect habitat quality, effectiveness, and fragmentation from roads and trails. Elk population trends will be monitored annually using data collected by the CDOW.

General Guidance for MIS monitoring include (see also Appendix N):

- **Wildlife, Fish, and Plant Species and Habitat Trends**: MIS population and habitat trends are intended to determine habitat capability trends and the relationship to habitat change. These would be summarized on a 5- to 10-year basis. Precision of data would vary, based on the data sources (including, but not limited to, population estimates by State wildlife agencies, USFS and BLM monitoring, informed judgment of USFS and BLM Ecologists and Wildlife/Fisheries Biologists, habitat inventory assessments, resource information system databases, program reviews, activity reviews, annual program reporting, and species and habitat assessments).

- Variability that may initiate evaluation include, but are not limited to, species viability being jeopardized, a 20% change in species habitat distribution, and changes in species emphasis by State wildlife agencies.

**Additional Referenced Guidance**

Hayward et al. 2004); 36 CFR 219.19; USFS Manual FSM 2600.

**Evaluation Process**

Under the direction of the LMP, the SJPLC evaluates data and information collected through monitoring. The objective or “desired condition” that prompted the development of the monitoring question is typically associated with one or more monitoring items. Where the desired condition may be conceptual or visionary in nature, the monitoring items are a measurable aspect of the desired condition.

Evaluation involves the process of transforming the collected data into information that is useful for future management decisions. It synthesizes values, judgments, and reasoning with monitoring information in order to answer questions about the effects (impacts) of management actions.
There are four components that would contribute to effective evaluation:

- **Evaluation Context**: A sense of the history of the place or the circumstances (temporal and special context) is important to the evaluation of management activities.

- **Evaluation Baseline and/or Reference Information**: This describes the change from a baseline or reference condition, either toward or away from a desired condition. The desired condition may, or may not, ever be fully achieved; however, it is important to know if management activities are proceeding in the desired direction.

- **Evaluation Information Used to Infer Outcomes and Trends**: Conclusions will be drawn from an interpretation of monitoring information.

- **Evaluation Results Documented in an Annual Monitoring and Evaluation Report**: The SJPLC will use the Annual SJPLC Monitoring Report as a tool in order to initiate changes in management activities.

**ANNUAL MONITORING AND EVALUATION REPORT**

Under the direction of the LMP, the SJPLC will document its monitoring and evaluation process in an Annual Monitoring and Evaluation Report that allows for output target reporting. In addition to target reporting, the report serves several additional purposes, including:

- documenting monitoring and evaluation accomplishments;
- providing an assessment of the current state of ecological conditions on the public lands within the planning area;
- providing adaptive management feedback to responsible officials of any needed changes to the LMP, or of any needed adjustments to management actions; and
- providing the public with relevant information about the management of the public lands within the planning area.

The Annual Monitoring and Evaluation Report is based on data and information gathered the previous fiscal year (from October 1 through September 30). It evaluates implementation of the LMP and provides an overview of resource conditions and trends as they relate to indicators and criteria for sustainability (with specific attention on the impacts of management actions on ecological system structure and function). The Monitoring and Evaluation Report is organized into the following sections:

- **The Introduction**: This section contains a description of the types of monitoring and evaluation occurring on the public lands, a brief discussion of LMP revision and amendments, a comparison of projected and actual outputs, and a section describing the impact of budget on achieving LMP objectives.

- **The Monitoring Results**: This section describes the results of monitoring efforts for the following resource disciplines: water, air quality, minerals, soils, fish and riparian areas, fire, insects and disease, forested vegetation and timber, range, rare plants, wildlife, heritage, lands and special uses, recreation, facilities, and wilderness.

- **Recommendations**: This section includes a list of actions proposed by SJPLC specialists for their individual resources. The list includes a disposition component for each recommendation.
Monitoring Meetings
Under the direction of the LMP, bi-annual monitoring and evaluation meetings with cooperating agencies (including the State of Colorado, County Commissioners, and non-government cooperators) will be offered. The meetings would be open to the public, with ground rules similar to those used in LMP revision working group meetings.

Community members will be encouraged to help SJPLC personnel in monitoring LMP implementation; evaluating biological, social, and economic impacts; and identifying amendment needs and proposed solutions. Maintaining the knowledge base and relationship with State agencies and local elected officials will provide continuity in the adaptive management cycle (from the development of the LMP; to the implementation, monitoring, evaluation, and amendment process, through to the next LMP revision).

Monitoring Strategy
Under the direction of the LMP, the monitoring strategy (see Table 40) would outline the elements where monitoring would be used in order to evaluate plan components. Monitoring elements are organized into 3 categories: 1) effectiveness, 2) validation, and 3) implementation (as previously described). The list of elements was developed in order to provide guidance in determining annual monitoring requirements and accomplishments. Land managers may need to prioritize what would be monitored in any given year. This would be based on monitoring drivers, monitoring priorities, the previous year’s accomplishments, and/or the urgency of a monitoring question, as described below.

Monitoring Driver
The monitoring driver relates monitoring questions back to specific items found in the revised LMP.

Monitoring Questions
Specific monitoring questions will be developed in order to ensure that monitoring and evaluation addressed the information essential to measuring the accomplishments and effectiveness of land management activities. These questions help identify issues of concern and determine whether or not observed changes were consistent with LMP desired conditions, goals, and objectives.

Monitoring Priorities
The priority of a monitoring item or issue, may affect the intensity and/or extent of associated monitoring activities. The monitoring strategy includes three classifications (designed to indicate priority:

- **High Priority**: This indicates that the monitoring element is required by law and/or by regulation.
- **Medium Priority**: This indicates that the monitoring element is directed by the LMP, as developed in the objectives and strategies section (which may or may not be directly associated with required laws or regulations).
- **Low Priority**: This indicates that the monitoring element involves questions of a more indirect nature, or that it does not fall under one of the above classifications.

Potential Monitoring Items
A monitoring item may be a quantitative or qualitative parameter that is measured or estimated. One or more monitoring items are selected in order to answer a monitoring question. Each monitoring item has an associated quantitative unit of measurement, or, in some cases, a narrative is specified. Any change to the list of potential monitoring items will be reflected in the annual monitoring report.
**Monitoring Precision/Reliability**
The precision and reliability with which a monitoring item is collected is dependent upon the activity and associated issue(s). There are two classes of precision and reliability considered in the monitoring guide:

- **Class A**: In this case, the methods are generally well accepted for modeling or measuring the resource or condition. They produce repeatable results and are often statistically valid. Reliability, precision, and accuracy are very good. The cost of conducting these measurements is higher than other methods. These methods are often quantitative.

- **Class B**: In this case, the methods are based on project records, communication, on-site ocular (visual) estimates, and/or less formal measurements (including paced transects, informal visitor surveys, air photo interpretation, or other similar types of assessments). Reliability, accuracy, and precision are good; however, they are less than those for Class A methods. Class B methods are often qualitative; however, they are still provide valuable information on the status of the resource.

**Scale**
Scale describes the level of analysis with respect to land size. This measure is important in describing impacts dealing with habitat heterogeneity and viability issues, as well as describing cumulative impacts related to, or resulting from, management actions (examples include 6th-level watersheds or geographic areas).

**Frequency of Reporting**
Frequency of reporting describes the timing of monitoring and evaluation efforts. Most data is collected annually, with reporting or evaluation of the data conducted at specific times (such as annually or every 5 years).
# Table 40 - Monitoring Strategy

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness Monitoring – Are plan objectives and desired conditions being achieved?</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>A. AIR RESOURCES OBJECTIVES</strong></td>
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</tr>
<tr>
<td>A. 1. By the next planning period, improve three flora and fauna air-quality-related values that are at risk (including lichens, amphibians, aquatic organisms, etc.) to a level that is within the limits of acceptable change (compared to natural conditions).</td>
<td>Are Class I Areas being managed in order to protect AQRVs within the limits of acceptable change?</td>
<td>High</td>
<td>The changes, as monitored by sensitive receptors – lichen, diatoms, plankton, amphibians, subalpine fir, and mosses.</td>
<td>A</td>
<td>Regional and SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>A. 2. Over the implementation-life of the LMP, prevent or reduce visibility impairment and allow no more than a 5% change in contrast, a 5% change in extinction and visual range, or a change in color difference index ≥2 compared to natural conditions for the Weminuche Wilderness Class I Area.</td>
<td>Are Class I Areas being managed in order to protect AQRVs within the limits of acceptable change?</td>
<td>High</td>
<td>The Engineer and Shamrock AQ monitoring stations, IMPROVE aerosol sampling, and digital photography.</td>
<td>A</td>
<td>Regional and SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>A. 3. Over the implementation-life of the LMP, prevent or reduce acidic deposition and allow no more than a 10% change from established baseline for lakes with an acid neutralizing capacity (ANC) ≥25 µeq/L, and no change for lakes with an ANC&lt;25 µeq/L.</td>
<td>Are Class I Areas being managed in order to protect AQRVs within the limits of acceptable change?</td>
<td>High</td>
<td>High lakes water quality sampling, NADP sampling at Molas Pass and Wolf Creek Pass</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually (sampling weekly)</td>
</tr>
<tr>
<td>A. 4. Over the implementation-life of the LMP, prevent or reduce airborne nutrient and mercury deposition impairment of sensitive high-elevation lakes in the Weminuche Wilderness Class I Area, and allow no mercury concentrations, no more than 2 µeq/L of ammonium, and no late summer nitrate.</td>
<td>Are Class I Areas being managed in order to protect AQRVs within the limits of acceptable change?</td>
<td>Medium</td>
<td>High lakes long-term sampling, NADP Mercury Deposition Network at Molas Pass</td>
<td>A</td>
<td>Regional and SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td><strong>B. SOILS OBJECTIVES</strong></td>
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<tr>
<td>B. 1. Within 10 years, restore or improve soil productivity on 20 miles of road that will be closed or decommissioned.</td>
<td>Has soil productivity been improved on closed or decommissioned roads?</td>
<td>Medium</td>
<td>The miles of closed or decommissioned roads.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
</tbody>
</table>
### C. WATER RESOURCE PROGRAM OBJECTIVES

#### C 1. Water Quality Protection

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
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<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.1.1 Annually, rehabilitate or restore 20 or more acres of disturbed land on saline soils in order to reduce salt delivery to the upper Colorado River Basin.</td>
<td>Are rehabilitation measures effective, and is salinity actually being reduced to the upper Colorado River?</td>
<td>Medium</td>
<td>Water quality sampling, long-term trend photography, BMP implementation and effectiveness monitoring, and project effectiveness monitoring.</td>
<td>B</td>
<td>Project level and sub-watershed level</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
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<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.1.2 Annually, rehabilitate or restore 10 or more acres in State 303(d) listed water body watersheds or watersheds with Total Maximum Daily Load plans in order to reduce pollutant delivery if the pollution is related to non-point source activities.</td>
<td>Are rehabilitation measures effective, and is water quality actually being improved in State 303(d) watersheds?</td>
<td>Medium</td>
<td>Water quality sampling, long-term trend photography, BMP implementation and effectiveness monitoring, project effectiveness monitoring, macroinvertebrate sampling, and channel substrate sampling.</td>
<td>B</td>
<td>Project level and sub-watershed level</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

#### C 2. Maintain or Improve Watershed Condition and Stream/Floodplain Function

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
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<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.2.1 Annually, treat approximately 20 acres of priority restoration watersheds, improving watershed conditions so that they move from the category of most highly impacted watersheds (80th percentile most impacted) to a lower category, as determined by the San Juan Aquatic Assessment (USFS 2006) or other priority watershed ranking methodology.</td>
<td>Are rehabilitation measures effective, and is water quality and aquatic/channel conditions actually being improved?</td>
<td>Medium</td>
<td>PFC monitoring, stream surveys, channel substrate surveys, road decommissioning and BMP effectiveness and implementation monitoring, and comparisons to reference condition analysis.</td>
<td>B</td>
<td>Project and sub-basin scale</td>
<td>Every 5 Years</td>
</tr>
</tbody>
</table>

#### C 3. Manage Water Uses

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.3.1 Over the implementation-life of the LMP, all SJPLC-administered water rights are put to beneficial use, and that use can be documented. Performance Measure: Record and document water use for the San Juan Public Lands water rights and file required documentation with the State Engineer’s Office.</td>
<td>Are water rights being beneficially used as required by associated water court decrees?</td>
<td>Medium</td>
<td>Livestock use reports, range administration documents, facilities use reports, and field inventories.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
</tbody>
</table>
### D. AQUATIC ECOSYSTEMS AND AQUATIC SPECIES OBJECTIVES

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 1. Annually, enhance or restore 5 to 15 miles of stream habitat in order to maintain or restore structure, composition, and function of physical habitat for fisheries.</td>
<td>Is the structure, composition and function of physical habitat for fisheries being enhanced by management actions?</td>
<td>Medium</td>
<td>The miles of stream habitat treated.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>D 2. Over the implementation-life of the LMPn, connect 10 to 15 miles of fragmented stream habitat in order to provide for aquatic species migration and the establishment of aquatic meta-populations.</td>
<td>Are streams providing for aquatic species migration and establishment of aquatic meta-populations?</td>
<td>Medium</td>
<td>The miles of streams connected.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>D 3. Over the implementation-life of the LMP, establish 5 new additional populations of Colorado River cutthroat trout, in cooperation with CDOW.</td>
<td>Have new populations of Colorado River Cutthroat trout been established by the CDOW on potential streams?</td>
<td>Medium</td>
<td>The populations of Colorado River cutthroat trout identified by CDOW.</td>
<td>A</td>
<td>Streams identified by CDOW</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

### E. RIPARIAN AND WETLANDS ECOSYSTEMS OBJECTIVES

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 1. Within 10 years, determine the functional condition of 50 to 100 miles of riparian areas.</td>
<td>Has the functional condition been determined on any San Juan Public Lands riparian areas?</td>
<td>Medium</td>
<td>The miles of riparian areas with a functional condition rating.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Bi-annually</td>
</tr>
</tbody>
</table>

### F. TERRESTRIAL ECOSYSTEMS DESIRED CONDITIONS

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
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<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 1. All rangelands display satisfactory rangeland conditions.</td>
<td>Are rangelands showing characteristics of satisfactory rangeland conditions?</td>
<td>Medium</td>
<td>The abundance and distribution of perennial native bunchgrasses and native hydrophytic species, the amount of bare soil and soil compaction, and the amount of invasive plant species.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
</tbody>
</table>
### G. PLANT SPECIES DESIRED CONDITIONS

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. 1. R2 Regional Forester’s Sensitive Plant Species and those BLM Special Status Plant Species not currently listed as endangered or threatened are not trending toward Federal listing under the Endangered Species Act; and the abundance, distribution, and habitat of these plant species across San Juan Public Lands improves to a point where their recognition as R2 Regional Forester’s Sensitive Species, BLM Special Status Species, and San Juan Public Lands highlight species is no longer warranted.</td>
<td>Are R2 Regional Forester’s Sensitive Plant Species and those BLM Special Status Plant Species not currently listed as endangered or threatened trending toward Federal listing under the Endangered Species Act?</td>
<td>High</td>
<td>The abundance and distribution of 10 to 20% of R2 Regional Forester’s Sensitive Plant Species and those BLM Special Status Plant Species not currently listed as endangered or threatened and their habitat.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Bi-annually</td>
</tr>
<tr>
<td>G. 2. <em>Festuca arizonica</em> is abundant and well-distributed in the mid-elevation mountain grassland and ponderosa pine forest types, and it’s photosynthetic and reproductive abilities are intact throughout the growing season.</td>
<td>Is <em>Festuca arizonica</em> abundant and well-distributed in the mid-elevation mountain grassland and ponderosa pine forest types, and is its photosynthetic and reproductive abilities intact throughout the growing season?</td>
<td>Medium</td>
<td>The abundance and distribution of <em>Festuca arizonica</em>.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>G. 3. All rangelands display satisfactory rangeland conditions (see Monitoring Drivers for Livestock Grazing). Rangeland bunchgrasses are abundant and well-distributed throughout the planning area, and their photosynthetic and reproductive abilities are intact throughout the growing season. Conduct annual prescribed monitoring activities on at least 10% of active allotments, and use the information to make adaptive changes to management.</td>
<td>Are <em>Festuca arizonica</em> and <em>Festuca thurberi</em> increasing or decreasing in abundance or remaining stable in the mountain grasslands that they occur in?</td>
<td>Medium</td>
<td>The abundance of <em>Festuca arizonica</em> and <em>Festuca thurberi</em>; the amount of utilization by cattle of <em>Festuca arizonica</em> and <em>Festuca thurberi</em>.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>G. 4. All rangelands display satisfactory rangeland conditions (See Monitoring Drivers for Livestock Grazing). Riparian areas have vegetation that is vigorous and self-perpetuating with a diverse composition of desirable native plant species that display multiple-age classes. Forest and shrubland riparian areas types display native hydrophytic trees and shrubs in a variety of size classes. Conduct annual prescribed monitoring activities on at least 10% of active allotments, and use the information to make adaptive changes to management.</td>
<td>Are native willow species increasing or decreasing in abundance or remaining stable in the riparian areas and wetland ecosystems that they occur in?</td>
<td>Medium</td>
<td>The abundance of native willows; the amount of utilization by cattle of native willows.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
</tbody>
</table>
### H. TERRESTRIAL ECOSYSTEMS AND PLANT SPECIES OBJECTIVES

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
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<tbody>
<tr>
<td>H 1. Within the next 20 years, increase the amount of young spruce-fir forests and young cool-moist mixed-conifer forests throughout the planning area from their current status of 1.5% and 0.5%, respectively, to 15% primarily by allowing wildland fire use (and, to a much lesser extent, timber harvest) to occur in the mature development stage of spruce-fir and mature cool-moist mixed-conifer forests.</td>
<td>Has there been an increase in the amount of young spruce-fir and young cool-moist mixed-conifer forests?</td>
<td>Medium</td>
<td>The acres of young spruce-fir and young cool-moist mixed-conifer forests.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 2. Within the next 20 years, increase the amount of young aspen forests throughout the planning area from their current status of 1% to 25% by clear-cutting mature aspen forests, and by allowing wildland fire use to occur in the mature development stage of aspen, spruce-fir, and cool-moist mixed-conifer forests. Timber harvest will primarily occur adjacent to aspen clear-cuts that were cut within the last 15 years, in order to increase the patch size of young aspen forests and better mimic the large aspen patches that were common during the reference period (HRV conditions).</td>
<td>Has there been an increase in the amount of young aspen forests?</td>
<td>Medium</td>
<td>The acres of young aspen forests.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 3. Within the next 20 years, increase the amount of ponderosa pine forests that have open canopies by changing 20,000 to 40,000 acres of ponderosa pine forests (excluding old-growth forests) from development stage mature-closed to development stage mature-open using timber harvest treatments (including thinning and allowing wildland fire).</td>
<td>Has there been an increase in the amount of ponderosa pine forests that have open canopies?</td>
<td>Medium</td>
<td>The acres of ponderosa pine forests with development stage mature-open.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 4. Within the next 20 years, increase the amount of warm-dry mixed-conifer forests that have open canopies by changing 10,000 acres of warm-dry mixed-conifer forests (excluding old-growth forests) from development stage mature-closed to development stage mature-open by using restoration (improvement) harvest treatments that target white fir for removal, and by allowing wildland fire use to occur.</td>
<td>Has there been an increase in the amount of warm-dry mixed-conifer forests that have open canopies?</td>
<td>Medium</td>
<td>The acres of warm-dry mixed-conifer forests with development stage mature-open.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 5. Within the next 15 years, use low-intensity prescribed fire or wildland fire use on 30,000 acres of ponderosa pine or warm-dry mixed-conifer forests that have been without fire for decades in order to improve the composition, structure, and function of those forests.</td>
<td>Has the composition, structure, and function of ponderosa pine or warm-dry mixed-conifer forests changed due to low-intensity prescribed fire or wildland fire use?</td>
<td>Medium</td>
<td>The acres of low-intensity prescribed fire or wildland fire use.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 6. Increase the amount of old-growth ponderosa pine and old growth warm-dry mixed-conifer forests by 400% and 100%, respectively. This is a long-range objective that can only occur over decades, as current ponderosa pine and old-growth warm-dry mixed-conifer forests need time to succeed from their current condition to the old-growth condition.</td>
<td>Has there been an increase in the amount of old-growth ponderosa pine and warm-dry mixed-conifer forests?</td>
<td>Medium</td>
<td>The acres of old growth ponderosa pine and old growth warm-dry mixed-conifer forests.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>H 7. Within 15 years, increase the abundance and distribution of perennial native warm and cool season bunchgrasses and biological soil crusts on 3,000 acres of semi-desert shrublands or semi-desert grasslands on the Dolores geographical area.</td>
<td>Has there been an increase in the amount of perennial native warm and cool season bunchgrasses and biological soil crusts on the semi-desert shrublands or semi-desert grasslands on the Dolores geographic area?</td>
<td>Medium</td>
<td>The amount of perennial native warm and cool season bunchgrasses and biological soil crusts in semi-desert shrublands or semi-desert grasslands on the Dolores geographical area.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>
### I. WILDLIFE PROGRAM OBJECTIVES

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>I 1.</td>
<td>What are the habitat/population trends for MIS on USFS lands within the planning area?</td>
<td>High</td>
<td>Trends in MIS population and habitat are intended to determine trend in habitat capability, and the relationship to habitat change at the national forest scale. The data sources include, but not limited to, population estimates by State wildlife agencies, monitoring studies by USFS personnel, informed judgment of USFS and BLM Ecologists and Wildlife/Fisheries Biologists, habitat inventory assessments, resource information system databases, program reviews, activity reviews, annual program reporting, and species and habitat assessments.</td>
<td>Variable</td>
<td>USFS lands within San Juan Public Lands</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

### J. FIRE AND FUELS MANAGEMENT PROGRAM OBJECTIVES

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>J 1.</td>
<td>Are affected landscapes trending toward their desired vegetation composition and structure?</td>
<td>Medium</td>
<td>The change in the condition class ratings on high priority and high-risk areas identified in Community Wildfire Protection Plans.</td>
<td>A</td>
<td>Admin. Unit</td>
<td>Every 5 years</td>
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<tr>
<td>J 2.</td>
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</table>
### K. RECREATION OBJECTIVES

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<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 1. Over the implementation-life of the LMP, deferred maintenance is reduced to under $500,000.</td>
<td>Are recreation sites being maintained to standard?</td>
<td>Medium</td>
<td>The reduction in the amount of deferred maintenance.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>K 2. Within 5 years, all motorized and mechanized recreation travel is on designated routes or in designated areas.</td>
<td>Are plan designations for travel management implemented?</td>
<td>High</td>
<td>The miles of routes and acreage with designations</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
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</table>

### L. HERITAGE AND CULTURAL OBJECTIVES

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<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
<th>Potential Monitoring Items</th>
<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 1. Over the implementation-life of the LMP, protect/preserve/stabilize at least 15 eligible heritage/cultural resources.</td>
<td>Which eligible heritage/cultural resources are in critical need of being protected/preserved/stabilized?</td>
<td>Medium</td>
<td>The number of sites protected/preserved/stabilized.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>L 2. Implement site-stewardship monitoring for Falls Creek, McPhee Reservoir, and the Mesa Verde Escarpment.</td>
<td>Is the site-stewardship program adequately supported in order to monitor sensitive heritage/cultural resources?</td>
<td>Medium</td>
<td>The number of sites monitored.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>L 3. Develop appropriate interpretive materials for Falls Creek, McPhee Reservoir, and the Mesa Verde Escarpment.</td>
<td>Does the interpretive material convey information to the public in an effective and accurate manner?</td>
<td>Medium</td>
<td>The number of heritage/cultural resources interpreted.</td>
<td>A</td>
<td>SJPL-wide</td>
<td>Annually</td>
</tr>
<tr>
<td>L 4. Within 5 years, stabilize and preserve the Chimney Rock Great House.</td>
<td>What are the stabilization priorities for the Chimney Rock Great House, and is adequate funding available to conduct these priorities?</td>
<td>Medium</td>
<td>The completed stabilization work.</td>
<td>A</td>
<td>Chimney Rock Archaeological Area</td>
<td>First 5 years of the Plan</td>
</tr>
</tbody>
</table>
### Table 40 - Monitoring Strategy, continued

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
<th>Monitoring Question</th>
<th>Monitoring Priority</th>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 1. Within 10 years of LMP implementation, transfer 5 miles of road jurisdiction to other entities.</td>
<td>Do system roads, or segments of system roads, serve primarily as private access rather than as public land access?</td>
<td>Medium</td>
<td>The miles of road transferred to other jurisdictions annually.</td>
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<td>A</td>
<td>San Juan Public Lands by District/ Field Office</td>
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<td>Annually</td>
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<tr>
<td>M 2. Annually, perform maintenance activities on 75% of roads maintained for passenger vehicles (maintenance level 3, 4, and 5).</td>
<td>Does the road system meet public safety and management needs for passenger vehicles while, at the same time, protecting resources?</td>
<td>High</td>
<td>The percentage of level 3, 4 and 5 roads maintained to standard.</td>
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<td>A</td>
<td>San Juan Public Lands by District/ Field Office</td>
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<td>Annually</td>
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<tr>
<td>M 3. Within 15 years of LMP implementation, decommission 100 linear miles of unneeded routes (which may consist of roads and trails).</td>
<td>To what extent have those roads and trails, identified through travel analysis as unneeded, been decommissioned?</td>
<td>Medium</td>
<td>The miles of roads and trails decommissioned.</td>
<td></td>
<td>A</td>
<td>San Juan Public Lands by District/ Field Office</td>
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<td>Annually</td>
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<tr>
<td>M 4. Every 5 years, conduct condition surveys for each system road and trail.</td>
<td>Does the road system and trail system meet public safety and management needs while, at the same time, protecting resources?</td>
<td>High</td>
<td>The percentage of system roads and trails surveyed from deferred maintenance annual report.</td>
<td></td>
<td>B</td>
<td>San Juan Public Lands by District/ Field Office</td>
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<td>Annually</td>
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</tbody>
</table>
### Table 40 - Monitoring Strategy, continued

<table>
<thead>
<tr>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N. TIMBER PROGRAM OBJECTIVES</strong></td>
<td></td>
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<tr>
<td>N 1. Over the next 20 years, utilize restoration (improvement cut) and thinning harvests in the ponderosa pine and warm-dry mixed-conifer vegetation types in order to reduce stand densities, improve stand composition and structure, and develop fuel profiles that achieve or maintain stand conditions more resilient to disturbance while, at the same time, providing forest products to local industry on approximately 30,000 to 40,000 acres.</td>
<td>Are density, composition, structure, and fuel profiles of stands more resilient to disturbance and providing forest products to industry?</td>
<td>Medium</td>
<td>The acres treated.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
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<tr>
<td>N 2. Over the next 20 years, emphasize selective harvests in cool-moist mixed-conifer and spruce-fir vegetation types in order to maintain or achieve desired stand conditions, reduce hazardous fuels, and provide forest products to local industry, on approximately 5,000 to 10,000 acres.</td>
<td>Are mixed conifer and spruce-fir vegetation types maintaining or trending toward desired stand structure and reduced hazardous fuels, as well as providing products to local industry?</td>
<td>Medium</td>
<td>The acres treated.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
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<tr>
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<tr>
<td>N 3. Over the next 20 years, utilize coppice harvest (clear-cut with regeneration by sprouting) in aspen vegetation types on approximately 8,000 to 10,000 acres in order to maintain or develop desired age class diversity and patch size, regenerate declining aspen stands, and provide forest products to local industry.</td>
<td>Are aspen vegetation types maintaining or developing desired age class diversity and patch size, regenerating declining aspen stands, and providing forest products to local industry?</td>
<td>Medium</td>
<td>The acres treated.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>
### Table 40 - Monitoring Strategy, continued

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>O. LIVESTOCK-GRAZING OBJECTIVES</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>O 1.</strong> Complete NEPA on all active BLM and USFS allotments by the end of FY 2009 and FY 2010, respectively, as per BLM permit-renewal schedules and the USFS Rescissions Act. Conduct periodic reviews of those analyses and decisions to ensure that NEPA-based decisions stay current and sustainable for all permitted livestock grazing.</td>
<td>What is the NEPA sufficiency of grazing allotments? Are NEPA-based decisions for grazing allotments current and sustainable?</td>
<td>High</td>
<td>The number of NEPA-sufficient allotments. The number of allotment decisions each year</td>
<td>A</td>
<td>San Juan Public Lands by District/Field Office</td>
<td>Every 5 years</td>
</tr>
<tr>
<td><strong>O 2.</strong> Implement adaptive management principles through allotment management planning decisions. Annually, conduct prescribed monitoring activities on at least 10% of active allotments, and use the information to make adaptive changes to management.</td>
<td>Are adaptive management decisions being used to make changes to management on grazing allotments?</td>
<td>High</td>
<td>The number of key areas monitored by specific protocol.</td>
<td>A</td>
<td>San Juan Public Lands by District/Field Office</td>
<td>Annually</td>
</tr>
<tr>
<td><strong>O 3.</strong> Annually, administer 50% of active grazing allotments to in order to meet public land health standards.</td>
<td>Are grazing allotments meeting standards for public land health?</td>
<td>Medium</td>
<td>The acres meeting public land health standards.</td>
<td>A</td>
<td>San Juan Public Lands by District/Field Office</td>
<td>Annually</td>
</tr>
<tr>
<td><strong>O 4.</strong> Within 15 years, all suitable rangelands within the planning area have satisfactory rangeland conditions.</td>
<td>Are rangeland health conditions trending toward satisfactory rangeland health conditions?</td>
<td>Medium</td>
<td>The acres meeting/moving toward desired conditions.</td>
<td>B</td>
<td>San Juan Public Lands by District/Field Office</td>
<td>Annually</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>P. INVASIVE SPECIES OBJECTIVES</strong></td>
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<tr>
<td><strong>P 1.</strong> Within 15 years, eradicate spotted knapweed, diffuse knapweed, Dalmatian toadflax, scentless chamomile, scotch thistle, and leafy spurge throughout the planning area.</td>
<td>Are treatment actions trending priority invasive species toward eradication?</td>
<td>Medium</td>
<td>The acres of priority noxious weeds.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td><strong>P 2.</strong> Within 15 years, increase annual treated acres of noxious weeds to 25% of known acres infested.</td>
<td>Are treatment actions increasing on areas infested with noxious weeds?</td>
<td>Medium</td>
<td>The acres of noxious weeds.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
<tr>
<td><strong>P 3.</strong> Within 15 years, annual backcountry treatments (including Wilderness Areas), will be 25% of the total annual noxious weed treatment target.</td>
<td>What portion of areas treated for infestations of noxious weeds are in backcountry areas?</td>
<td>Medium</td>
<td>The acres of noxious weeds.</td>
<td>A Acre</td>
<td>SJPL-wide</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>
### Table 40 - Monitoring Strategy, continued

<table>
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<tr>
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<th>Precision and Reliability</th>
<th>Scale</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 1. Annually, survey and post 5 miles of boundary of special areas (including Wilderness Areas).</td>
<td>Are special area boundaries surveyed and posted?</td>
<td>Medium</td>
<td>The miles of surveyed line recorded on Master Title Plat/ LR2000/ALP.</td>
<td>A</td>
<td>RD/FO</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>Q 2. Annually, survey and post 5 miles of property line adjacent to private land and boundaries where trespass or encroachment is most likely.</td>
<td>Is trespass or encroachment being reduced by efforts to survey and post boundaries?</td>
<td>Medium</td>
<td>The miles of surveyed line recorded in County and on Master Title Plat/LR2000/ALP.</td>
<td>A</td>
<td>RD/FO</td>
<td>Annually</td>
</tr>
<tr>
<td>Q 3. Annually, acquire 2 new road and trail ROWs for high-priority access or to fill gaps in existing access to public lands.</td>
<td>Are gaps in existing high priority access to public land being filled?</td>
<td>Medium</td>
<td>The number of easements/ROW deeds recorded in County and on Master Title Plat/LR2000/ALP.</td>
<td>A</td>
<td>RD/FO</td>
<td>Annually</td>
</tr>
<tr>
<td>Q 4. Review 100% of existing withdrawals by non-SJPLC agencies, and resolve resulting &quot;need to continue,&quot; &quot;modify,&quot; or &quot;revoke&quot; withdrawals.</td>
<td>Are existing withdrawals being continued, modified or revoked appropriate to identified withdrawal needs of other agencies?</td>
<td>Medium</td>
<td>The number of case files reviewed and recommended for action.</td>
<td>A</td>
<td>RD/FO</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>Q 5. Within 5 years, cooperate in improvement of, and convey to appropriate county jurisdiction, 1 high-priority SJPL road identified as dominantly non-SJPL access use.</td>
<td>Are high-priority roads under the jurisdiction of the appropriate governing authority?</td>
<td>High</td>
<td>The easement/ROW deeds recorded in County and on Master Title Plat/LR2000/ALP.</td>
<td>Validation</td>
<td>RD/FO</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

**Effectiveness Monitoring – Are plan objectives and desired conditions being achieved?**

**Q. LANDS AND SPECIAL USES PROGRAM OBJECTIVES**

- **Q 1.** Annually, survey and post 5 miles of boundary of special areas (including Wilderness Areas).
- **Q 2.** Annually, survey and post 5 miles of property line adjacent to private land and boundaries where trespass or encroachment is most likely.
- **Q 3.** Annually, acquire 2 new road and trail ROWs for high-priority access or to fill gaps in existing access to public lands.
- **Q 4.** Review 100% of existing withdrawals by non-SJPLC agencies, and resolve resulting "need to continue," "modify," or "revoke" withdrawals.
- **Q 5.** Within 5 years, cooperate in improvement of, and convey to appropriate county jurisdiction, 1 high-priority SJPL road identified as dominantly non-SJPL access use.
Table 40 - Monitoring Strategy, continued

<table>
<thead>
<tr>
<th>Monitoring Driver</th>
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<th>Frequency of Reporting</th>
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</thead>
<tbody>
<tr>
<td><strong>VALIDATION MONITORING</strong></td>
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<tr>
<td>Design criteria and guidelines</td>
<td>Are guidelines effective in mitigating impacts of activities?</td>
<td>Medium</td>
<td>Conduct interdisciplinary review of implemented project for implementation and effectiveness of design criteria and guidelines.</td>
<td>B</td>
<td>SJPL-wide</td>
<td>Annually</td>
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<td><strong>IMPLEMENTATION MONITORING</strong></td>
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<tr>
<td>NFMA/FLPMA; multiple goals, objectives, and strategies</td>
<td>Are projects implemented according to LMP goals, objectives, and strategies?</td>
<td>High</td>
<td>Select at least one NEPA project, and conduct a thorough review of all resource areas to see if LMP goals, objectives, and strategies have been followed, and if the treatment/project was effective to improve land management.</td>
<td>A/B</td>
<td>Varies according to project scale</td>
<td>Annually</td>
</tr>
<tr>
<td>Suitable Wild and Scenic Rivers (WSRs)</td>
<td>Are WSR candidate waters being managed for the protection of outstandingly remarkable values (ORVs)?</td>
<td>Medium</td>
<td>Monitor ORVs from the suitability analysis.</td>
<td>B</td>
<td>Suitable WSRs</td>
<td>Every 5 Years</td>
</tr>
<tr>
<td>Wilderness/Wilderness Recommendations/ Wilderness Study Areas (WSAs)</td>
<td>Are areas being managed for the desired Wilderness characteristics?</td>
<td>High</td>
<td>Monitor the opportunities for solitude, amount and types of human use, and of evidence of human use.</td>
<td>B</td>
<td>SPLC-wide</td>
<td>Annually</td>
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</tbody>
</table>
STANDARDS AND GUIDELINES

Standards and guidelines are used in combination with desired conditions, objectives, and suitable uses to guide the management of San Juan Public Lands (SJPL). Standards and guidelines provide specifications and guidance for project and activity decisionmaking in order to protect resources and help achieve desired conditions and accomplish objectives. They are project-level operational controls that help ensure that projects are consistently implemented in ways that reduce environmental impacts.

The USFS and BLM will conduct environmental analysis, pursuant to NEPA, when projects are proposed. During project planning, applicable and appropriate Land Management Plan guidance will be incorporated as required design features and/or mitigation measures when the project decision is made.

A standard (which is worded as “must”) describes a course of action that must be followed, or a level of attainment that must be reached. Deviations from standards must be analyzed and documented in a Land Management Plan amendment.

A guideline (which is worded as “should”) provides guidance that a project or activity would typically follow, although exceptions may exist. If deviation from a guideline is necessary, the Responsible Official must record the reasons for such deviation as part of the project-level decision; however, no Land Management Plan amendment would be required.

For species of viability concern (threatened, endangered, and/or sensitive species), the intent of guidelines must be met. Many guidelines have two components, a quantitative part (distance, %, etc.), and a statement of intent. If the quantitative part cannot be met, it must be documented in the appropriate NEPA document. The NEPA document must show how the intent of the guideline is met, or how progress is made towards the conditions described in the guidelines.

CONFORMANCE WITH OTHER DIRECTION

This set of standards and guidelines is designed to be specific to the SJPL. The development of projects is also guided by other sources such as Best Management Practices (BMPs), State laws and/or policies, and terms and conditions from U.S. Fish and Wildlife Service conservation strategies or biological opinions. Additional examples include leasing stipulations, conditions of approval, and conditions for protecting resources that apply to coal and natural gas development projects. These and other applicable guidance from laws, regulations, policies, and agency directives are listed following the standards and guidelines for each resource as “Additional Referenced Guidance” (but are not contained in, or attached to, this document).
I. AIR QUALITY

A. All new or replacement internal combustion engines within a fixed facility for fluid minerals less than 300 horsepower (excluding very small engines with less than 40 horsepower) must have a mandatory NOx limit of 2.0 grams per horsepower-hour or the minimum acceptable limit, as determined by the Four Corners Air Quality Task Force process.

B. All new or replacement fluid-minerals production engines greater than 300 horsepower must have a NOx limit of 1.0 grams per horsepower-hour or the minimum acceptable limit, as determined by the Four Corners Air Quality Task Force process.

C. No more than four fluid minerals well pads and associated access roads should be constructed concurrently in any given square mile, with each well no closer than 0.5 miles to another well during construction. (This guideline is necessary in order to minimize air pollutant concentrations and ensure compliance with State air quality standards.)

D. Well-drilling permits issued for the SJPL should implement terms and conditions, as necessary, in order to limit volatile organic compounds (VOC) emissions.

E. Roads that produce high fugitive-dust concentrations should apply continuous dust abatement measures in order to reduce impacts to health, safety, nuisance, and visibility.

Additional Referenced Guidance


II. SOILS

A. Projects should be designed to avoid lands that display evidence of past or present slope instability, and these lands should be avoided during project implementation unless site-specific data indicates that mass movement won’t occur or could be mitigated.

B. Projects should be designed to avoid the shale soils of the Mancos Shale, Lewis, Fruitland, and Morrison Geologic Formations, and these soils should be avoided during project implementation unless site-specific data indicates that detrimental soil erosion or compaction won’t occur or could be mitigated.

C. Projects should be designed to avoid highly erosive soils and these soils should be avoided during project implementation unless site-specific data indicates that irreversible soil damage won’t occur or could be mitigated.

D. Ground disturbance should be limited in watersheds that are the most sensitive to anthropogenic disturbance, as identified in Appendix J.

E. Native vegetation and ground-cover should be restored on disturbed sites where soils have been exposed as soon as practical following the disturbance.

F. Organic slash (including tree tops and limbs) should be retained on-site as much as practicable following timber harvesting and mechanical fuels treatments, and must be distributed throughout the treatment units.
Additional Referenced Guidance

FSM 2550, Soil Management; and FSH 2509.25, Watershed Conservation Practices Handbook (Region 2 Supplement).

III. WATER

A. Roads and trails that are removed from the SJPL transportation network, as well as roads that are put into a “stored” status that are unnecessary for travel (i.e., closed for future use), should be treated sufficiently in order to avoid future risks to watershed functions, water quality, and/or aquatic habitat. Sufficient treatments may include the:

A.1 removal of unstable fills;
A.2 effective and permanent breaching of drainage ditches;
A.3 elimination of persistent in-sloped road surfaces;
A.4 complete removal of stream-crossing structures and associated fills with restoration of floodplains;
A.5 restoration of self-sustaining hydrologic functions on the site (where no further management intervention would be necessary in order to sustain natural processes and function); and
A.6 the maintenance or restoration of fish passage.

B. Where land use activities (including fluid-minerals development and production) are shown to adversely impact groundwater quality and/or quantity, those land use activities may be curtailed, and requirements may be made to replace impacted groundwater with water of equal or greater water quality (as compared to the natural conditions of the aquifer).

C. In cases where the USFS or BLM places conditions and other requirements on special use authorizations related to water diversion or storage that are outside the jurisdiction of Colorado Division of Water Resources, the USFS or BLM will be responsible to enforce compliance.

D. Ditches authorized on the SJPL should maintain a freeboard above the water-line of the ditch. Headgates and conveyance structures should be maintained in good functioning condition and should be clear of sediment and other debris in order to ensure proper operation. The operator should close the headgate at the end of the diversion (e.g., irrigation) season.

E. Water conveyance structures authorized on the SJPL should be maintained to prevent and control soil erosion and gullying on adjacent lands resulting from operations and maintenance of the structure. Design criteria may include maintaining the ditch channel to prevent downcutting and ditch failure, removal of all obstructions from the channel, and prompt remediation of pipeline breaks and ditch failures, and rehabilitation of any erosion resulting from failure of a water conveyance structure.

F. In general, system and non-system road densities should not exceed 2 miles per square mile in any 6th level Hydrologic Unit Basin watershed on the SJPL. In municipal supply watersheds, and watersheds identified as sensitive to ground-disturbing anthropogenic activities (human activities, as opposed to events occurring in natural environments without human influences), watershed rehabilitation efforts should be focused on reducing system and non-system road densities to below 2 miles per square mile (See Appendix J, detailing watersheds that are the most sensitive to anthropogenic activities).

G. All accepted groundwater development proposals should establish terms and conditions designed to maintain groundwater levels necessary in order to avoid or minimize impacts on groundwater-dependant resources (e.g., wetlands, riparian areas, connected surface water, etc).
Additional Referenced Guidance

The principal guidelines used to protect all watershed and aquatic resources within the planning area are found in the Region 2 Watershed Conservation Practices Handbook (R2 FSH 2509.25-2006-1).


IV. AQUATIC ECOSYSTEMS AND AQUATIC SPECIES

A. As described under Part 2, “Strategy,” cooperative and collaborative efforts are the preferred approach to sustaining aquatic ecosystems and ensuring that viable populations of aquatic species are maintained or improved. In the event collaborative efforts do not result in more workable and mutually acceptable solutions, the following apply:

A.1 Management activities throughout the Unit should be consistent with the objectives of the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming. For formally designated conservation populations of Colorado River cutthroat trout, 100% of existing habitat must be maintained.

A.2 For all other populations of vertebrate aquatic species:

A.2.1 Streamflow in riffle habitats should be at levels that maintain minimum water depth, wetted perimeter, and mean velocity values consistent with those identified for each stream size category identified below:

<table>
<thead>
<tr>
<th>Bankfull Width (ft)</th>
<th>Mean Depth (ft)</th>
<th>Wetted Perimeter (%)</th>
<th>Mean Velocity (ft/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>≥ 0.2</td>
<td>50</td>
<td>1.0</td>
</tr>
<tr>
<td>21 to 40</td>
<td>0.2 to 0.4</td>
<td>50</td>
<td>1.0</td>
</tr>
<tr>
<td>41 to 60</td>
<td>0.4 to 0.6</td>
<td>50 to 60</td>
<td>1.0</td>
</tr>
<tr>
<td>&gt; 60</td>
<td>&gt; 0.6</td>
<td>&gt; 60</td>
<td>1.0</td>
</tr>
</tbody>
</table>

A.2.2 Streamflow in each reach should be sufficient to maintain, for each life stage of each target species, a minimum of 50% of the Weighted Usable Area that would occur under natural flow conditions.

A.2.3 Habitat quality, including large woody debris, residual pool depths, composition of habitat units (eg. pools, riffles), and overall habitat complexity, should be maintained or improved commensurate with reference stream conditions and in a manner that maintains viable, self-sustaining fish populations.
B. Conservation pools should be provided in water storage facilities where there are aquatic USFS Management Indicator Species, and/or BLM or USFS Sensitive Species.

C. Management activities (including land adjustments) that result in a trend toward Federal listing or the loss of population or habitat sustainability for Special-Status Species (Threatened, Endangered, Sensitive, or State-Listed species) should be avoided.

D. Activities that may disturb native or desired non-native fish, or directly deliver sediment to occupied streams, should be limited to the times outside of spawning and incubation periods.

E. Activities that may cause sedimentation to amphibian habitats should be minimized.

F. Documented boreal toad and canyon tree frog breeding sites must be buffered from management activities that could potentially disturb such sites.

G. Livestock must not occur in documented boreal toad and canyon tree frog breeding sites from May 15 to September 15, in order to reduce the risk of trampling and to maintain the ecological integrity of those wetlands.

H. The drainage of acid-mine run-off into riparian areas and wetland amphibian habitats should be avoided.

I. The drainage or filling of wetlands that function as amphibian breeding sites should be avoided. Conservation pools in water storage facilities where there are aquatic Highlight Species should be provided.

J. Management activities that result in consumptive water uses are implemented in compliance with the Section 7 Agreement and Recovery Implementation Program Action Plan (RIPRAP)(USFWS 1993) and San Juan Basin Recovery Implementation Program (USFWS 2003) for the four endangered fish species found in the Upper Colorado and San Juan river systems (Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub).

K. Standards and guidelines for aquatic invasive species are found in the Invasive Species Section.

**Additional Referenced Guidance**

V. RIPARIAN AREAS AND WETLANDS

A. Fens must be avoided during project design and implementation.
B. Projects should be designed to avoid riparian areas and wetlands unless the project is designed to improve or restore ecological components or function.
C. The streambanks of forest and shrubland riparian area types should contain at least 50 percent canopy cover of native hydrophytic trees or shrubs.
D. Livestock browsing of willows and young cottonwood trees in riparian areas and wetlands should not exceed 40% of the current year’s leader growth.
E. Projects that occur in watersheds containing fens and hanging gardens must not adversely impact the hydrologic function of those watersheds in order to protect the ecological integrity of those ecosystems and any R2 Regional Forester’s Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in them.
F. Projects that occur in watersheds containing riparian areas and wetlands should not adversely impact the hydrologic function of those watersheds in order to protect the ecological integrity of those ecosystems and any R2 Regional Forester’s Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in them.
G. Additional Standards and Guidelines associated with riparian area and wetland ecosystems are found in the Livestock and Rangeland Management section.

Additional Referenced Guidance

The principal guidelines used to protect all riparian areas and wetlands on SJPL are found in the Region 2 Watershed Conservation Practices Handbook (R2 FSH 2509.25-2006-1). This handbook contains guidelines that prevent adverse impacts, maintain or improve stream health, preserve ecosystem function, prevent stream sedimentation, and reclaim disturbed sites.

VI. TERRESTRIAL ECOSYSTEMS

A. Management activities should be designed so that they contribute to vegetation conditions similar to those that were produced by the natural disturbance agents and processes that occurred during the reference period (HRV conditions).
B. Timber harvesting in aspen and aspen-conifer forests should be designed in order to increase the patch size of young aspen forests and better mimic the large patches of young aspen forests that were common during the reference period (HRV conditions).
C. Construction of new roads, pipelines, and other linear features should be avoided or minimized during project design in order to avoid or minimize ecosystem fragmentation, as well as to avoid the establishment and spread of invasive plant species.
D. Old-growth ponderosa pine forests, old growth warm-dry mixed-conifer forests, and old-growth pinyon-juniper woodlands should not decrease in acreage; these ecosystems should not be altered unless an action is needed in order to achieve a desired condition.
E. Projects should be designed so that old growth doesn’t fall below the minimum desired conditions stated in Table 41, for vegetation types where the minimum level is currently met. For vegetation types that currently do not meet the minimum desired conditions for old growth stated in Table 2-3, stands that are close to the old-growth development stage should be identified as old-growth recruitment areas in order to meet these desired conditions in the future.

F. Following timber harvest and fuels treatments, snags and large wood on the forest floor must meet the minimum standards described in Table 41 unless the site did not contain these attributes before the activity, in which case units must be designed to retain snags, snag recruits, and large wood in order to meet these minimum standards in the future.

Table 41 - Snag and Large Wood Quantities

<table>
<thead>
<tr>
<th>Forest Type</th>
<th>SNAGS</th>
<th>LARGE WOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum Diameter (dbh)</td>
<td>Minimum Height (feet)</td>
</tr>
<tr>
<td>Spruce-Fir</td>
<td>10</td>
<td>5-10</td>
</tr>
<tr>
<td>Cool-Moist Mixed-Conifer</td>
<td>10</td>
<td>5-10</td>
</tr>
<tr>
<td>Aspen</td>
<td>8</td>
<td>5-10</td>
</tr>
<tr>
<td>Warm-Dry Mixed-Conifer</td>
<td>10</td>
<td>5-10</td>
</tr>
<tr>
<td>Ponderosa Pine</td>
<td>10</td>
<td>2-3</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional Referenced Guidance

VII. PLANT SPECIES

A. *Pediocactus knowltonii* (an endangered species), *Ipomopsis polyantha* (a candidate species), R2 Regional Forester’s Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species, as well as their potential habitat, should be avoided whenever practical during project design and implementation – unless the project is designed to improve their habitat.

B. A qualified specialist (who should have a college degree in botany, ecology, or a closely related field) must conduct pre-construction surveys for Knowlton’s cactus and Pagosa skyrocket in all potential areas of disturbance that are identified as suitable habitat during the pre-construction phase of the project. Since Knowlton’s cactus is extremely inconspicuous except when in flower, pre-construction surveys for Knowlton’s cactus must occur between April 1 and May 15 when the species is most likely to be flowering. Pre-construction surveys for Pagosa skyrocket must occur between May 15 and June 15 when the species is most likely to be flowering.

C. Projects (including road construction and maintenance) that occur in watersheds containing fens, wetlands, hanging gardens, or riparian areas should not adversely impact the hydrology in those watersheds (due to the potentially adverse impacts they could have on the R2 Regional Forester’s Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in those ecosystems).

D. Livestock grazing practices that may result in a decrease in the abundance or distribution of *Pediocactus knowltonii* (an endangered species), *Ipomopsis polyantha* (a candidate species), R2 Regional Foresters Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL highlight plant species, or the habitat for all these species, should be changed or avoided.

E. Livestock grazing practices that result in a decrease in the abundance or distribution of Arizona fescue, Thurber fescue, or willow species should be changed or avoided.

F. Native plant species, preferably of local origin, should be used in projects needing revegetation, reclamation, and/or restoration.

G. Large old ponderosa pine, Douglas-fir, pinyon-pine, Utah juniper, southwestern white pine, and Gambel oak trees should be avoided during project design and implementation.

H. Native plant species with high values for pollinator species should be identified and protected from management activities.

Additional Referenced Guidance

**VIII. FIRE MANAGEMENT**

A. An appropriate management response should be applied to all ignitions, as described in the direction for Management Areas found in the Suitability Section in Part 2 of this Draft Land Management Plan (Refer to Table 42 for tactical options and prescribed fire direction).

B. Additional seeding and other site-rehabilitation practices should be provided, as necessary, on: wildland fire and wildland fire use areas (burned area rehabilitation); fire suppression support activities and facilities (including constructed fire lines, fuel breaks and safety areas, fire camps, staging areas, heli-bases, and heli-spots); and mechanical and prescribed fire treatment areas.

C. Protection of threatened, endangered and sensitive (TES) aquatic species should be provided in the selection of helicopter dip-sites and drafting locations.

D. Other standards and guidelines that pertain to Fire Management are found in the Invasive Species Section.

E. Fire management should recognize and consider the role of natural fire in wilderness, and should use natural fire opportunities.

### Table 42 - Fire Management Direction for the San Juan Public Lands

<table>
<thead>
<tr>
<th>Management Area</th>
<th>Mechanized Equipment</th>
<th>Aerial Retardant Application&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Prescribed Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>x&lt;sup&gt;a&lt;/sup&gt;</td>
<td>x</td>
<td>x&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td>x&lt;sup&gt;b&lt;/sup&gt;</td>
<td>x</td>
<td>x&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>3</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>7</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>8</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>All WUI Areas</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

<sup>a</sup> Within designated Wilderness Areas and the Piedra Area, dozers are prohibited (except with Regional Forester approval). Use of helicopters, motorized equipment, and/or mechanical transport is prohibited (except with Forest Supervisor/Center Manager approval. Within other Management Area 1s, including BLM Wilderness Study Areas – Dozers are prohibited except with Forest Supervisor/Center Manager approval. Chainsaws, engines, ATV’s and pumps are allowed without Forest Supervisor/Center Manager approval.

<sup>b</sup> Mechanical Equipment and prescribed fires in Wilderness Study Areas, Research Natural Areas and Special Areas would have to be compatible with the overall purposes and objectives for those areas.

Aerial application of retardant in live water, wetlands and riparian areas should be avoided unless necessitated by human safety or property loss considerations. Unplanned Ignitions: Wildland Fire should be managed as unwanted wildland fire if human-caused, or if unacceptable threat to human safety or values exists.

**Planned Ignitions:** May be implemented by management action authorized by approved plans.
Additional Referenced Guidance


IX. TERRESTRIAL WILDLIFE SPECIES

General

A. Activities must be managed in order to avoid impacts to BLM and USFS Sensitive Species and to SJPL Highlight Species that would compromise viability across the planning area or contribute to the trend towards Federal listing. Special attention must be given during breeding, young rearing, and at other times that are critical to survival.

B. Land management activities and projects must avoid disturbing proposed, threatened or endangered species during breeding, young rearing, or at other times that are critical to survival. (Exceptions may occur when individuals are adapted to human activity, or when the activities are not considered a threat or unless otherwise provided for under Section 7 consultation.)

C. Projects (including, but not limited to, wildlife viewing sites, fences, highways, bridge upgrades or replacements, communication towers, utility lines, and canals) should be designed and built to provide for wildlife movement and maintenance of effective habitat.

D. Management activities in, and immediately adjacent to, important wildlife habitats for Federally listed and sensitive species (including falcon and eagle nesting cliffs, bat roosts and hibernacula, Canada lynx landscape linkage areas, and winter raptor concentration areas) must be designed and conducted in a manner protecting the value of those areas for wildlife population sustainability.

E. Management activities in, and immediately adjacent to, important wildlife habitats (including big game concentration and severe winter range) should be designed and conducted in a manner protecting the value of those areas for wildlife objectives and habitat effectiveness.
F. Management actions should maintain habitat effectiveness supporting limiting life functions in key wildlife habitat for elk and deer. Actions considered may include, but not limited to, seasonal travel restrictions, partial or complete route closures, and designing new route alignment or realigning existing routes.

G. On National Forest System lands within the planning area, animal damage should be managed in cooperation with the State wildlife agencies, the U.S. Fish and Wildlife Services (USFWS), and other appropriate agencies and cooperators in order to reduce damage to other resources (and to direct control toward removing only the offending animal). Preventive methods (including denning, aerial gunning, and poisons of any kind) must not be allowed on National Forest System lands within the planning area under any circumstances.

H. Sustaining populations of pollinators should be considered in relation to the broad application of pesticides.

X. THREATENED AND ENDANGERED TERRESTRIAL WILDLIFE SPECIES

A. A decision recommending against, denying consent, or recommending a NSO stipulation must be made for issuance of mineral leases where operational damages on surface resources would intrude upon identified critical or essential habitat for a federally listed wildlife or plant species, or upon the plant or animal itself.

Canada lynx (Threatened):

A.1 This Land Management Plan adopts The Lynx Conservation Assessment and Strategy (LCAS 2000, revised 2006). All conservation measures and guidelines contained therein must be implemented.

Southwestern willow flycatcher (SWWF) (Endangered):

A.2 Location, size, shape, and spacing of riparian habitat must be mapped.
A.3 Designated habitat stage for each site (including suitable-occupied, suitable-unoccupied, suitable-unsurveyed, and potential) must be identified.
A.4 Surveys for SWWF (*Empidonax traillii extimus*) in occupied and suitable habitat: every year in occupied, every 3 years in suitable-unoccupied, and every 5 years in potential habitat must be implemented.
A.5 Annual monitoring of SWWF in occupied habitat must occur.
A.6 A report on the status of habitat, survey results, and monitoring of SWWF must be provided annually.
A.7 Tree and/or shrub removal within SWWF habitat must only be conducted in order to benefit the SWWF and/or its habitat.
A.8 Maintenance and other management activities in occupied or unsurveyed, suitable SWWF habitat must occur outside the SWWF breeding season (May 1 through August 31), unless it is a necessary direct benefit to the SWWF and can be implemented without detriment to breeding success of the SWWF.
A.9 In unoccupied, suitable habitat and potential habitat, resource uses must be managed in order to benefit the suitability of SWWF habitat.

A.10 Resource uses must be managed in order to benefit regeneration and/or recruitment of woody vegetation needed by SWWF.

A.11 When SWWF nest parasitism exceeds 10%, measures to reduce parasitism rates (i.e., reduce cattle presence within a 2-mile radius of occupied SWWF habitat, or begin a cowbird control program) must be implemented.

A.12 Human disturbance from recreation and other management activities in occupied and unsurveyed, suitable habitat during the breeding season (May 1 through August 31) must be reduced.

A.13 The destruction and/or modification of all SWWF habitat (due to road construction, oil and gas activities, etc.) must be prevented.

SWWF in relation to livestock grazing in suitable unsurveyed habitat:

A.14 For the purposes of range projects, if habitat is found to be suitable for SWWF, full USFWS protocol surveys must be conducted for 2 consecutive seasons in order to determine occupancy. Current livestock management practices may continue while surveys are being conducted, as long as SWWF are not detected. If SWWF are detected, then livestock management practices must follow the guidelines for occupied habitat. If protocol surveys are not conducted, then the habitat patch must be assumed to be occupied by SWWF; therefore, livestock must be managed in accordance with the standards for an occupied site (i.e., livestock grazing will not be allowed until after August 15, and utilization standards will be applied). Rangeland and riparian health guidelines must be met in suitable SWWF habitat. If criteria are not being met, then adaptive management strategies to recover/improve and maintain suitable SWWF habitat will be required. Upward trend must be demonstrated during the 5-year habitat monitoring period.

A.15 Protocol surveys must be conducted for 2 consecutive years, or until SWWF are detected; then, they must be conducted periodically every 3 years for another 2 consecutive years, or until SWWF are detected. If no SWWF are detected during the second monitoring cycle, then a 5-year monitoring period would begin. This would require that habitat monitoring forms be completed during each survey cycle, and that monitoring results document that SWWF habitat conditions are remaining stable or are in an upward trend throughout the monitoring period.

A.16 If habitat monitoring documents that habitat conditions have declined, or that they have become unsuitable for SWWF, then adaptive management strategies must be applied to livestock grazing practices in order to recover and maintain suitable SWWF habitat conditions. During the time period(s) that habitat remains unsuitable, monitoring will occur at least every 3 years in order to document the trend of habitat conditions, as well as whether or not adaptive management strategies are successful.

A.17 Protocol surveys should not be required during the time period(s) that habitat remains unsuitable for SWWF occupancy.

A.18 When habitat is recovered to a condition suitable for SWWF, the 3-year protocol survey cycle must begin again in order to determine SWWF occupancy status.
SWWF in relation to livestock grazing in suitable and unoccupied habitat (as determined by survey results):

A.19 Current livestock management practices should continue as long as survey results show that the habitat patch remains unoccupied, and habitat monitoring documents show that habitat trend is stable or upward.

A.20 Protocol surveys must be conducted for 2 consecutive years, on a 5-year cycle, as long as habitat remains suitable for SWWF, and as long as survey results show the habitat patch is not occupied. This would require that habitat monitoring forms be completed during each survey cycle, and that monitoring results document that SWWF habitat conditions remain stable or in an upward trend through out the monitoring period.

A.21 If habitat monitoring documents that habitat conditions are declining, or that they have become unsuitable for SWWF due to the affects of livestock, then adaptive management strategies must be applied to livestock grazing practices in order to recover and maintain suitable SWWF habitat conditions. During the time period(s) that habitat remains unsuitable, monitoring must occur at least every 3 years in order to document the trend of habitat conditions, as well as whether or not livestock adaptive management strategies are successful.

A.22 Protocol surveys should not be required during the time period(s) that habitat remains unsuitable for SWWF occupancy.

A.23 When habitat is recovered to a condition suitable for SWWF, the 3-year protocol survey cycle must begin again in order to determine SWWF occupancy status.

A.24 If SWWF are detected at any time during surveys, then monitoring and livestock management practices must follow the guidelines for suitable and occupied habitat.

SWWF in relation to livestock grazing in occupied habitat:

A.25 Livestock grazing must not be allowed in occupied habitat patches during the SWWF nesting season (May 15 through August 15). Methods for excluding livestock from occupied habitat could include the construction of temporary (i.e., electric) or permanent fencing, riding with intensive animal supervision, modification of pasture rotation schedules, and/or other adaptive measures.

A.26 Controlled livestock trailing should be allowed along existing stock driveways within occupied habitat during the nesting season.

A.27 If livestock cannot be excluded from occupied habitat patches, then the USFWS must be contacted immediately and mitigation/conservation measures would be developed jointly, on a case-by-case basis. Temporary closure of occupied grazing pastures may be required in order to protect SWWF and their habitat during the time period(s) that livestock management measures are being developed.
SWWF in relation to livestock grazing when previously unknown suitable habitat is discovered:

A.28 If/when previously unknown suitable SWWF habitat patches are discovered, protocol surveys for SWWF occupancy must be conducted using the process described for suitable and occupied habitat.

A.29 Current livestock grazing practices should continue during the time period(s) that protocol surveys are being conducted.

A.30 If protocol surveys for SWWF occupancy are not conducted, then the habitat patch would be assumed to be occupied by SWWF; therefore, livestock must be managed in accordance with the standards for an occupied site (i.e. livestock grazing will not be allowed until after August 15 and utilization standards are applied).

Mexican spotted owl (MSO) (Threatened):

A.31 MSO field surveys must occur in areas where human activities may remove or modify MSO habitat, or otherwise adversely impact the species. MSO survey protocol requires that 4 surveys be conducted each season for 2 consecutive seasons.

A.32 No constructed improvements may occur in protected activity centers (PACs) in order to avoid surface disturbance (unless the improvement protects or improves habitat). Prescribed burns and fuels reduction may occur in PACs in specific cases; however, they would require separate Section 7 consultation with the USFWS.

A.33 Activities including non-surface disturbing ones in PACs must avoid the MSO breeding season (March 1 through August 31).

A.34 Within MSO “steep slope” and “canyon” habitats (as defined in the recovery plan), trees greater than 9-inches dbh should not be removed. Thinning of trees less than 9-inches dbh, fuels treatments, and prescribed burns should be allowed on a case-by-case basis in order to reduce fire hazard and improve habitat condition for owl prey. Habitat components that should be retained include large logs (≥12-inches dbh), grasses, forbs, and shrubs. No seasonal restrictions would apply in this habitat type.

A.35 Within “restricted” habitats (as defined in the recovery plan), management priority should be placed on reducing risks to MSO habitat. Habitats within the planning area should be on an uneven-aged management system and the use of prescribed burns should be encouraged.

A.36 Livestock grazing in protected and restricted MSO habitats should maintain good to excellent range conditions (as defined by Range Analysis Handbook and Training Guide, USFS Rocky Mountain Region, 1996) within key grazing areas (including riparian areas and wetland ecosystems, meadows, and oak types) in order to provide for adequate levels of plant cover, fruits, and seeds for owl prey species. Management strategies should be implemented in order to restore degraded riparian communities as soon as possible.

A.37 The presence and intensity of recreational activities (as described in the recovery plan) within PACs should be evaluated on a case-by-case basis. Spatial and temporal restrictions must be required for all new activities, and specific dates and distances will be developed for each individual project.
A.38 Spatial and temporal restrictions should be implemented where appropriate for recreational activities (as described in the recovery plan) with regard to other protected and “restricted” habitats.

**Uncompahgre fritillary butterfly (Endangered):**

A.39 Reproductive habitat must be protected from management activities that would eliminate or reduce sustainability of host plants (including any necessary off-site contributing hydrologic conditions).

**Cavity Nesting Birds including Sensitive Species**

A.40 Dead snags should be retained for the following species: aspen and cottonwood (particularly when mixed with conifer), ponderosa pine, Douglas-fir, bristlecone pine, southwestern white pine, Engelmann spruce, blue spruce, white fir, and subalpine/corkbark fir.

A.41 Snags that exhibit the following characteristics must be retained: those containing cavities; large to largest sizes (diameter and height); structural Class 2, Class 1s and Class 3s; or located in, or near, site/geographic features (including ridgetops, upper portions of canyon walls, along stream bottoms, edges of forest openings, or in clumps).

Class 1 snags are those that have recently died, typically have little decay, and retain their bark, branches, and top. Class 2 snags are those that show some evidence of decay and have lost some bark and branches, and often a portion of their top. Class 3 snags are those that have extensive decay, are missing bark and most of their branches, and have a broken top (Bull et al 1997).

A.42 Snag Recruitment: Large old trees, generally > 16 inch dbh, must be protected in numbers (e.g., per acre) and distribution, by species, to assure that snag retention guidelines are met over the implementation-life of this and future Plans (taking into account mortality from expected disturbance agents and exceptions for human health and safety). See Table 41 for snag retention standards.

A.43 Standing live trees that exhibit the following characteristics should be retained: those containing cavities; large/largest sizes; spiked tops; broken tops; sapsucker patterned; lightning scarred; nest-quality brooms; and/or “wolfy” crowns (dominant overstory).

**Migratory Birds including Sensitive Species**

A.44 In areas where tall, dense cover is desired for ground-nesting birds, sufficient cover to meet species nesting needs must be maintained.

A.45 Some bird species need to nest in undisturbed cover. In areas where these species are a primary consideration, activities must be managed in order to avoid adverse impacts on nests and nesting habitat.

A.46 Environmental analyses required by the NEPA or other established environmental review processes must evaluate the effects of actions and agency plans on migratory birds, with emphasis on Highlight Species (Appendix M, Table M.3).

A.47 Management actions must protect, restore, or enhance the habitat of migratory birds and/or prevent or reduce pollution or detrimental alteration of migratory bird habitats, as practicable, focusing first on Highlight Species (Appendix M, Table M.3), priority habitats, and key risk factors.
A.48 Management actions must focus on Highlight Species (Table M.3) that occupy the project area, priority habitats, and key risk factors when analyzing, disclosing and mitigating the effects of proposed actions.

A.49 Management actions must consider and undertake proactive bird conservation actions, as practicable.

A.50 Best management practices must be implemented to minimize or prevent bird mortality due to wind energy development, communication towers, and power line development.

**Raptors including Sensitive Species**

A.51 Trees and other structures containing raptor nests must be retained. Disruptive activities must be prohibited during the breeding season at nest sites or within the area of influence. The area of influence should be determined on a case-by-case basis. Where literature and other evidence shows, exceptions may occur when individuals are adapted to human activity.

A.52 The publication, Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (CDOW 2002) should be followed. Exceptions to these recommendations are based on differing local conditions and are listed below in Table 43.

Table 43 - Raptor Timing Restrictions and Buffer Zone Distances

<table>
<thead>
<tr>
<th>Nesting Group</th>
<th>Species</th>
<th>Timeframe</th>
<th>Buffer Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tree Platform Nesters</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTHA, NOGO, GOEA</td>
<td>April 1 – August 31</td>
<td>No human encroachment within ½ mile of nest.</td>
<td></td>
</tr>
<tr>
<td>GOEA – nest</td>
<td>December 15 – July 15</td>
<td>No surface occupancy within ½ mile of nest.</td>
<td></td>
</tr>
<tr>
<td>NOGO - nest</td>
<td>Year-round</td>
<td>No human encroachment within ¼ mile of nest, depending on topographic and vegetational screening.</td>
<td></td>
</tr>
<tr>
<td>NOGO – nest</td>
<td>March 1 – August 31</td>
<td>No surface occupancy within ¼ mile of nest-cliff complex.</td>
<td></td>
</tr>
<tr>
<td>RTHA - nest</td>
<td>Year-round</td>
<td>No human encroachment within ¼ mile of nest-cliff complex.</td>
<td></td>
</tr>
<tr>
<td>RTHA – nest</td>
<td>March 1 – July 15</td>
<td>No human encroachment within 1/8 to ¼ mile of nest-cliff complex.</td>
<td></td>
</tr>
</tbody>
</table>

| **Cliff Nesters** | | | |
| PEFA, PRFA, GOEA, RTHA | March 1 – July 15 | No human encroachment within ½ mile of nest-cliff complex. |
| PEFA - nest | Year-round | No surface occupancy within ½ mile of nest-cliff complex. |
| PRFA - nest | Year-round | No surface occupancy within ½ mile of nest-cliff complex. |
| GOEA - nest | Year-round | No surface occupancy within ¼ mile of nest-cliff complex. |
| GOEA – nest | December 15 – July 15 | No human encroachment within ½ mile of nest-cliff complex. |
| RTHA - nest | Year-round | No surface occupancy within ¼ mile of nest-cliff complex. |
| RTHA – nest | March 1 – July 15 | No human encroachment within 1/8 to ¼ mile of nest-cliff complex. |

RTHA: red-tailed hawk; NOGO: northern goshawk; GOEA: golden eagle; PEFA: peregrine falcon; PRFA: prairie falcon.

No human encroachment refers to all disturbing activities and other management changes to habitat effectiveness.

Surface occupancy (beyond that historically occurring in an area) includes new improvements (including oil and gas wells, tanks, roads, trails, buildings, etc.).
**Bald Eagles (Sensitive Species)**

A.53 Human activities within ¼ mile of winter daytime communal perching areas and perching areas within important foraging habitat must be restricted from October 15 to March 15.

A.54 Cutting down any tree that is 12 inches dbh or greater, and within 100 feet of a river bank or other foraging area must be prohibited.

A.55 Any activity that has the potential to kill perch trees or impede utilization of foraging areas must be prohibited.

A.56 Silvicultural practices designed to enhance perch site availability must be implemented.

A.57 Non-surface disturbing activities within ½ mile of critical winter nocturnal roosts should be restricted from October 15 to March 15.

A.58 All surface disturbing activities including new roads and bridges should be located at least ½ mile from critical winter nocturnal roosts and major foraging areas, unless topography and vegetation could reduce disturbance to acceptable levels (see Raptor Section above for Bald Eagle Nesting Conservation Measures).

**Bats including Sensitive Species**

A.59 Human disturbance must be managed at caves, and at abandoned mines, where known bat populations exist to levels meeting requirements of the occupying species (maternity, hibernacula, or summer roosts).

A.60 When closing mines and/or caves for human safety which are occupied by bats, continued bat access must be ensured. Disturbance to residing bat populations must not be limiting to population requirements. Project may include necessary requirements such as timing restrictions and closure designs to meet species needs.

A.61 Where known bat concentrations are located outside of caves or mines (such as in bridges structures, rock crevasse, or tree snags), human disturbance must be managed in order to protect those populations. Also see snag provisions in Table 41 and snag requirements under Cavity Nesters above. Class 1 and 2 snags provide the loose bark bats need for roosting. Class 1 snags are those that have recently died, typically have little decay, and retain their bark, branches, and top. Class 2 snags are those that show some evidence of decay and have lost some bark and branches, and often a portion of their top. (Bull et al 1997).

A.62 Human access must be restricted at occupied sites during the following periods: maternity sites (April 15 through September 1); swarming sites (August 15 through October 15, 30 minutes before sunset to 30 minutes after sunrise); and winter hibernaculum (October 15 through May 15).

A.63 Activities that may impact cave and mine bat roosts (by altering the vegetative and structural characteristics leading to the entrance of roosts and/or impeding the movement of bats) should occur outside a radius of 500 feet beyond the cave or mine opening.

A.64 Gates designed for free bat movement must be used in order to protect, and provide, bat habitat in abandoned mines that are considered for closure or other management actions.

A.65 Where protection of individual mine sites are necessary in order to ensure conservation of Special-Status Species, formal mineral withdrawal should be considered.
A.66 Best management practices must be implemented to minimize or prevent bat mortality due to wind energy development.

**Ungulates - Rocky Mountain bighorn sheep (a Sensitive Species), Mule deer, desert bighorn sheep:**

A.67 Management goals should be established in coordination with local, State, Native American tribal, and other Federal agencies; as well as with owners of intermingled privately owned lands in order to minimize resource conflicts on, and off, BLM and USFS lands. Resource opportunities should be explored to meet management goals where conflicts are identified.

A.68 Grazing strategies must provide sufficient forage to support sustaining populations of ungulates across the planning area.

A.69 In order to minimize disturbance and harassment of deer, elk, and big horn sheep vegetation screening should be considered along roads that are kept open for human use and around openings.

A.70 In order to provide for habitat effectiveness for deer and elk, travel management should manage for road densities of 1 mile or less per square mile in areas providing critical wildlife needs such as within winter concentration and critical winter range, calving areas, and transition habitat.

A.71 Management activities should avoid or minimize disturbance impacts to ungulate concentration areas and severe winter range between December 1 and April 30, with the exception of through routes. Management activities that occur on concentration areas and severe winter range during the winter period should concentrate activities in order to reduce impacts to ungulates.

A.72 When constructing roads and trails, important forage and cover locations should be considered.

A.73 All active sheep allotments with potential for direct contact between domestic sheep and goats and wild sheep must be evaluated during project level planning to develop management options to prevent contact.

A.74 Actions such as boundary modification, livestock-type conversion, or allotment closures must be taken on vacant Sheep and Goat (S&G) allotments in occupied wild sheep range in order to eliminate potential for future interactions between domestic and wild sheep.

A.75 Recreational pack goats and other domestic goats must be managed in order to prevent any interaction with wild sheep.

A.76 Domestic goats used for invasive plant control must be veterinarian certified as free of pathogens transmissible to bighorn sheep.

**Butterflies including Sensitive Species:**

A.77 Reproductive habitat occupied by BLM and USFS Sensitive Species and SJPL Highlight Species must be protected from activities that could eliminate or reduce sustainability of host plants (including from any necessary on-site or off-site contributing hydrologic conditions).

A.78 Development of springs or seeps at sites that support Viola nephrophylla (host plant for the Nokomis fritillary), must be accomplished using methods that retain the productivity of Viola nephrophylla, hydrologic conditions, and associated plant community.
Additional Referenced Guidance


**Landscape and Habitat Connectivity**: The Southern Rockies Ecosystem Project (SREP); Linking Colorado’s Landscapes, Phase II Reports, 2006; and Lynx Linkages Areas discussed in the 2004 Programmatic Consultation Agreement for Canada Lynx, 2004.

**Applicable MOUs**: There are numerous Master MOUs between the USFS and/or the BLM, and partners/organizations that share similar conservation goals and interests on public lands. A recent example is the MOU between Bat Conservation International, Inc. (BCI) and the USFS (4/27/2004). All of these MOUs are not delineated in this document; however, they should be considered as other sources of design criteria for terrestrial wildlife resources within the planning area.


**Gunnison Sage-Grouse**: The Conservation Plan Agreement to participate in the Plan, signed by the R2 Regional Forester (4/28/2005) and the BLM State Director (4/29/2005). (The DLMP provides recommendations for minimizing adverse impacts caused by human and/or activity disturbances, as well as impacts to breeding and foraging habitat (see Appendix H, Rangewide Conservation Plan for Gunnison Sage-Grouse, 2005).


**Bats**: Colorado Bat Conservation Plan, 2003 (which provides conservation information concerning mines, caves and crevice, rangeland, snag, and forest management; as well as research and inventory protocols for bat species in Colorado); Habitat Conservation Assessment and Conservation Strategy for the Townsend’s Big-eared Bat, 1995; The Fringed Myotis: A Technical Conservation Assessment, 2004; the Federal Cave Resources Protection Act of 1988 (which provides protection for caves that have been determined to be significant, as well as procedures for nominating them).


**Animal Damage Control**: BLM IM No. CO-2000, Animal Damage Control Activities; Master MOU between the BLM and APHIS-WS, 1995; Colorado State level MOU between the DOAI, the CDOW, the BLM, the USFS, the Contractors State License Board (CSLB), and the Animal and Plant Health Inspection Service-Wildlife Service (APHIS-WS), 1999; San Juan National Forest Plan Amendment #15, and associated Decision Notice for Animal Damage Control, 1992; and a Master MOU between the USFS and the APHIS-WS, 1998. Butterflies and Pollinators: Leasing NatureServe comprehensive text for identified BLM and USFS sensitive species; SJPL Highlight Species; and T&E species.

**BLM AND USFS SENSITIVE SPECIES**

The BLM will conserve Sensitive Species by fulfilling the requirements of the Endangered Species Act (ESA), and by using other authorized methods in order to ensure that the actions authorized by BLM are consistent with the conservation of such species, and that they do not contribute to the need to list any Special-Status species under provisions of the ESA, or designate additional Sensitive Species under provisions of this policy (BLM Manual 6840). The Forest Service will conserve sensitive species through direction found in FSM 2600. Sensitive Species are considered in accordance with direction during project-level NEPA analysis.

Recommend against, deny consent or recommend NSO stipulation for issuance of mineral leases where operational damages on surface resources (including access, transportation of goods, and ancillary facilities) would intrude upon the habitat of an individual plant or animal species that is documented as needing special management in order to prevent its need for listing as a threatened or endangered species.

**Additional Referenced Guidance**

XI. USFS MANAGEMENT INDICATOR SPECIES (MIS)

Marten

A. Avoid Activities (Timber Harvest, Salvage Logging, Fuels Treatments, Road construction) that fragment or alter interior late-successional or old growth forest characteristics, or could increase edge effects unless these activities have either a short – or long-term benefit to American Marten.

B. Timber removal in marten habitat should be designed to provide for sustainable habitat to support marten populations over time.

C. Large, contiguous, well-distributed blocks or smaller, closely interconnected patches of late-successional and old growth spruce-fir habitat must be maintained for habitat effectiveness. Edge effect must be minimized to maintain habitat effectiveness.

D. Closed canopy connectivity between habitat blocks must be maintained to facilitate marten dispersal and population interaction.

E. A complex vegetation understory and forest floor structure, including coarse woody material, must be maintained for reproductive success and for maximizing a microtine and pine squirrel prey base.

Trout

F. Management activities throughout SJPL should be consistent with the objectives of the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming. For formally designated conservation populations of Colorado River cutthroat trout, 100% of existing habitat must be maintained.

G. Streamflow in each reach should be sufficient to maintain, for each life stage of each target species, a minimum of 50% of the Weighted Usable Area that would occur under natural flow conditions.

H. Habitat quality, including large woody debris, residual pool depths, composition of habitat units (eg. pools, riffles), and overall habitat complexity, should be maintained or improved commensurate with reference stream conditions and in a manner that maintains self-sustaining fish populations.

I. Conservation pools should be provided in water storage facilities where there are trout MIS.

J. Streamflow in riffle habitats should be at levels that maintain minimum water depth, wetted perimeter, and mean velocity values consistent with those identified for each stream size category identified below:

<table>
<thead>
<tr>
<th>Bankfull Width (ft)</th>
<th>Mean Depth (ft)</th>
<th>Wetted Perimeter (%)</th>
<th>Mean Velocity (ft/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 20</td>
<td>≥ 0.2</td>
<td>50</td>
<td>1.0</td>
</tr>
<tr>
<td>21 to 40</td>
<td>0.2 to 0.4</td>
<td>50</td>
<td>1.0</td>
</tr>
<tr>
<td>41 to 60</td>
<td>0.4 to 0.6</td>
<td>50 to 60</td>
<td>1.0</td>
</tr>
<tr>
<td>&gt; 60</td>
<td>&gt; 0.6</td>
<td>&gt; 60</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Bluebird

K. Patches of mature and older aspen forest in proximity to open foraging habitats should be maintained. Aspen management should provide for sustainable habitat conditions to support bluebird populations over time.

L. Timber harvest, Salvage Logging, and Fuels Treatments must avoid large diameter aspen trees that are in close proximity to open foraging habitats to ensure continued recruitment of nesting habitat.

M. Large stands of burned or insect-infested aspen, ponderosa pine, or pinyon-juniper vegetation types should be retained for 3-5 years to promote woodpecker populations which create cavities for bluebird nesting.

Abert’s Squirrel

N. Ponderosa pine forests occupied by Abert’s squirrels should have an uneven-aged, multi-layered, high-closure canopy structure.

O. Frequent interconnected groupings of large cone-producing Ponderosa pine trees must be maintained in patches for feeding, nesting sites, and regeneration within the broader matrix of forest.

P. Large patches of dense Ponderosa pine trees with interlocking canopy cover must be maintained to create microclimatic conditions for the production of important truffle foods. These patches will occur within the broader matrix of forest described in the terrestrial ecosystem desired conditions and objectives.

Q. Frequent (several per hectare) clusters of (0.1 to 0.15 ha) of large, even-aged Ponderosa pine trees with tight, interlocking canopy must be maintained to provide for nesting and juvenile protection.

Elk

R. In order to minimize disturbance and harassment of elk, vegetation screening should be retained or promoted where conditions will support such cover along roads that are kept open for human use and around openings.

S. Domestic livestock grazing strategies must provide sufficient forage in summer and winter habitat across the planning area to sustain populations of elk at levels to meet state management objectives.

T. To maintain habitat effectiveness for elk, manage for road densities of 1 mile or less per square mile in areas providing critical wildlife needs such as within winter concentration and critical winter range, calving areas, and transition habitat.

U. Management activities should avoid or minimize disturbance in elk concentration areas and severe winter range between December 1 and April 30, with the exception of through routes. Management activities that occur on concentration areas and severe winter range during the winter period should concentrate activities in order to reduce impacts to elk.
**Additional MIS Referenced Guidance**


**SJPL HIGHLIGHT SPECIES**

SJPL Highlight Species are listed in Appendix M of this DLMP/DEIS. Appendix M also provides an index of the desired condition statements, objectives, and the standards and guidelines in this DLMP that addresses diversity components for maintaining sustainable populations.

**Additional Referenced Guidance**

Landscape and Habitat Connectivity: The Southern Rockies Ecosystem Project (SREP); Linking Colorado’s Landscapes, Phase II Reports, 2006; and Lynx Linkages Areas discussed in the 2004 Programmatic Consultation Agreement for Canada Lynx, 2004.

**Applicable MOUs**: There are numerous Master MOUs between the USFS and/or the BLM, and partners/organizations that share similar conservation goals and interests on public lands. A recent example is the MOU between Bat Conservation International, Inc. (BCI) and the USFS (4/27/2004). All of these MOUs are not delineated in this document; however, they should be considered as other sources of design criteria for terrestrial wildlife resources within the planning area.
XII. INVASIVE SPECIES

VEGETATIVE INVASIVE SPECIES

A. Projects or activities that would authorize the use of forage products must use certified “noxious weed seed-free” forage products.

B. Contracts, leases, and permits that involve the use of the SJPL should contain the provisions necessary for preventing the establishment and spread of noxious weeds.

C. Treatment of invasive plants in areas having known populations of SJPL Plant Highlight Species and BLM Sensitive Species should avoid harm to these species in order to maintain sustainable populations.

AQUATIC INVASIVE SPECIES

D. Appropriate educational and cleaning facilities should be developed for important boating areas.

E. Cooperative, interagency assessments of aquatic invasive species should be conducted to determine their extent.

F. Fire Management Operations
   
   F.1 Obtain maps of where invasive organisms occur in watersheds where fire management operations will take place.
   
   F.2 Avoid entering waterbodies or contacting mud and aquatic plants with fire engines or equipment. Avoid transferring water between drainages or unconnected waters within the same drainage.
   
   F.3 Avoid sucking organic and bottom material into water intake hoses, pumps, and tanks from streams or ponds.
   
   F.4 Prior to leaving the project site, power wash all accessible equipment surfaces with clean water and soap, and completely remove all mud and organics. Equipment should be thoroughly dried as much as possible.
   
   F.5 Disinfect tanks from water tenders, engines, and other equipment after the incident. Flush tanks and hoses with clean water and drain to an upland location, and then rinse with an appropriate solution.
   
   F.6 Do not dump treated water into any stream or lake, or on areas where it can migrate into any waterbody.
Additional Referenced Guidance


XIII. ACCESS AND TRAVEL MANAGEMENT

TEMPORARY ROADS

A. Approval for temporary road construction should be contingent on the completion of an environmental analysis that addresses road construction and road decommissioning, including setting project timelines and establishing a funding source (bonding or other mechanism) for accomplishing the work.

B. Temporary roads should be constructed to the minimum standard needed for the specific project (the minimum standard that would provide for the protection of resource values identified during the environmental analysis).
ROAD AND TRAIL MAINTENANCE

C. Road and trail maintenance investment should be prioritized by a travel analysis that categorizes investment priority based on route value to public lands and loss of agency investment, as well as risk to the environment and to the traveling public. The risk categories and strategies that should be used include:

C.1 **High-Value/Low-Risk Routes:** The route condition should be preserved through annual maintenance. Roads in this category that have high value for private access should be considered for transfer to county jurisdiction.

C.2 **High-Value/High-Risk Routes:** These routes should receive first priority for investment and for maintenance funding (in order for them to be restored to appropriate standard(s) and in order to reduce resource risks). Roads in this category that have a high value for private access should be considered for transfer to county jurisdiction.

C.3 **Low-Value/High-Risk Routes:** These routes should receive the highest priority in order to reduce maintenance levels. Roads in this category may be considered for conversion to trails. These routes should be considered for decommissioning, if/when such an action could be done with minimal investment.

C.4 **Low-Value/Low-Risk Routes:** These routes should receive the lowest priority for maintenance funding. Consideration should be given to converting the roads to trails. These routes should be considered for decommissioning, or for reduction in maintenance level, when such an action could be done with minimal investment.

ROUTE DENSITY

D. All 6th level Hydrologic Unit Basins (HUBs) with high motorized-route densities should be considered for measures that reduce those densities. Motorized routes, for the purposes of this guideline, include designated motorized routes open to the public, as well as roads closed to public use that are authorized by permit or agreement (including administrative oil and gas well access roads). Prior to constructing new roads or motorized trails that would add to existing high watershed road/trail densities, management actions should consider:

D.1 opportunities to decommission roads found to be in excess of transportation system needs, as determined through a travel analysis; and

D.2 opportunities to reconstruct existing routes that may serve the same purpose.

E. Upper limits on designated motorized route densities should not exceed the following:

E.1 **Management Area 3:** 6th level HUBs should not have a designated motorized route density that exceeds 1 mile/square mile.

E.2 **Management Area 5:** 6th level HUBs should not have a designated motorized route density that exceeds 3 miles/square mile.

E.3 **Management Area 7:** 6th level HUBs should not have a designated motorized route density that exceeds 1.5 miles/square mile.
F. Opportunities should be sought to rehabilitate or decommission unauthorized roads causing resource impacts.

N. Where motorized route densities in key wildlife habitat exceed 1 mile per square mile, management actions should be considered that maintain habitat effectiveness supporting limiting life functions. Key wildlife habitat may include severe big game winter range and concentration areas, kidding and lambing areas, calving and fawning areas, and migration corridors. Travel management actions considered may include seasonal travel restrictions, partial or complete route closures, and new route alignments (or the realignment of existing routes in order to avoid key wildlife habitat).

Additional Referenced Guidance


**Access and Travel Management:** FSM 7700, Travel Management; FSH 7709.55, Travel Analysis Handbook; Rocky Mountain Region Travel Management Rule Implementation Strategy, 2005; Motor Vehicle Route and Area Designation Guide (v.111705); San Juan Public Lands Center Travel Management Rule Implementation Action Plan, 2006; USFS EM-7700-30, Guidelines for Engineering Analysis of Motorized Mixed Use on National Forest System Roads; and USFS EM 7100–15: Sign and Poster Guidelines for the Forest Service.

**Trails:** FSM 2300, Recreation, Wilderness, and Related Resource Management; Chapter 2350, Trail, River, and Similar Recreation Opportunities; and FSH 2309.18, Trails Management Handbook.
XIV. RECREATION AND TOURISM

A. During implementation of other resource projects, recreation facilities (including campgrounds, day-use areas, interpreted sites, trailheads, and trail systems) should be maintained in order to ensure functionality and visitor safety.

B. Summer and winter Recreation Opportunity Spectrum (ROS) maps establish setting descriptions for the entire SJPL. These ROS settings descriptions should guide project-specific decisions and implementation activity. These maps define broad physical, social, and administrative settings for the entire SJPL. Site-specific analysis is necessary to further refine desired setting conditions that may apply at the project level.

C. Structured Recreation Management Areas (SRMAs) have been identified in order to provide specific recreation benefits. Established setting prescriptions for SRMAs should guide project-specific decisions.

D. Intensive resource management activities in MA 5s may result in ROS settings that vary from Semi-Primitive to Roaded Natural. Disturbances from forest restoration, timber harvesting, fuel reduction, and/or mineral development may be experienced by visitors in limited portions of the management area at any one time.

E. Dispersed sites should be closed, rehabilitated, or otherwise mitigated if there are social-use conflicts and/or resource impacts, or where dispersed sites conflict with the management of developed recreation sites (public or private).

Additional Referenced Guidance

V. HERITAGE RESOURCES

A. Sites eligible for the National Register of Historic Places (NRHP), and those that have not been evaluated should be avoided by a 300-foot minimum buffer, unless otherwise specified by the Authorized Officer, and/or unless other mitigating measures are developed. If a project is specified by the Authorizing Officer to be within 100 feet of an eligible or unevaluated site, all ground-disturbing activity should be monitored by a qualified Archaeologist.

Additional Referenced Guidance


Executive Orders (EOs): EO 11593, Protection and Enhancement of the Cultural Environment; EO 13007, Providing for American Indian and Alaska Native Religious Freedom and Sacred Land Protections; EO 13084, Consultation and Coordination with Indian Tribal Governments; EO 13195, Trails for America in the 21st Century; and EO 13287, Preserve America.

Agreements: Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, regarding the manner in which BLM would meet its responsibilities under the National Historic Preservation Act (NHPA); State Protocol Agreement between the Colorado State Director of the BLM and the Colorado State Historic Preservation Officer, regarding the manner in which BLM would meet its responsibilities under the NHPA; the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers; and the Programmatic Agreement between the BLM, the State of Colorado, the national forests in the State of Colorado, the USDA Forest Service, the Colorado State Historic Preservation Office, and the Advisory Council on Historic Preservation regarding the Management of Wildland Fire for Resource Benefits (Agreement No. 1102-002-98-038).
San Juan Public Lands
Summer Recreation Opportunity Spectrum
Figure 31 - Winter Recreation Opportunity Spectrum (ROS)

San Juan Public Lands
Winter Recreation Opportunity Spectrum

Legend
Winter ROS
- Primitive Wilderness, WSA’s and Special Areas
- Primitive
- Semi-Primitive Non-Motorized
- Semi-Primitive Motorized
- Roaded Natural
- Rural
- USFS/BLM - Ranger Districts / Field Office Boundary
- San Juan National Forest Boundary
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct/update or modify geospatial products without notification.
XVI. SCENERY, VISUAL RESOURCES, AND THE BUILT ENVIRONMENT

A. All resource management activities should be consistent with the established scenery objectives shown on the Scenic Integrity Objectives and Visual Resource Management (VRM) Class Map (see Figure 32) unless a decision is made to deviate from the management guidance in a site-specific NEPA decision.

B. On USFS lands, scenic integrity levels, as viewed from sensitive viewer locations (including National Scenic Byways, National Scenic and Recreation Trails, and developed recreation sites) should generally be managed as High Scenic Integrity Objective (SIO) for foreground, and moderate SIO for middle ground and background. On BLM lands, visual resources, as viewed from sensitive viewer locations (including National Scenic Byways and Backcountry Byways, special designation trails, sensitive locations within SRMAs, and ACECs) should generally be managed for a VRM Class II foreground, and Class III middle and background. Short-term deviations from this may occur in order to achieve long-term desired scenic conditions if disclosed in a site-specific NEPA decision. Short-term deviations are defined as not meeting the desired objective within the first 3 to 5 years after project completion.

C. For all SJPL, the built environment (structures), including those for non-recreation functions, should be consistent with the Rocky Mountain Province or the Southwest Province, as appropriate (BEIG FS710). They should conform to the designated ROS class. Efforts should be made to provide consistency in architectural styles to promote a professional and recognizable public image.

D. The quality of the built environment should benefit from sound site planning, as well as from low-energy and environmental design (LEED) principles.

E. Straight line-of-sight road construction should be avoided. Roads through wooded areas should be designed in order to follow a curvilinear path using natural topography. Road construction across ridge tops should be avoided where it may cause a visual contrast in the landscape, or where it may add skyline alterations that are visually obvious.

F. Interim reclamation should be completed as soon as possible so that successful revegetation can be established in order to stabilize soils and to reduce visual impacts.

G. All permanent structures (on-site for more than 6 months) should be painted in a flat, non-reflective, earth-tone color that matches the surrounding summer vegetation or rocks. The USFS/BLM representative should approve colors.

H. Traffic, regulatory, and site identification signs should be minimized. All sign backs and posts should be painted a flat, non-reflective dark brown color approved by FS/BLM representative.
Figure 32 - Scenic Integrity Objectives and Visual Resource Management (VRM) Classes

San Juan Public Lands
Scenic Integrity Objectives (SIO) and Visual Resource Management Classes (VRM)

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM retain the right to correct, update or modify geospatial products without notification.

JET
NAD 83, Polyconic Projection
October 29, 2007
I. Landscaping should blend site developments into the surrounding landscape. Native tree, shrub, and grass species should be employed in landscaping in order to lessen the contrast between clearing and adjacent natural environment.

J. Linear utility corridors and pipeline installations should employ vegetative edge feathering in sloped areas that may be visible from sensitive areas (including roads, use areas, and residences). Vegetation should be cleared in a non-linear fashion in order to avoid a visually dominant straight line.

K. The minimum amount of permanent lighting needed should be installed. Light-sensitive, motion-activated lighting systems that are illuminated only when needed for security and/or for maintenance should be used. Light fixtures should be hooded in order to prevent horizontal and upward light pollution.

L. For oil and gas activities:
   L.1 The height of the pumping unit should be at, or below, the predominant tree height. Well pad and facilities should be designed with scalloped edges in wooded areas, and should avoid high wall cuts.
   L.2 Any fencing should be limited to typical wire range fencing using wood or painted “T” posts. If other fencing is needed (including chain link fencing), it should be vinyl-clad or painted a flat non-reflective dark brown, as approved by the USFS/BLM representative.

M. For fuel reduction and/or timber harvesting activities:
   M.1 Treatment areas should be comprehensively designed in order to achieve scenery desired conditions for the landscape. Treatment mitigations that create “hiding” screens or buffers along sensitive travel routes should be avoided. Treatments should be designed in order to leave sufficiently large clumps of residual trees or shrubs that reduce the apparent scale of fuel reductions and achieve a more natural appearance in the short-term.
   M.2 With regard to clearcutting, sanitation salvage, thinning, shelterwood harvests, and overstory removal, foreground views from Concern Level 1 system trails and roads, and from recreation areas, should be designed in a manner that avoids unattractive views of large, continuous openings and is mitigated by the presence of sufficient groups of residual trees. Uncut islands should be reserved within unit(s) in order to reduce apparent size of unit, provide visual diversity, and achieve a more natural-appearing treatment area.
   M.3 With regard to treatments in developed recreation sites (including campgrounds, picnic areas, and trailheads), slash should be substantially disposed of. Stumps should be flush-cut or flush-ground within developed sites. Stumps within 66 feet of a developed site should be cut to a 6-inch maximum. Slash should be substantially reduced (pile 0 to 3-inch material, leave remainder); chipping is acceptable if chips are removed from view. Any treatment units located within 66 feet of a developed site should be designed to retain screening vegetation between developed site and treatment area. In sensitive foreground areas, as needed to meet scenery objectives, stumps should be low-cut and slash should be substantially reduced. Fire control lines should be restored to a natural appearance in areas within view of roads, trails, and recreation sites. Work should be accomplished within 3 years of completion of burn.
   M.4 With regard to temporary access roads, cut and fill, and width should be minimized, and, where appropriate, should meet scenic objectives. Roads should be restored to natural contour and should be revegetated in order to remove scenic impacts resulting from linear road alignments.
M.5 With regard to thinning units, a natural-appearing shape and variable tree spacing, as viewed from roads, trails and recreation sites, should be created. Treatment should avoid visual uniformity. Variations in unit boundaries should be designed to result in a natural appearing treatment area.

M.6 Slash piles and landings located in high and moderate SIO areas, and VRM Class I, II, and III areas, where feasible, should be screened from view or set at least 66 feet away from the view of recreationists on Concern Level 1 routes. Slash piles up to 15 feet in diameter are acceptable in visible foreground, if they are disposed of within 3 years. Slash piles left for wildlife habitat enhancement should be located out of immediate foreground views (generally, 66 feet back from viewer).

M.7 With regard to unit boundary and tree marking, long-term visible paint, tags, and flagging should be avoided in sensitive foreground areas (including Concern Level 1 system roads, trails, and/or developed recreation sites).

N. For Developed Ski Areas:

N.1 Structures (including lift towers, lift terminals, sign backs, posts, utility boxes and transformers) should meet R2 color darkness standard of 4.5 on the Munsell Scale, in order to blend into the summer background vegetation.

N.2 Lift towers and cross-arms should be painted, or in some way colored, so that the galvanized steel does not reflect light.

N.3 Glass windows of buildings at or above treeline, or in highly visible areas, should be non-reflective.

N.4 Ski trail design should replicate patterns of natural landscape vegetation mosaic. Pattern, size, shape, and topographic location should be considered in mosaic.

N.5 Trail design should consider stand condition, age class, species composition, and structure. Stand diagnosis and prescriptions included in the vegetation management plan should incorporate visual management objectives and be used to design trails.

N.6 Lift lines should be incorporated into trail clearings in order to reduce vertical openings in forest stands.

N.7 Linear appearance of ski trails should be minimized by varying shape, arrangement, texture, and size of leave vegetation. Size and shape of islands should be varied in order to avoid straight edges and geometric forms that contrast with natural openings and landforms.

N.8 Natural clearings should be incorporated into trail design.

N.9 Trail edges should be softened through feathering, scalloping, and/or other means.

N.10 Soil/plant/ground disturbances should be minimized to the smallest footprint feasible. Where disturbance is unavoidable, topsoil and organic matter should be salvaged and used for rehabilitation (so that color and textural contrast of the disturbed area is gone, and the disturbed area blends visually with the surrounding undisturbed area) within 3 growing seasons.

N.11 Disturbance of valued landscape elements important to foreground views (including tree groves and boulders) should be limited. Construction fencing should be used to mark limits of disturbance at all construction sites.

N.12 The size and disturbance associated with material staging and equipment access and parking should be limited. These areas should be located, where feasible, outside of sensitive viewsheds.
N.13 Within 66 feet of summer viewers, stumps should be low-cut to 4 inches maximum height, slash should be reduced substantially; and chips from chipping should be removed from view.

N.14 Decks and landings should be located and screened from view, or set at least 66 feet away from the view of summer recreationists. Hand piles would be acceptable in the foreground, if disposed of within 3 years.

N.15 Unit boundary and tree marking paint should be painted on side facing away from viewer.

Additional Referenced Guidance


XVII. TIMBER AND OTHER FOREST PRODUCTS

A. Table 44 shows the acceptable silvicultural systems that may be used in a given forest cover type in order to meet the management objectives for the landscape and/or for individual stands of trees within a landscape setting.

Table 44 - Appropriate Silvicultural Systems by Forest Cover Type

<table>
<thead>
<tr>
<th>FOREST COVER TYPES</th>
<th>EVEN-AGED</th>
<th>TWO-AGED</th>
<th>UNEVEN-AGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponderosa Pine</td>
<td>Shelterwood Seed Tree</td>
<td>Irregular Shelterwood</td>
<td>Group Selection; Single Tree Selection Restoration</td>
</tr>
<tr>
<td>Cool-Moist Mixed-Conifer</td>
<td>Shelterwood *Clear-cut Seed Tree</td>
<td>Irregular Shelterwood</td>
<td>Group Selection; Single Tree Selection Restoration</td>
</tr>
<tr>
<td>Warm-Dry Mixed-Conifer</td>
<td>Shelterwood Seed Tree</td>
<td>Irregular Shelterwood</td>
<td>Group Selection; Single Tree Selection Restoration</td>
</tr>
<tr>
<td>Engelmann Spruce – Subalpine Fir</td>
<td>Shelterwood</td>
<td>Irregular Shelterwood</td>
<td>Group Selection; Single Tree Selection</td>
</tr>
<tr>
<td>Engelmann Spruce – Subalpine Fir – Aspen</td>
<td>Shelterwood, *Clear-cut</td>
<td>Irregular Shelterwood</td>
<td>Group Selection; Single Tree Selection</td>
</tr>
<tr>
<td>Aspen</td>
<td>Coppice</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Clear-cut allowed for seral aspen regeneration only
B. Table 45 shows the acceptable types of stand improvements and regeneration methods that should be used in a given forest cover type in order to meet the management objectives for the landscape and/or for individual stands of trees within a landscape setting.

**Table 45 – Guidelines for Allowable Stand Improvements and Regeneration Methods by Forest Cover Type**

<table>
<thead>
<tr>
<th>FOREST COVER TYPES</th>
<th>STAND IMPROVEMENTS</th>
<th>REGENERATION METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponderosa Pine</td>
<td>Precommercial thin Sanitation Release &amp; Weed Improvement cuts *</td>
<td>Natural Artificial*</td>
</tr>
<tr>
<td>Cool-Moist Mixed-Conifer</td>
<td>Precommercial thin Sanitation Release &amp; Weed Improvement cuts *</td>
<td>Natural Artificial*</td>
</tr>
<tr>
<td>Warm-Dry Mixed-Conifer</td>
<td>Precommercial thin Sanitation Release &amp; Weed Improvement cuts *</td>
<td>Natural Artificial*</td>
</tr>
<tr>
<td>Engelmann Spruce – Subalpine Fir</td>
<td>Commercial thin Sanitation Release &amp; Weed Improvement cuts *</td>
<td>Natural Artificial*</td>
</tr>
<tr>
<td>Engelmann Spruce – Subalpine Fir – Aspen</td>
<td>Commercial thin Sanitation Release &amp; Weed Improvement cuts *</td>
<td>Natural Artificial*</td>
</tr>
<tr>
<td>Aspen</td>
<td>Sanitation Improvement cuts*</td>
<td>Natural*</td>
</tr>
</tbody>
</table>

*Other treatments may be applied if supported by a silvicultural prescription developed by a certified silviculturist, and if consistent with LMP desired conditions and objectives.
C. Timber harvest activities for timber production objectives must be limited to those lands classified as “suitable.”

D. Where trees are harvested to meet timber production objectives, the cut must be designed in a way that there is assurance that the technology and knowledge exists to adequately restock these areas within 5 years after final harvest. Following a final regeneration harvest, the area is considered adequately restocked when the minimum number of seedlings per acre, as shown in Table 46, is attained.

<table>
<thead>
<tr>
<th>VEGETATION TYPE</th>
<th>MINIMUM NUMBERS OF SEEDLINGS (PER ACRE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spruce-fir</td>
<td>150</td>
</tr>
<tr>
<td>Aspen</td>
<td>200</td>
</tr>
<tr>
<td>Mixed Conifer</td>
<td>150</td>
</tr>
<tr>
<td>Ponderosa Pine</td>
<td>150</td>
</tr>
</tbody>
</table>

E. Where trees are harvested to meet objectives other than timber production, there is no required minimum number of seedlings, however, there should be appropriate forest cover consistent with the desired conditions relevant to that area.

F. Land managers may consider regeneration harvesting of even-aged timber stands before the stands have generally reached the culmination of mean annual increment where special resource management objectives or considerations require earlier harvesting, including:

F.1 when a stand is in imminent danger from insects or disease;
F.2 for wildlife habitat improvement;
F.3 for scenery resource enhancement or rehabilitation;
F.4 for mistletoe control; and/or
F.5 for overall ecosystem restoration.

G. The maximum size of openings created by the application of even-aged silviculture must not exceed 40 acres, regardless of forest cover type, with the following exceptions:

G.1 proposals for larger openings may be approved by the Regional Forester, subject to a 60-day public review;
G.2 where larger openings are the result of natural catastrophic conditions (including those resulting from fire, insect or disease attack, or windstorm); or
G.3 where the area that is cut does not meet the definition of created openings.
H. A created opening would no longer be considered an opening when:

H.1 minimum stocking standards by forest cover type are met; and
H.2 average tree height is 6 feet or greater with a 70% distribution for conifer species, and 10 feet or greater with a 70% distribution for aspen.

Additional Referenced Guidance

36 CFR 221, Timber Management Planning; 36 CFR 223, Sale and Disposal of National Forest System Timber; FSM 1920, Land Management Planning; FSM 2400, Timber Management; FSM 5400, Forest Pest Management; FSH 1900 Planning; and timber sale contract provisions and procurement contracts.

XVIII. LIVESTOCK AND RANGELAND MANAGEMENT

A. LIVESTOCK MANAGEMENT

A.1 Land managers should phase out grazing systems that allow for livestock use in an individual unit during the entire vegetative growth period (season-long), except where such management has been determined to be able to achieve or maintain desired conditions.

A.2 If grazing privileges are relinquished on SJPL where fragile soils, low forage production, fencing problems, low livestock water availability, and/or conflicts with other resources make livestock grazing undesirable, the privileges should not be re-allocated.

A.3 Prior to allocating grazing privileges for a new grazing permittee on unallocated grazing allotments, the needs of existing rangeland management, as well as ecological diversity and species viability, should be considered.

A.4 Grazing systems should be designed in a manner to provide periodic rest during the critical growing season in order to promote plant vigor, reproduction, and productivity.

A.5 Avoid livestock grazing during the same time, and in the same place, in consecutive years.

A.6 When designing a grazing plan, on-going and potential forage and browse competition among livestock, big game, and wild horses should be considered.

A.7 The designation of forage reserve grazing allotments should be considered when grazing privileges terminate if such designations would improve land management as well as livestock management opportunities for existing grazing permittees.

A.8 Where dense cover is desired for spring or early summer ground-nesting birds, management activities should carry over adequate residual cover from the previous growing season. Management strategies should strive to limit conflicts between livestock and ground-nesting birds during the nesting season.

A.9 Grazing management activities should be modified, or livestock excluded from riparian areas that are “Not Functioning” (NF) or “Functioning-at-Risk” (FAR) with a downward trend (as rated by the proper functioning condition (PFC) protocol) where livestock have been determined to be a key causative agent.

A.10 Trailing of livestock should be prohibited along the length of riparian areas.

A.11 Groundcover within the mountain grassland type should be adequate to prevent erosion and to
maintain soil productivity.

A.12 Soil surface compaction should not be apparent after grazing each year, as evidenced by platy soil structure in the surface horizon.

A.13 Domestic sheep should be managed to avoid contact with bighorn sheep.

A.14 Rangeland managers will track climate (drought) patterns and will implement appropriate steps to ensure that livestock management during and following drought does not impact the long-term health of rangeland plant, soils, or key wildlife habitat.

B. RANGELAND VEGETATION

B.1 Project-level NEPA analysis and decisions, and the resultant allotment management plans (AMPs), should specify utilization guidelines (including desirable woody vegetation, as required) that should vary with grazing system and with ecological condition.

B.2 Project-level design will incorporate habitat needs to satisfy MIS requirements within FS grazing allotments. Adaptive management principles will be used to correct unsatisfactory conditions identified through interdisciplinary monitoring.

B.3 Livestock should be moved from the grazing unit or allotment when utilization on key areas meets or exceeds use guidelines identified in Table 47 below, or as specified in NEPA documentation for the particular allotment’s Allotment Management Plan (AMP), or in annual operating instructions (AOI).

Table 47 - Allowable Use Guidelines by Livestock Grazing Management System

<table>
<thead>
<tr>
<th>MANAGEMENT SYSTEM</th>
<th>PERCENTAGE OF SATISFACTORY RANGE - HEALTHY SYSTEMS</th>
<th>PERCENTAGE OF UNSATISFACTORY RANGE - UNHEALTHY OR AT RISK SYSTEMS *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Season-long</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>Rotation</td>
<td>45%</td>
<td>35%</td>
</tr>
<tr>
<td>Deferred Rotation</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>Rest Rotation</td>
<td>55%</td>
<td>45%</td>
</tr>
</tbody>
</table>

* Utilization percentages are expressed in terms of annual forage production present at the time the livestock leave the area, and are generally a measurement of designated key species on key areas.
B.4 The riparian vegetation residue guidelines, as shown in Table 48, should be met at the time the livestock leave the unit.

Table 48 - Post-Grazing Vegetation Heights Under Different Seasons of Use in Riparian Areas and Wetlands

<table>
<thead>
<tr>
<th>SEASON OF USE</th>
<th>RESIDUAL RIPARIAN VEGETATION HEIGHT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Season-long (i.e. no regrowth potential)</td>
<td>6 inches</td>
</tr>
<tr>
<td>Early Growing Season (i.e. significant regrowth potential)</td>
<td>3 inches</td>
</tr>
<tr>
<td>Mid-season (i.e. limited regrowth potential)</td>
<td>4 inches</td>
</tr>
<tr>
<td>Late Season (i.e. little to no regrowth potential)</td>
<td>4-6 inches</td>
</tr>
<tr>
<td>Late Fall and Winter (i.e. dormant season use)</td>
<td>6 inches</td>
</tr>
</tbody>
</table>

*Maximum riparian and wetland allowable use (residue) guidelines to be applied on key sedge or rush species, lacking sedge and/or rush species, use existing herbaceous vegetation. Consider the duration livestock have access to the key areas when setting allowable use standards – the shorter the duration, the less the opportunity for repeat grazing of individual plants.

B.5 After sheep have grazed an area, there should be only moderate signs of use. Forage should show that it has been topped and selectively grazed; trampling should be minimal and trailing may be evident, but not common.

B.6 Allowable use, residual vegetation, and other grazing guidelines apply to wildlife, livestock, and wild horses. If allowable use guidelines continue to be exceeded, reductions to livestock utilization levels, recommendations for reductions in wildlife numbers, and/or reductions in wild horse numbers should be made.

C. RANGE IMPROVEMENTS

C.1 New range improvement needs should be identified and prioritized based on rangeland health assessments and/or other monitoring efforts.

C.2 The need to re-treat non-structural range improvements when planning fuels management projects should be considered.

C.3 Grazing allotments with current NEPA decisions should be given the highest priority when considering the use of range-betterment funds.

C.4 Livestock grazing use should be deferred for 2 growing seasons following severe wildfire, ground-disturbing vegetative treatment projects, or seeding. For prescribed burns or mechanical vegetation treatment, grazing should be deferred for at least 2 growing seasons. These guidelines should apply unless it is demonstrated that such use would not be detrimental.

C.5 Grazing permittees should receive at least 2 years notice prior to implementing range improvement projects that require changes to current livestock management.
C.6 Where appropriate, and where the appropriate kind and class of livestock are available, livestock grazing should be considered as an invasive species management tool.

C.7 Wildlife needs should be considered in the design of structural and non-structural range improvements.

Additional Referenced Guidance


XIX. MINERALS AND ENERGY

There are no standards or guidelines specific to the SJPL that are not already included in existing law, regulations, and policies.

Additional Referenced Guidance

USDOI and USDA Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 2006 (BLM/ST-06/021+3071); BLM Handbooks H-8410-1, Visual Resource Inventory and 8431-1, Visual Resource Contrast Rating; BLM Manual 8431-1; and Appendix H, Volume 3, Oil and Gas Leasing Stipulations.

DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS

A. The Trans-Colorado Pipeline Corridor should be limited to upgrading of existing facilities, requirements of microtunneling to avoid disturbance on steep slopes and for placement of pipelines under stream beds.

B. Vegetation treatments within corridors and along linear transmission facilities should meet facility safety requirements, and should provide for the control and reduction of invasive species, and for the feathering of vegetation in order to reduce visual impacts.
C. All areas having VRM Class I, II, or III, or moderate through very high SIO should be avoided or appropriate mitigation measures taken.

D. Transportation and utility systems should be consolidated within existing corridors and along linear energy transmission facilities in order to reduce habitat loss, degradation, and fragmentation resulting from new construction.

E. Corridors should occupy the minimum amount of valley bottoms needed to accomplish their purpose, in order to reduce the risk of ground and surface water contamination.

**XX. ABANDONED MINE LANDS AND HAZARDOUS MATERIALS**

There are no guidelines specific to the SJPL.

**Additional Referenced Guidance**

FSM 2160; USDA DM 5500-1; BLM Handbook 3720-1, Abandoned Mine Lands Policy; BLM CERCLA Response Actions Handbook 1703-1; and USDOI Solid Waste and Hazardous Materials Management Compliance Handbook.

**XXI. LANDS PROGRAM**

**LAND OWNERSHIP**

A. Land boundary lines should be surveyed, posted, and marked according to these priorities: 1) lines needed to meet planned activities; 2) lines needed to protect USFS or BLM lands from encroachment; and 3) all other land boundary lines.

B. BLM land ownership adjustments should meet the recommendations and priorities of the specific BLM land classification category (see Part 2, Figure 19 - Lands Available for Disposal).

C. Acquisition of lands/interests should be prioritized as follows: 1) lands within designated Wilderness areas and other Congressionally classified areas; 2) lands that enhance resource management; 3) lands that provide habitat for animal and plant species designated as threatened or endangered, and/or for SJPL Highlight Species; 4) lands that contain wetlands and/or floodplains; or 5) lands where resource values are threatened by change of use, or lands that may be enhanced by public ownership.

D. Disposal of lands/interests should be prioritized as follows: 1) to States, counties, cities, or other Federal agencies when a greater public interest exists; 2) where small parcels intermingle with mineral or homestead patents; 3) where development by the private sector is in the greater public interest; 4) where exchange brings into public ownership higher critical resources or values; or 5) where reserving interests to protect resources and/or resource values mitigates the effects of disposal.

E. Jurisdictional transfers between agencies should be prioritized as follows: 1) to reduce duplication of effort, time, cost, or coordination by users and agencies; 2) to maintain or improve user access; 3) to decrease travel and enhance management; 4) to improve public understanding of management policy; 5) to develop more effective and efficient work units; and 6) to reduce administrative cost.
LAND USE AND ACCESS

F. Land use authorizations should avoid developed sites, unless the proposed use or occupancy is compatible with the purpose and use of the developed site.

G. Land use authorizations should include all necessary and applicable environmental protection designs, terms and conditions, mitigation measures, and maintenance and monitoring requirements.

H. ROWs for public access across private lands should be pursued from willing landowners.

I. USFS or BLM roads where private use substantially dominates public use should be conveyed to the appropriate local government jurisdiction.

J. Existing trespass and encroachments should be resolved according to the following priorities: 1) where public safety is threatened; 2) where damage to resources and/or resource values is occurring; 3) where public access is interfered with; 4) where the encroachment is unintentional; and 5) where no substantial damage or management concern exists.

K. New or replacement telephone lines and electrical utility lines of 33 kilovolts or less should be buried unless: 1) objectives for scenery can be met using an overhead line; 2) burial is not economically or geologically feasible; or 3) greater long-term site disturbance would result if the lines were buried.

L. Overhead electric lines should use non-specular or “dulled” wire. All utility poles and hardware should be colored to blend in with the surrounding environment, as needed, in order to meet scenic quality objectives.

XXII. COMMUNICATION SITES

A. Communication sites should be designed to minimize the visual appearance of structures. All areas having VRM Class I, II, or III, or moderate through very high SIO should be avoided, or appropriate mitigation measures should be taken.

B. The use of roads constructed for specific non-public purposes (including access routes to communication sites) should be limited to administrative use only.

C. New communication sites should emphasize co-location and subleasing of existing facilities. Permittees should be encouraged to include multi-user options. The first leaseholder should be designated as the site manager, prior to authorization.

D. Communication antennas should utilize non-reflective surfaces or be painted to minimize visual impacts.

Additional Referenced Guidance

FSM 1920; FSM 2700; FSH 2709; FSM 5400; FSH 5409; FSM 5500; FSM 5509; FSM 2760; FSH 2509.25, Watershed Conservation Practices Handbook, Region 2 Supplement; 43 CFR 2000; BLM Manuals and Handbooks 2100, 2200, 2300, 2740, 2800, 2880, and 2900.
XXIII. PALEONTOLOGICAL RESOURCES

A. The land manager’s highest concern for paleontology resources should focus on Probably Fossil Yield Classification - Class 5 formations. Fossil-bearing areas of these formations are likely to be vandalized. Mitigation of ground-disturbing activities should be required, and may be intense. Frequent use by the full range of interested individuals and groups is to be expected. Areas of special interest and concern should be designated and intensely managed.

Additional Referenced Guidance

Probable Fossil Yield Classification - (PFYQ), as developed by the Paleontology Center of Excellence; and the Region 2 Paleo-Initiative, 1996.