Uncompahgre Field Office

Draft Resource Management Plan and Environmental Impact Statement

Volume I:

Executive Summary and Chapters 1-3

US Department of the Interior

Bureau of Land Management

May 2016

BLM

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7210
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MAY 2 0 2016

In Reply Refer to:
1610 (COS050)

Dear Reader:

The Draft Resource Management Plan/Draft Environmental Impact Statement (Draft RMP/EIS) for the Colorado Bureau of Land Management (BLM) Uncompahgre Field Office (UFO) is available for your review and comment. The BLM prepared this document in consultation with cooperating agencies, and in accordance with the National Environmental Policy Act of 1969, as amended, the Federal Land Policy and Management Act of 1976, as amended, implementing regulations, the BLM's Land Use Planning Handbook (H-1601-1), and other applicable law and policy.

This Draft considers management for all BLM administered lands and minerals in the Uncompahgre Planning Area. The Planning Area consists of about 675,800 acres of BLM-administered public lands and 971,220 acres of federal subsurface mineral estate in Delta, Gunnison, Mesa, Montrose, Ouray, and San Miguel Counties in southwestern Colorado. The planning area does not include the Gunnison Gorge or Dominguez-Escalante National Conservation Areas, which are managed under separate RMPs. When approved, this RMP will replace the 1985 San Juan/San Miguel RMP and 1989 Uncompahgre Basin RMP and will guide the management of public lands administered by the Uncompahgre Field Office into the future. The Uncompahgre Draft RMP/EIS and supporting information is available on the project web site at: http://www.uformp.com.

The BLM encourages the public to provide information and comments regarding the analysis presented in the Draft RMP/EIS. Your timely comments on the Uncompahgre Draft RMP/EIS will help formulate the Proposed RMP/Final EIS. We are particularly interested in comments concerning the adequacy and accuracy of the proposed alternatives, the analysis of their respective management decisions, and any new information that would help the BLM as it continues to develop the RMP.

In developing the Proposed RMP/Final EIS, which is the next phase of the planning process, the BLM decision maker may select management decisions from each of the alternatives analyzed in the Draft RMP/EIS for the purpose of creating a management strategy that best meets the needs of the resources and values in this area under the BLM multiple-use and sustained-yield mandate.

If you wish to submit comments on the Draft RMPA/SEIS, please make your comments as specific as possible. Comments will be more helpful if they reference a section or page number and if they include suggest changes, methodologies, sources of information, or focus on components of the alternatives. Comments containing only opinions or preferences will be considered as part of the decision making process, although they will not receive a formal response from the BLM. Comments will be accepted for ninety (90) calendar days following the

Environmental Protection Agency's publication of its Notice of Availability in the *Federal Register*. The BLM can best utilize your comments and resource information submissions if received within the review period.

Comments may be submitted electronically (email) to: uformp@blm.gov. Comments may also be submitted by mail to:

Project Manager, Uncompahgre RMP
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Ave
Montrose, CO 81401

To facilitate analysis of comments and information submitted, we strongly encourage you to submit comments in an electronic format (e.g. email). There is no need to submit the same comment more than once or in more than one format.

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Public meetings to provide an overview of the document, respond to questions, and take written public comments will be announced by local media, the project website, and/or public mailings at least 15 days in advance.

Copies of the Uncompahgre Draft RMP/EIS have been sent to affected federal, state, and local government agencies and tribal governments. Copies of the document and associated documents such as maps and supporting background information can be reviewed at several locations: the project web site, the BLM Uncompahgre Field Office (2465 South Townsend Avenue, Montrose, CO 81401) or BLM Colorado State Office (2850 Youngfield Street, Lakewood, CO 80215) during normal working hours (8:00 a.m. to 4:30 p.m., except weekends and holidays), and Public Libraries in the planning area.

A small number of the Uncompahgre Draft RMP/EIS have been printed. Viewing the document electronically from the project website or from a CD is encouraged.

Thank you for your continued interest in the Uncompahgre RMP. We appreciate the information and suggestions you contribute to the planning process. For additional information or clarification regarding this document or the planning process, please contact the RMP Project Manager at the address shown above.

Sincerely,

Ruth Welch
Colorado State Director

BLM MISSION

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

BLM/CO/PL-16/006

Draft Resource Management Plan and
Draft Environmental Impact Statement for the
Uncompahgre Field Office, Colorado
BLM/CO/PL-16/006

1. Responsible Agency: United States Department of the Interior
   Bureau of Land Management

2. Type of Action: Administrative (X) Legislative ( )

3. Document Status: Draft (X) Final ( )

4. Abstract: This Draft Resource Management Plan and Environmental Impact Statement describes and analyzes four alternatives and one partial alternative for managing over 675,800 acres of BLM-administered lands and 971,220 acres of federal subsurface mineral estate in western Colorado. The Uncompahgre Field Office spans portions of Delta, Gunnison, Mesa, Montrose, Ouray, and San Miguel Counties. The plan alternatives are Alternative A (the "no action" alternative or continuation of the 1985 San Juan/San Miguel and 1989 Uncompahgre Basin Resource Management Plans), Alternative B (resource conservation emphasis), Alternative C (resource use emphasis), and Alternative D (the "balanced" and agency-preferred alternative). Planning issues addressed include categories such as travel management, energy development, recreation management, lands and realty/community growth and expansion, wildlife and fish, and special designations. The draft alternatives also address designation of Areas of Critical Environmental Concern and Wild and Scenic River suitability findings.

5. Review Period: The review period for the Uncompahgre Draft Resource Management Plan and Draft Environmental Impact Statement is 90 calendar days. The review period began when the US Environmental Protection Agency published a Notice of Availability in the *Federal Register*.

6. For further information contact:

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Uncompahgre Field Office
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ACRONYMS AND ABBREVIATIONS

	Full Phrase
ACEC	area of critical environmental concern
ATV	all-terrain vehicle
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BOR	United States Department of the Interior, Bureau of Reclamation
CARMMS	Colorado Air Resources Management Modeling Study
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CPW	Colorado Parks and Wildlife
CSU	controlled surface use
decision area	public lands and federal mineral estate managed by the United States Department of the Interior, Bureau of Land Management
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
federal mineral estate	subsurface mineral estate administered by the United States Department of the Interior, Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fire management plan
Forest Service	United States Department of Agriculture, Forest Service
FWFMP	Federal Wildland Fire Management Policy
GIS	Geographic Information Systems
IMPLAN	impact analysis for planning (model)
IMPROVE	Interagency Monitoring of Protected Visual Environments
ISA	instant study area
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NGD	no ground disturbance
NHPA	National Historic Preservation Act of 1966
NL	no leasing
North Fork area	North Fork Alternative Plan area (63,400 acres of BLM-administered surface estate and 137,600 acres of federal mineral estate) (Figure 2-1)
NPS	United States Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System

OHV	off-highway vehicle
ORV	outstandingly remarkable value
PFC	proper functioning condition
PFYC	Potential Fossil Yield Classification
PILT	payment in lieu of taxes
planning area	Uncompahgre Field Office boundary, including all lands, regardless of land ownership, except the Gunnison Gorge NCA Planning Area and the Dominguez-Escalante NCA
$PM_{2.5}$	particulate matter smaller than 2.5 microns in effective diameter
PM_{10}	particulate matter smaller than 10 microns in effective diameter
RMA	recreation management area
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SRMA	special recreation management area
SRP	special recreation permit
SSR	site-specific relocation
TL	timing limitation
UFO	Uncompahgre Field Office
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface

Executive Summary

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
ACEC	area of critical environmental concern
ATV	all-terrain vehicle
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BOR	United States Department of the Interior, Bureau of Reclamation
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CPW	Colorado Parks and Wildlife
CSU	controlled surface use
decision area	public lands and federal mineral estate managed by the United States Department of the Interior, Bureau of Land Management
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
federal mineral estate	subsurface mineral estate administered by the United States Department of the Interior, Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fire management plan
Forest Service	United States Department of Agriculture, Forest Service
FWFMP	Federal Wildland Fire Management Policy
GIS	Geographic Information Systems
IMPLAN	impact analysis for planning (model)
IMPROVE	Interagency Monitoring of Protected Visual Environments
ISA	instant study area
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NGD	no ground disturbance
NHPA	National Historic Preservation Act of 1966
NL	no leasing
North Fork area	North Fork Alternative Plan area (63,390 acres of BLM-administered surface estate and 159,820 acres of federal mineral estate) (Figure 2-1)
NPS	United States Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System

OHV	off-highway vehicle
ORV	outstandingly remarkable value
PFC	proper functioning condition
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UFO	Uncompahgre Field Office
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The United States (US) Department of the Interior, Bureau of Land Management (BLM) has prepared this draft resource management plan (RMP) revision and environmental impact statement (EIS) for the BLM Uncompahgre Field Office (UFO) in accordance with the National Environmental Policy Act of 1969 (NEPA); Council on Environmental Quality regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); BLM NEPA regulations (43 CFR Part 46); the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code [USC] 1701 et seq.); requirements of the BLM's NEPA Handbook, H-1790-1 (BLM 2008a); and BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005a).

The approved RMP will replace applicable portions of the San Juan/San Miguel Planning Area RMP (BLM 1985) and the entire Uncompahgre Basin RMP (BLM 1989a), as amended, and will guide management of decision area lands into the future. Information about the RMP/EIS process can be obtained on the project Web site at http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html.

The Uncompahgre RMP planning area includes BLM; US Department of Agriculture, Forest Service (Forest Service); National Park Service; US Bureau of Reclamation; State of Colorado; and private lands (**Table ES-1** [Land Status within the Uncompahgre RMP Planning Area]) in Delta, Gunnison, Mesa, Montrose, Ouray, and San Miguel Counties in southwestern Colorado.

Table ES-1
Land Status within the Uncompahgre RMP Planning Area

Agency	Acres
Bureau of Land Management	675,800
Forest Service	1,248,390
National Park Service	27,130
State (including Colorado Parks and Wildlife)	20,110
Private	1,125,350
City	680
Total	*3,097,460*

Source: BLM 2012a

The Uncompahgre RMP decision area includes 675,800 acres of BLM-administered lands and 971,220 acres of federal subsurface mineral estate in the planning area. The Gunnison Gorge and Dominguez-Escalante National Conservation Areas (NCAs), while within the UFO boundary, are not within the planning area and are not part of this planning effort. A map of the planning area is provided as **Figure ES-1** (Uncompahgre RMP Planning Area).

Management direction and actions outlined in the RMP apply only to the decision area, which is comprised of planning area BLM-administered lands (675,800 acres) and federal mineral estate (971,220 acres) under BLM jurisdiction, except those underlying National Forest System lands[1]. Federal mineral estate within the decision area includes mineral estate underlying BLM-administered lands, federal mineral estate underlying other federal lands except National Forest System lands[1], federal mineral estate underlying privately owned lands, federal mineral estate underlying city lands, and federal mineral estate underlying state-owned lands. In the decision area, federal mineral estate totals 971,220 acres. All proposed actions to access or recover federal mineral estate, regardless of surface estate ownership, will be managed consistent with all proposed actions to access federal mineral estate from federal lands. The BLM adopts the leasing requirements determined by other surface-managing agencies when leasing the mineral estate under those lands. National Forest System lands have leasing decisions made in the appropriate Forest Service Land and Resource Management Plan. In its plans, the Forest Service analyzes impacts from mineral leasing and development and describes where the Forest Service will or will not consent to leasing. The BLM adopted the Grand Mesa, Uncompahgre, and Gunnison National Forests Oil and Gas Leasing Final EIS (1994), which supplemented the 1983 Forest Plan EIS.

ES.2 Purpose of and Need for the Resource Management Plan

The resource management planning process is a key tool that the BLM uses, in collaboration with interested public parties, to ensure a coordinated and consistent approach to managing BLM-administered lands. An RMP is a set of comprehensive long-range decisions concerning the use and management of resources administered by BLM. In general, the purpose of an RMP is twofold:

1. It provides an overview of goals, objectives, and needs associated with public lands management.
2. It resolves multiple-use conflicts or issues associated with those requirements that drive the preparation of the RMP.

Although the 1985 and 1989 RMPs have been subsequently amended, they do not satisfactorily address new and emerging issues. Laws, regulations, policies, and issues regarding management of BLM-administered lands have changed during the life of the plans. The BLM needs to revise the 1985 and 1989 RMPs to ensure compliance with current mandates and to address issues that have arisen since their preparation.

[1] Although minerals beneath National Forest System lands are part of the federal mineral estate, they are not part of the RMP decision area.

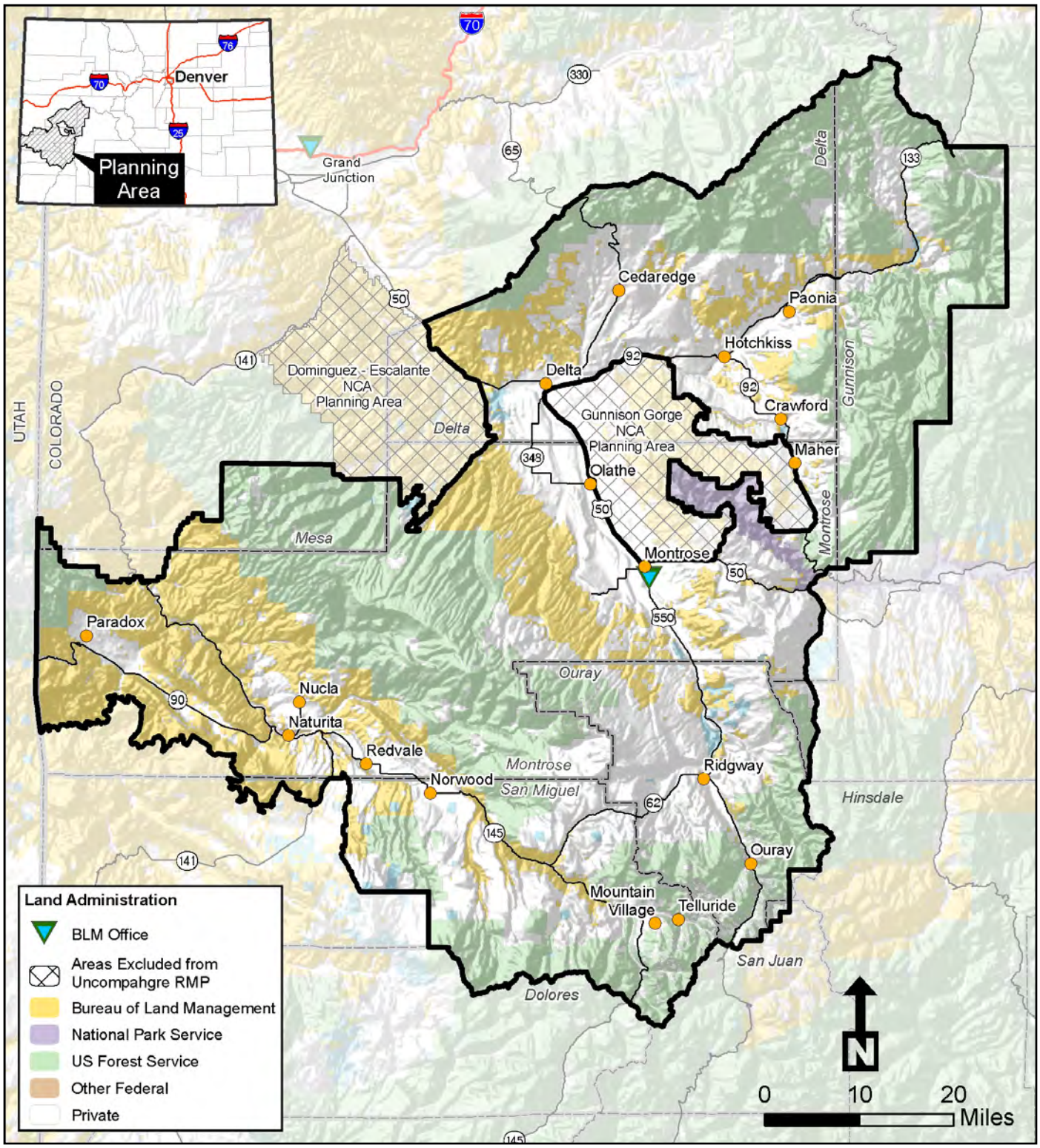

Figure ES-1: Uncompahgre RMP Planning Area

The FLPMA requires that the BLM "develop, maintain, and when appropriate, revise land use plans" (43 USC 1712 [a]). The RMP incorporates new data, addresses land use issues, including conflicts, specifies where and under what circumstances particular activities would be allowed on BLM-administered lands, and incorporates the mandate of multiple uses in accordance with FLPMA. The RMP does not describe how particular programs or projects would be implemented or prioritized; rather, those decisions are deferred to more detailed implementation-level planning.

ES.3 SCOPING

The policy of the BLM is to provide opportunities for the public, various groups, other federal agencies, Native American tribal members, and state and local governments to participate meaningfully and substantively by providing input and comments during the preparation of the RMP/EIS.

Public involvement is a vital and legal component of both the RMP and EIS processes. Public involvement vests the public in the decision-making process and allows for full environmental disclosure. Guidance for implementing public involvement under NEPA is codified in 40 CFR Section 1506.6, thereby ensuring that federal agencies make a diligent effort to involve the public in the NEPA process. Section 202 of FLPMA directs the Secretary of the Interior to establish procedures for public involvement during land use planning actions on BLM-administered lands. These procedures can be found in the BLM's Land Use Planning Handbook (H-1601-1) (BLM 2005a). Public involvement for the Uncompahgre RMP/EIS includes the following four methods:

- Public scoping before NEPA analysis begins to determine the scope of issues and alternatives to be addressed in the RMP/EIS
- Public outreach via newsletters, news releases, and RMP project Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html) updates
- Collaboration with cooperating agencies (participating federal, state, and local governments), tribal governments, and the BLM Colorado Southwest Resource Advisory Council
- Public review of and comment on the draft RMP/EIS, which analyzes likely environmental effects and identifies the BLM's preferred alternative

The public scoping phase of the process has been completed. The public outreach and collaboration phases are ongoing, while public review of the draft RMP/EIS is occurring for 90 days following its publication. Information about the RMP/EIS process can be obtained by the public at any time on the project Web site at http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html. This Web site contains background information about the project, a public involvement timeline and calendar, maps and photos of the planning area, and copies of public information documents released throughout the RMP/EIS process.

ES.4 ISSUES

Issue identification is the first step of the nine-step BLM planning process. A planning issue is a major controversy or dispute regarding management of resources or uses on BLM-administered lands that can be addressed in a variety of ways.

In September 2008, the BLM completed a preparation plan for the RMP revisions/EIS. This plan, used by the BLM interdisciplinary team to initiate the planning process, highlighted anticipated planning issues developed by the team internally. Based on the lands and resources managed in the planning area, preliminary issues fell into six categories. The comments received during the public scoping process were analyzed, and a scoping summary report was finalized in July 2010 (BLM 2010a). Issues raised during scoping were consistent with the planning issues developed during the internal, preplanning phase. A planning issue statement was developed for each of the six planning issue categories. Each planning issue statement summarizes the issues and concerns heard for each category during scoping. The six planning issue statements are presented in **Table ES-2** (Planning Issue Statements).

Table ES-2
Planning Issue Statements

Issue	Resource Category	Planning Issue Statement
1.	• Soil, air, and water resources • Special management areas • Vegetation (including riparian and wetland areas and noxious weeds) • Fish and wildlife • Special status species • Drought management and climate change	How will vegetative resources, terrestrial and aquatic habitat, water resources, and special management areas be managed, while maintaining biological diversity and native species populations?
2.	• Non-renewable energy development • Renewable energy development • Minerals and mining	How will energy and minerals resources be managed?
3.	• Recreation • Travel management • Livestock grazing • Visual resources • Noise • Forestry • Wildland fire management	How will human activities and uses be managed?
4.	• Lands and realty	How will land tenure, withdrawals, and utility/energy corridors be managed or adjusted?
5.	• Cultural resources • Paleontological resources • Native American religious concerns	How will cultural, historical, and paleontological resources and Native American Religious Concerns be managed and protected?
6.	• Socioeconomic and environmental justice concerns • Public health and safety	How do population growth and an expanding urban interface affect the management of BLM-administered lands and resources, including authorized permitted land uses, while considering community values and needs?

ES.5 PLANNING CRITERIA

The FLPMA is the primary authority for the BLM's management of public lands. This law provides the policy by which BLM-administered lands will be managed and establishes provisions for land use planning, land acquisition and disposition, administration, range management, rights-of-way, designated management areas, and the repeal of certain laws and statutes. The NEPA provides the basic national charter for environmental responsibility and requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. In concert, FLPMA and NEPA provide the overarching guidance for administrating all BLM activities.

Planning criteria are the standards, rules, and guidelines that help to guide data collection and alternative formulation and selection in the RMP-development process. In conjunction with the planning issues, planning criteria ensure that the planning process is focused. The criteria also help guide the final plan selection and provide a basis for judging the responsiveness of the planning options.

The BLM developed preliminary planning criteria before public scoping meetings to set the side boards for focused planning of the Uncompahgre RMP revision and to guide decision making by topic. These criteria were introduced to the public for review in January and February 2010 at all scoping meetings. The public was encouraged to comment on, and suggest additions to, these criteria at the meetings, through written correspondence, and at the Uncompahgre RMP revisions Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html).

All management direction and actions developed as part of the BLM planning process are subject to valid existing rights and must meet the objectives of BLM's multiple-use management mandate and responsibilities (FLPMA Section 202[c] and [e]). Valid existing rights include all valid lease, permit, rights-of-way, validated mining claims, or other land use rights or authorizations in effect on the date of approval of this RMP. Although the courts may recognize adjudicated Revised Statute 2477 rights-of-way as valid existing rights, current BLM policy does not allow BLM to consider unadjudicated Revised Statute 2477 claims as valid existing rights. The current moratorium precluding the BLM from processing Revised Statute 2477 claims is still in effect, making Revised Statute 2477 assertions a legal issue beyond the scope of this planning effort.

ES.6 MANAGEMENT ALTERNATIVES

The basic goal of developing alternatives is to prepare different combinations of resource uses and protections to address the identified major planning issues, enhance or expand resources or resource uses, and resolve conflicts among resources and resource uses. Alternatives must meet the purpose and need; be reasonable; provide a mix of resource protection, management use, and development; be responsive to the issues; meet the established planning criteria; and meet federal laws, regulations, policies, and standards, including the multiple use mandates of the FLPMA.

Between June 2010 and May 2011, the UFO planning team met to develop management goals, and small teams met to identify objectives and actions to address the goals within their field(s) of expertise. The various groups met numerous times throughout this period to refine their work. Initially, four action alternatives were developed in addition to Alternative A, the no action alternative. The BLM then refined the four preliminary action alternatives, identified obvious

similarities among the goals, objectives, and actions of each, and consolidated these into two philosophically distinct alternatives (B and C). Finally, the BLM blended goals, objectives, and actions from the action alternatives and the no action alternative to formulate an agency- (BLM) preferred alternative (D) that strives for balance among competing interests and has the greatest potential to effectively address the planning issues.

The Colorado Southwest Resource Advisory Council subgroup, established to participate in the planning process, and in particular to assist the BLM with creating a range of reasonable alternatives for the EIS, convened 10 times between May 27, 2010 and June 22, 2012. On October 26, 2012, the Resource Advisory Council accepted the range of alternatives as a reasonable range. A partial alternative (Alternative B.1) submitted later by an advocacy group is also considered.

Chapter 2 describes the four alternatives and one partial alternative: the no action alternative (Alternative A) and three action alternatives, Alternatives B, C, and D. The partial alternative, Alternative B.1, would replace portions of Alternative B. The following sections provide some key components of the alternatives. The action alternatives offer a range of possible management approaches for responding to planning issues and resolving user conflicts. While the goals are the same across alternatives, each alternative, including the no action alternative (A), contains a discrete set of objectives and management actions constituting a separate RMP. Resource program goals are met in varying degrees, with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives.

Meaningful differences among the four alternatives and one partial alternative are described in **Table ES-3** (Comparative Summary of Alternatives). A complete description of all decisions proposed for each alternative is included in **Chapter 2** (Alternatives). Summaries of the alternatives are presented below.

ES.6.1 Alternative A: No Action

Alternative A meets the requirement that a no-action alternative be considered. This alternative continues current management direction and prevailing conditions derived from existing planning documents. Goals and objectives for resources and resource uses are based on the applicable portions of the San Juan/San Miguel RMP (BLM 1985) and the entire Uncompahgre Basin RMP (BLM 1989a), along with associated amendments, activity and implementation level plans, and other management decision documents. Laws, regulations, and BLM policies that supersede RMP decisions would apply.

Goals and objectives for BLM-administered lands and mineral estate would not change. Appropriate and allowable uses and restrictions pertaining to activities such as mineral leasing and development, recreation, timber harvesting, construction of utility corridors, and livestock grazing would also remain the same. The BLM would not modify existing or establish additional criteria to guide the identification of site-specific use levels for implementation activities.

ES.6.2 Alternative B

Alternative B emphasizes improving, rehabilitating, and restoring resources and sustaining the ecological integrity of habitats for all priority plant, wildlife, and fish species, while allowing appropriate development scenarios for allowable uses (such as mineral leasing, locatable mineral development, recreation, rights-of-way, and livestock grazing). It particularly targets the habitats needed for the conservation and recovery of federally listed, proposed, or candidate threatened and endangered plant and animal species. Goals and objectives focus on environmental and social outcomes achieved by sustaining relatively unmodified physical landscapes and natural and cultural resource values for current and future generations. This alternative would establish the greatest number of special designation areas such as areas of critical environmental concern and special recreation management areas, with specific measures designed to protect or enhance resource values. Appropriate and allowable uses and restrictions would be contingent on minimizing impacts on natural and cultural resources.

ES.6.3 Alternative B.1

Alternative B.1 is a partial alternative specific to oil and gas leasing and development in the North Fork and Smith Fork drainages of the Gunnison River (referred to as North Fork), primarily in portions of Delta and Gunnison Counties. Alternative B.1 is a resource-based set of recommendations provided by a community group (Citizens for a Healthy Community 2013). This partial alternative is a subset of Alternative B (Alternative B.1 is most closely related to Alternative B) and applies only to the North Fork Alternative Plan area, herein referred to as the "North Fork area." The North Fork area has 63,390 acres of BLM-administered surface estate and 159,820 acres of federal mineral estate (underlying BLM surface and split-estate), 139,540 acres of which are federal fluid minerals. The North Fork Alternative Plan would close certain areas to oil and gas leasing and would also impose development setbacks with strict surface use restrictions, including no surface occupancy (NSO), controlled surface use (CSU), and timing limitations (TLs), in places where leasing may be allowed. Management actions and allowable uses under Alternative B that are not superseded by those in Alternative B.1 would also apply to the North Fork area.

ES.6.4 Alternative C

The appropriate mix of uses on BLM-administered lands and mineral estate would be based on making the most of resources that target social and economic outcomes, while protecting land health. Management direction would recognize and expand existing uses, and accommodate new uses to the greatest extent possible. The appropriate development scenarios for allowable uses (such as mineral leasing, locatable mineral development, recreation, rights-of-way, and livestock grazing) would emphasize maximizing resource production in an environmentally responsible manner, while maintaining the basic protection needed to sustain resources. Appropriate and allowable uses and restrictions would emphasize social and economic outcomes, while mitigating impacts on land health.

ES.6.5 Alternative D (Agency Preferred)

Alternative D is the agency-preferred alternative, which emphasizes balancing resources and resource use among competing human interests, land uses, and the conservation of natural and cultural resource values, while sustaining and enhancing ecological integrity across the landscape, including plant, wildlife, and fish habitat. This alternative incorporates a balanced level of

protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. Goals and objectives focus on environmental, economic, and social outcomes achieved by strategically addressing demands across the landscape.

ES.7 ENVIRONMENTAL CONSEQUENCES

The purpose of the environmental consequences analysis in this RMP/EIS is to determine and disclose the potential for significant impacts of the federal action on the human environment. Council on Environmental Quality regulations for implementing NEPA states that the "human environment" is interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 CFR, Part 1508.14). The "federal action" is the BLM's selection of an RMP on which future land use actions will be based for the UFO.

Chapter 4 objectively evaluates the likely direct, indirect, and cumulative impacts on the human and natural environment in terms of environmental, social, and economic consequences that are projected to occur from implementing the alternatives. Some types of impacts for resources or resource uses could be confined to BLM-administered lands (such as soil disturbance from recreational use), whereas some actions may have off-site/indirect impacts on resources on other land jurisdictions (e.g., private or state lands) overlying federal mineral estate (e.g., requirements to protect resources such as special status species and cultural resources overlying energy and minerals). Some BLM management actions might affect only certain resources and alternatives. The impact analysis identifies both enhancing and improving effects on a resource from a management action, as well as those that have the potential to diminish resource values.

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use *Resources*	Alt A	Alt B		Alt C	Alt D
Ecological Emphasis Areas (acres)[1]					
Adobe		40,730			24,170
Dry Creek		20,320			10,790
Jumbo Mountain / McDonald Creek		17,220			15,630
La Sal		22,350		13,270	22,350
Monitor / Potter / Roubideau		27,320		10,880	27,320
Naturita Canyon		15,620			1,510
Ridgway		16,700			9,070
San Miguel		25,520			17,840
Sims Mesa		19,650			19,650
Spring Canyon		3,380			3,380
Tabeguache		31,540			23,760
Terror Creek		2,230			2,230
Total	**0**	**242,580**		**24,150**	**177,700**
Visual Resource Management (VRM) (acres)		***Alt B***	***Alt B.1***		
BLM Surface/Federal Minerals					
VRM Class I	44,220	53,870	53,860	44,220	46,440
VRM Class II	21,930	176,010	181,650	31,260	112,540
VRM Class III	280,520	427,580	421,290	431,330	398,410
VRM Class IV	9,260	18,340	19,000	168,990	118,410
Undesignated	319,870				
Private and State Surface/Federal Minerals[2]					
VRM Class I	20	100		20	20
VRM Class II	10	135,030	142,710	69,040	94,250
VRM Class III	243,410	139,390	131,720	196,120	173,300
VRM Class IV	420	13,050		22,230	20,000
Undesignated[3]	51,560	7,850		8,010	7,850
Lands Managed to Protect Wilderness Characteristics (acres)					
Adobe Badlands WSA Adjacent		6,180			
Camel Back WSA Adjacent		6,950			6,950
Dolores River Canyon WSA Adjacent		550			
Dry Creek Basin		7,030			7,030
Lower Tabeguache/Campbell Creek		11,060			
Roc Creek		5,480			4,340
Shavano Creek		4,900			
Total	**0**	**42,150**		**0**	**18,320**

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use *Resource Uses*	Alt A	Alt B		Alt C	Alt D
Livestock Grazing					
Allocated acres open for all classes of livestock grazing[4]	658,540	510,070		647,900	611,560
Closed to all classes of livestock grazing (acres)	17,260	165,730		27,900	64,240
Available animal unit months (AUMs)	38,364	29,862		37,926	36,424
Open for sheep grazing (acres)	658,540	115,530		647,900	611,560
Closed to sheep grazing (acres)		394,540			
Coal (acres)					
Unsuitable for surface mining and surface mining operations	110	2,460		2,460	2,460
BLM surface/federal minerals	110	2,150		2,150	2,150
Private or State surface/federal minerals		310		310	310
Unacceptable for Coal Leasing	580	98,870		13,830	47,770
BLM surface/federal minerals	580	90,630		9,340	45,000
Private or State surface/federal minerals		8,240		4,490	2,770
Acceptable for Coal Leasing	145,270	323,350		408,390	374,450
BLM surface/federal minerals	33,790	170,740		252,030	216,370
Private or State surface/federal minerals	111,480	152,610		156,360	158,080
Fluid Mineral Leasing (acres)		***Alt B***	***Alt B.1***		
Closed to fluid mineral leasing	44,220	219,580	306,670	44,220	50,060
Closed to leasing——BLM surface/federal minerals	44,220	181,220	221,570	44,220	48,510
Closed to leasing—Private or State surface/federal minerals		38,360	85,100		1,550
Open to fluid mineral leasing *(refer to Appendix B)*	871,810	696,450	609,360	871,810	865,970
Open to leasing—BLM surface/federal minerals	631,580	494,580	454,230	631,580	627,290
Open to leasing—Private or State surface/federal minerals	240,230	201,870	155,130	240,230	238,680
Open to leasing subject to standard terms and conditions (i.e., not subject to NSO or CSU stipulations)—BLM surface/federal minerals[5]	496,510	50	60	251,090	174,590

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B		Alt C	Alt D
Open to leasing subject to standard terms and conditions (i.e., not subject to NSO or CSU stipulations)—Private or State surface/federal minerals[4]	229,830	5,460	5,450	141,300	119,910
Open to leasing subject to No Surface Occupancy (NSO)—BLM surface/federal minerals	24,890	354,970	318,630	14,680	187,560
Open to leasing subject to No Surface Occupancy (NSO)—Private or State surface/federal minerals	720	97,960	86,060	7,620	50,580
Open to leasing subject to Controlled Surface Use (CSU)—BLM surface/federal minerals	110,180	139,560	135,550	365,810	265,140
Open to leasing subject to Controlled Surface Use (CSU)—Private or State surface/federal minerals	9,680	98,450	63,620	91,310	68,190
Open to leasing subject to Timing Limitations (TL)—BLM surface/federal minerals	423,900	494,580	454,230	475,220	627,290
Open to leasing subject to Timing Limitations (TL)—Private or State surface/federal minerals	77,200	201,870	155,130	107,170	238,680
Restrictions for Surface-disturbing Activities (acres) *(refer to Appendix B)*					
No ground disturbance (NGD)	36,450		445,720	42,660	36,180
Site-specific relocation (SSR)			230,020	241,400	512,570
Timing limitations (TL)			675,800	503,410	675,800
Locatable Minerals, Mineral Materials, and Nonenergy Solid Leasable Minerals (acres)					
BLM Surface/Federal Minerals[6]					
Withdrawn from locatable mineral entry	28,060		28,060	28,060	28,060
Recommend for withdrawal from locatable mineral entry	27,690		367,350	9,550	54,090
Open to locatable mineral exploration or development	620,050		280,390	638,190	593,650
Closed to mineral materials disposal	102,190		499,960	56,350	132,520

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Open for consideration for mineral materials disposal	573,610	175,840	619,450	543,280
Closed to nonenergy solid leasable mineral exploration and development	44,220	387,020	55,570	168,130
Open for consideration of nonenergy solid leasable mineral exploration or development	631,480	288,780	620,230	507,670
Private, State, or BOR Project Lands Surface/Federal Minerals				
Withdrawn from locatable mineral entry				
Recommend for withdrawal from locatable mineral entry		4,370	1,700	1,790
Open to locatable mineral exploration or development	220,390	216,020	218,690	218,600
Closed to mineral materials disposal	2,500	367,350	2,260	2,850
Open for consideration for mineral materials disposal	217,890	280,390	218,130	217,540
Closed to nonenergy solid leasable mineral exploration and development		499,960	1,820	2,360
Open for consideration of nonenergy solid leasable mineral exploration or development	220,390	175,840	218,570	218,030
Special Recreation Management Areas (SRMAs) (acres)				
Burn Canyon		9,160		
Dolores River Canyon	13,380	13,380		13,380
Dry Creek		42,180		42,180
Jumbo Mountain		5,020		1,360
Kinikin Hills		11,320		
North Delta		8,520		
Paradox Valley		86,990		
Ridgway Trails		1,130		1,130
Roubideau		25,350		25,350
San Miguel River	35,940	36,020		36,020
Spring Creek		4,980		4,980
Total	**49,320**	**244,050**	**0**	**124,400**

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Extensive Recreation Management Areas[7] (ERMAs) (acres)				
Adobe Badlands			6,370	
Burn Canyon			9,160	9,160
Dolores River Canyon			13,380	
Dry Creek			41,290	
Jumbo Mountain			5,020	
Kinikin Hills			11,310	10,810
North Delta			8,520	8,520
Paradox Valley			44,820	44,820
Ridgway Trails			1,130	
Roubideau			25,350	
San Miguel River Corridor			36,020	
Spring Creek			13,510	
Total	**0**	**0**	**215,880**	**73,310**
Comprehensive Trails and Travel Management (acres)				
Open to cross-country motorized travel	8,560		16,070	
Closed to motorized travel *(mechanized travel limited to designated routes)*	11,950	12,180		1,160
Closed to motorized and mechanized travel	44,200	102,790	45,170	57,400
Limited to existing routes for motorized and mechanized travel	465,790			
Limited to designated routes for motorized and mechanized travel	145,300	560,830	614,560	617,240
Lands and Realty (acres)				
ROW exclusion areas	85,080	431,040	44,550	53,700
ROW avoidance areas		195,460	210,390	276,500
Designated utility corridors	297,930	64,180	64,180	64,180
Identified for disposal	9,850	2,650	9,850	1,930
Special Designations				
Areas of Critical Environmental Concern (ACECs) (acres)				
Adobe Badlands	6,370		6,370	6,370
Biological Soil Crust				1,900
Coyote Wash		2,100		
Dolores River Slickrock Canyon				9,780
Dolores Slickrock Canyon		10,670		
East Paradox		7,360		

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Fairview South	210		210	
Fairview South (BLM Expansion)				610
Fairview South (Colorado Natural Heritage Program [CNHP] Expansion)		4,250		
La Sal Creek		10,490		
Lower Uncompahgre Plateau		31,810		
Needle Rock	80	80	80	80
Paradox Rock Art		1,080		1,080
Roubideau-Potter-Monitor		20,430		
Roubideau Corridors				8,720
Salt Desert Shrub Ecosystem		34,510		
San Miguel Gunnison Sage-Grouse		470		
San Miguel River	22,780		22,780	22,780
San Miguel River Expansion		35,480		
Sims-Cerro Gunnison Sage-Grouse		25,620		
Tabeguache Creek	560			
Tabeguache Pueblo and Tabeguache Caves		26,300		
West Paradox		5,190		
Total	**30,000**	**215,840**	**29,440**	**51,320**
Wilderness and Wilderness Study Areas (WSAs) (acres)				
Adobe Badlands	10,320			
Camel Back	10,680			
Dolores River Canyon	13,340			
Needle Rock Instant Study Area (ISA)	80			
Sewemup Mesa	1,740			
Tabeguache Area	8,060			
Total	**44,220**			
Eligible (Alternative A) or Suitable (Alternatives B and D) Wild and Scenic River Study Segments (miles crossing BLM-administered land)				
Gunnison River Segment 2	0.4	0.4		
Monitor Creek	9.4	9.4		9.4
Potter Creek	9.8	9.8		9.8
Roubideau Creek Segment 1	10.0	10.0		10.0
Roubideau Creek Segment 2	3.5	3.5		

Table ES-3
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Deep Creek	0.6	0.6		
West Fork Terror Creek	0.5	0.5		
Beaver Creek	14.2	14.2		14.2
Dry Creek Segment 1	10.4	10.4		
Naturita Creek	10.0	10.0		
Saltado Creek	4.1	4.1		4.1
San Miguel River Segment 1	17.3	17.3		17.3
San Miguel River Segment 2	3.6	3.6		3.6
San Miguel River Segment 3	5.3	5.3		4.5
San Miguel River Segment 5	2.6	2.6		1.3
San Miguel River Segment 6	2.3	2.3		2.1
Tabeguache Creek Segment 1	3.6	3.6		3.4
Tabeguache Creek Segment 2	7.9	7.9		
Lower Dolores River	6.9	6.9		4.2
North Fork Mesa Creek	5.8	5.8		
Dolores River Segment 1a	8.7	8.7		8.7
Dolores River Segment 1b	0.9	0.9		
Dolores River Segment 2	5.4	5.4		5.3
Ice Lake Creek Segment 2	0.3	0.3		
La Sal Creek Segment 1	0.6	0.6		
La Sal Creek Segment 2	3.8	3.8		3.3
La Sal Creek Segment 3	3.4	3.4		3.4
Lion Creek Segment 2	1.3	1.3		
Spring Creek	1.5	1.5		
Total	**154.1**	**154.1**	**0**	**104.6**
Watchable Wildlife Viewing Sites (acres)				
Uncompahgre Riverway		20		
Billy Creek		2,990		
San Miguel River ACEC (Important Bird Area)		22,780		
Total	**0**	**25,790**	**0**	**0**

[1]Refer to **Appendix D**, Ecological Emphasis Areas, for more information.
[2]VRM on split-estate is a recommendation and would be used as a tool for designing and siting development of energy projects.
[3]Private edge-holdings and inholdings on National Forest System lands which do not have a Visual Resource Inventory.
[4]Alternatives A and C: Allocated acres "open" and Available AUMs include areas that are unallotted; see **Appendix E**, Livestock Grazing Allotments and Allotment Levels.
[5]Some TLs could overlap this area but were not excluded due to the temporal nature of the TL stipulation.
[6]Includes BOR-withdrawn non-project lands.
[7]Planning guidance in place when the San Juan/San Miguel and Uncompahgre Basin RMPs were written directed that all BLM-administered land not designated as an SRMA should be designated as an ERMA. Under today's recreation guidance, what was formerly the Uncompahgre ERMA would be considered "undesignated" (i.e., neither an ERMA nor an SRMA). As such, the terminology has been updated to reflect more closely the recreation guidance under which this RMP was written to avoid nonequivalent comparisons.
Shading indicates zero acres or miles under that alternative.

Chapter 1
Introduction

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FIGURES *(see Appendix A)*

1-1 Uncompahgre RMP Planning Area
1-2 Federal Mineral Estate

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
ACEC	area of critical environmental concern
ATV	all-terrain vehicle
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BOR	United States Department of the Interior, Bureau of Reclamation
CARMMS	Colorado Air Resources Management Modeling Study
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CPW	Colorado Parks and Wildlife
CSU	controlled surface use
decision area	public lands and federal mineral estate managed by the United States Department of the Interior, Bureau of Land Management
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
federal mineral estate	subsurface mineral estate administered by the United States Department of the Interior, Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fire management plan
Forest Service	United States Department of Agriculture, Forest Service
FWFMP	Federal Wildland Fire Management Policy
GIS	Geographic Information Systems
IMPLAN	impact analysis for planning (model)
IMPROVE	Interagency Monitoring of Protected Visual Environments
ISA	instant study area
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NGD	no ground disturbance
NHPA	National Historic Preservation Act of 1966
NL	no leasing
North Fork area	North Fork Alternative Plan area (63,390 acres of BLM-administered surface estate and 159,820 acres of federal mineral estate) (Figure 2-1)
NPS	United States Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System

OHV	off-highway vehicle
ORV	outstandingly remarkable value
PFC	proper functioning condition
PFYC	Potential Fossil Yield Classification
PILT	payment in lieu of taxes
planning area	Uncompahgre Field Office boundary, including all lands, regardless of land ownership, except the Gunnison Gorge NCA Planning Area and the Dominguez-Escalante NCA
$PM_{2.5}$	particulate matter smaller than 2.5 microns in effective diameter
PM_{10}	particulate matter smaller than 10 microns in effective diameter
RMA	recreation management area
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SRMA	special recreation management area
SRP	special recreation permit
SSR	site-specific relocation
TL	timing limitation
UFO	Uncompahgre Field Office
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface

CHAPTER 1
INTRODUCTION

The United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM) has prepared this draft resource management plan (RMP) revision and environmental impact statement (EIS). This document provides direction for managing public lands and federal mineral estate under the jurisdiction of the BLM Uncompahgre Field Office (UFO) in Colorado and analyzes the environmental effects that could result from implementing the alternatives addressed in the RMP. The affected lands are currently managed under two separate land use plans and plan amendments: portions of the San Juan/San Miguel Planning Area RMP (BLM 1985) and the entire Uncompahgre Basin RMP (BLM 1989a).

This RMP has been prepared using BLM planning regulations and guidance issued under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code 1701 et seq.) and the BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005a), as amended. An EIS is incorporated into this document to meet the requirements of the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality regulations for implementing the NEPA (40 Code of Federal Regulations [CFR] 1500-1508), DOI NEPA regulations (43 CFR 46), and requirements of the BLM's NEPA Handbook, H-1790-1 (BLM 2008a).

The land use planning process is the key tool used by the BLM to manage resources and designate uses on BLM-administered lands in coordination with tribal, state, and local government; land users; and interested members of the public. Generally, an RMP does not result in a wholesale change of management direction; accordingly, this RMP incorporates new information and regulatory guidance that has been adopted since the previous plans and provides management direction where it may be lacking or requiring clarification to resolve land use issues, including conflicts. Current management direction that has proven effective and requires no change has been carried forward into this RMP and will be considered throughout the analysis process. Major issues to be addressed in the RMP revision include the following:

- Managing vegetative resources, terrestrial and aquatic habitat, water resources, and special management areas, while maintaining biological diversity and native species populations.

- Managing energy and minerals resources.
- Managing human activities and uses.
- Managing or adjusting land tenure, withdrawals, and utility/energy corridors.
- Managing and protecting cultural, historical and paleontological resources, and Native American religious concerns.
- Managing the effects of population growth and an expanding urban interface on management of BLM-administered lands and resources, including authorized and permitted land uses, while considering community values and needs.

To help navigate this document, **Diagram 1-1** (Document Organization and Contents Overview) provides an outline of the RMP/EIS and describes the information found within each section. All maps for the RMP/EIS are provided in **Appendix A** (Figures). The management alternatives are presented in **Chapter 2** (Alternatives) and are supported by the stipulations contained in **Appendix B** (Restrictions Applicable to Fluid Minerals Leasing and Other Surface-disturbing Activities).

1.1 PURPOSE OF AND NEED FOR THE RESOURCE MANAGEMENT PLAN

The purpose of the Uncompahgre RMP is to provide broad-scale direction for the management of public lands and resources administered by the BLM Uncompahgre Field Office that are within the planning area. The RMP presents desired outcomes, which are expressed in terms of goals and objectives for resource conditions and uses. It also establishes the allowable uses, management actions, and special designations that will enable the BLM to achieve the desired outcomes.

Management direction presented in the Uncompahgre RMP adheres to statutory requirements and is in accordance with principles of multiple use and sustained yield, as mandated by the provisions of the FLPMA, which establishes public land policy and sets forth the requirement for the BLM to develop, maintain, and when appropriate, revise or amend land use plans for the management of public lands. The RMP guides the Uncompahgre Field Office in the implementation of subsequent management actions within the planning area.

BLM regulations require that existing land use plans be revised when necessary to address current resource conditions, changes in circumstances (e.g., evolving demands on resources), and new or revised national-level policy (43 CFR 1610.5-6). Management direction for lands in the Uncompahgre planning area was contained in the 1985 San Juan/San Miguel RMP, 1989 Uncompahgre Basin RMP, and subsequent amendments. Since the 1985 and 1989 plans and amendments were completed, new information, revised laws and policies, emerging issues, and changed circumstances and resource conditions generated the need for a revised land use plan.

Diagram 1-1
Document Organization and Contents Overview

VOLUME I

Acronyms and Abbreviations
Lists the acronyms and abbreviations used in the RMP/EIS.

Chapter 1: Introduction
Summarizes the proposed action, purpose and need, and decisions to be made in this RMP/EIS.

Chapter 2: Alternatives
Describes and compares the proposed management alternatives.

Chapter 3: Affected Environment
Presents existing biological, physical, and socioeconomic resources that could be affected by implementing the management alternatives.

VOLUME II

Chapter 4: Environmental Consequences
Evaluates the impacts of the alternatives on the human and natural environment in terms of environmental, social, and economic consequences projected to occur from implementing the alternatives.

Chapter 5: Consultation and Coordination
Describes the scoping and public comment process, agencies contacted, and government-to-government consultation, and lists the preparers of the RMP/EIS.

References
Lists the documents and other sources used to prepare the RMP/EIS.

Glossary
Provides definitions for important terms used in the RMP/EIS.

Index
Identifies where in the RMP/EIS significant issues, resource descriptions, NEPA terms, and agencies and groups discussed can be found.

VOLUME III

Appendices
A Figures *(on the CD located in the back pocket of the RMP/EIS)*
B Restrictions Applicable to Fluid Minerals Leasing and Other Surface-disturbing Activities
C BLM Standards for Public Land Health and Guidelines for Livestock Grazing Management in Colorado
D Ecological Emphasis Areas
E Livestock Grazing Allotments and Allotment Levels
F Summary of the Uncompahgre Planning Area Wilderness Characteristics Inventory: 2011 Update
G Best Management Practices and Standard Operating Procedures
H Colorado BLM Comprehensive Air Resource Protection Protocol
I Drought Management
J Description of Recreation Management Areas
K Bighorn/Domestic Sheep Risk of Association Modeling
L Coal Screening Criteria for the Uncompahgre Planning Area
M Travel Management
N Legal Descriptions of Lands Available for Disposal
O Summary of Areas of Critical Environmental Concern Report
P Summary of Draft Wild and Scenic River Suitability Report
Q Air Emissions Inventory

1.2 DESCRIPTION OF THE PLANNING AREA

The Uncompahgre RMP planning area includes BLM; US Department of Agriculture (USDA), Forest Service (Forest Service); US Department of the Interior, National Park Service (NPS); State of Colorado lands; and private property. It totals approximately 3.1 million acres in Delta, Gunnison, Mesa, Montrose, Ouray, and San Miguel Counties in southwestern Colorado. The planning area also includes 2,234,670 acres of federal mineral estate.

The Gunnison Gorge and Dominguez-Escalante National Conservation Areas, while within the UFO boundary, are not within the planning area and are not part of this planning effort. **Table 1-1** (Land Status within the Uncompahgre RMP Planning Area) and **Figure 1-1** (Uncompahgre RMP Planning Area) highlight the ownership pattern of the planning area. This RMP does not make any decisions for the BLM Gunnison Gorge or the Dominguez-Escalante National Conservation Areas, which are managed under separate RMPs.

Table 1-1
Land Status within the Uncompahgre RMP Planning Area

Agency	Acres
Bureau of Land Management	675,800
Forest Service	1,248,390
National Park Service	27,130
State (including Colorado Parks and Wildlife)	20,110
Private	1,125,350
City	680
Total	*3,097,460*

Source: BLM 2012a

The Uncompahgre RMP decision area includes 675,800 acres of BLM-administered lands, which includes withdrawn lands. While there are over 2.2 million acres of federal mineral estate in the planning area, there are 971,220 acres of federal mineral estate in the decision area[1] (**Figure 1-2** [Federal Mineral Estate]). Management direction and actions outlined in the RMP apply only to BLM-administered lands and to federal mineral estate under BLM jurisdiction within the decision area.

The Curecanti National Recreation Area is withdrawn to the US DOI, Bureau of Reclamation (BOR) and managed by the NPS under a Memorandum of Understanding between NPS and BOR. Curecanti National Recreation Area is within the decision area until legislation supersedes; locatable minerals have not been withdrawn and are managed by the BLM, and the area is not closed to fluid minerals leasing or mineral materials disposal.

Federal mineral estate within the decision area includes mineral estate underlying BLM-administered lands, privately owned lands, city lands, and State-owned lands. The BLM adopts

[1] Although minerals beneath National Forest System lands are part of the federal mineral estate they are not part of the RMP decision area.

the leasing requirements determined by other federal surface-managing agencies when leasing the mineral estate (while within the planning area, it is outside of the decision area). To lease minerals beneath surface lands administered by the US Department of Agriculture, Forest Service (Forest Service), the BLM must receive consent to lease from the Forest Service, and incorporate any accompanying stipulations required by forest land use plans or forest-wide programmatic leasing analyses.

All proposed actions to access or recover federal mineral estate in the decision area, regardless of surface estate ownership, will be managed consistent with all proposed actions to access federal mineral estate from federal lands.

1.3 PLANNING PROCESS

The process for developing, approving, maintaining, and amending or revising the RMP was initiated under the authority of Section 202(f) of FLPMA and Section 202(c) of NEPA. The process is guided by BLM planning regulations codified in 43 CFR 1600 and Council on Environmental Quality regulations codified in 40 CFR 1500 and has two tiers: 1) the land use planning tier; and 2) the implementation tier.

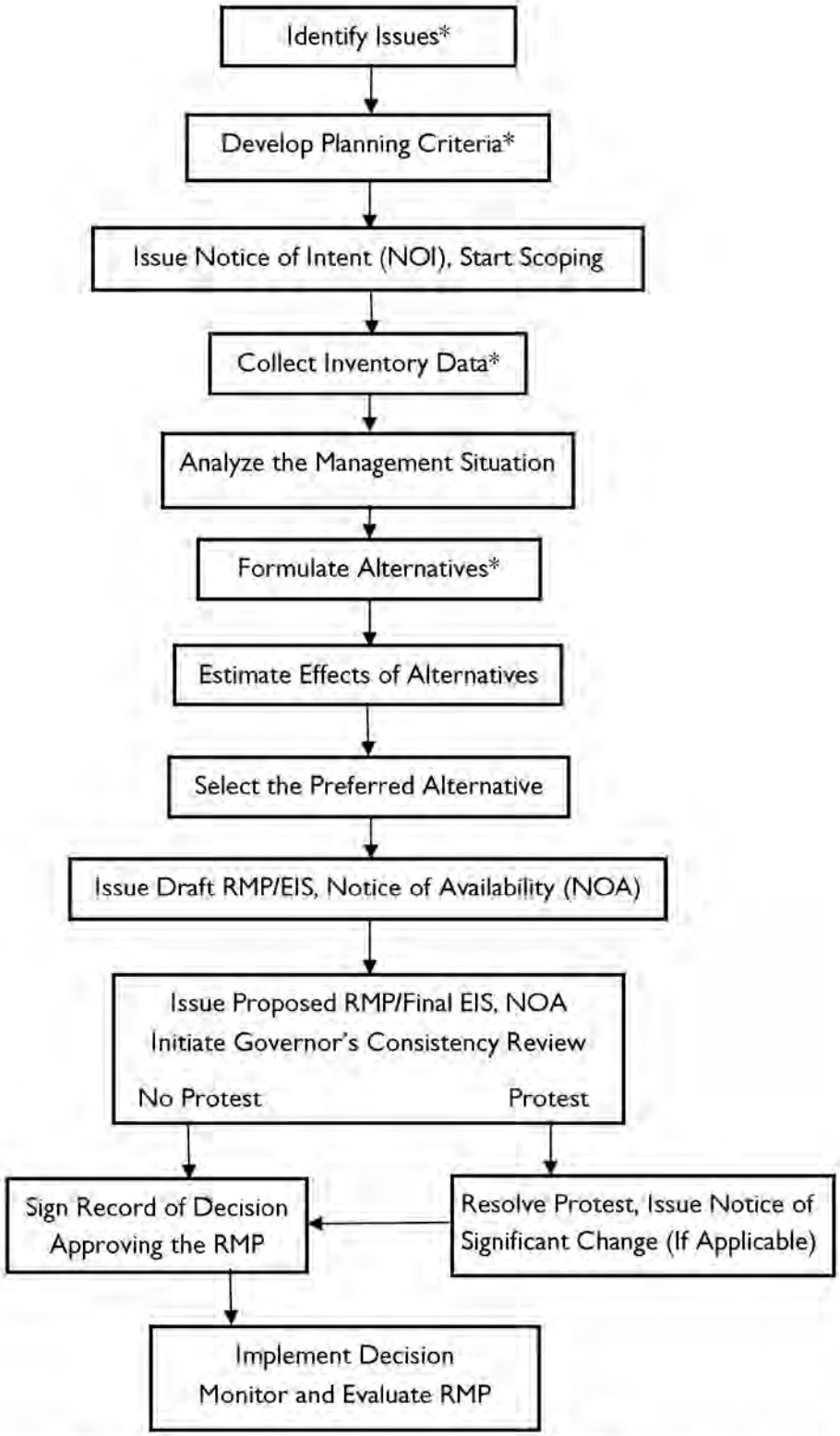
In the land use planning tier, the BLM develops the RMP. The RMP prescribes the allocation of and general future management direction for the resources and land uses of BLM-administered lands in the Uncompahgre planning area. The RMP then guides the implementation tier, which includes site-specific implementation planning and daily operations. Activity or implementation planning converts the resource and land use decisions of the RMP into site-specific implementation decisions for smaller geographic units of BLM-administered land within the Uncompahgre RMP decision area. Implementation decisions identified as a result of the implementation plan require site-specific planning and NEPA analysis. Implementation planning includes elements such as recreation area management plans, fluid mineral development activities, and interdisciplinary or coordinated activity plans that issue various land and resource use authorizations. Implementation planning can also include identification of specific mitigation needs and development and implementation of other similar plans and actions.

As part of this RMP revision, published documents will include a draft RMP/EIS, a proposed RMP/final EIS, and an approved RMP/record of decision (ROD). The approved RMP/ROD will describe the following:

- Resource conditions goals and objectives
- Allowable resource uses and related levels of production or use to be maintained
- Land areas to be managed for limited, restricted, or exclusive resource uses or for transfer from BLM administration
- Program constraints and general management practices and protocols
- General implementation schedule or sequences
- Intervals and standards for monitoring the RMP

Preparation of an RMP involves interrelated steps, as illustrated in **Diagram 1-2** (BLM Planning Process) and described in **Table 1-2** (BLM Planning Process).

Diagram 1-2
BLM Planning Process



*These steps may be revised throughout the planning process and may overlap other steps

Table 1-2
BLM Planning Process

BLM Planning Process Step	Description	Timeframe
Step 1—Identify planning issues	Issues and concerns are identified through a scoping process that includes the public, Indian tribes, other federal agencies, state and local governments, and internal BLM staff.	January 2008 to March 2010
Step 2—Develop planning criteria	Planning criteria are created to ensure decisions are made to address the issues pertinent to the planning effort. Planning criteria are derived from a variety of sources, including applicable laws and regulations, existing management plans, coordinating other agencies' programs, and the results of public and agency scoping. The planning criteria may be updated and changed as planning proceeds.	January 2008 to March 2010
Step 3—Collect data and information	Data and information for the resources in the planning area are collected based on the planning criteria.	Ongoing
Step 4—Analyze management situation	The current management of resources in the planning area is assessed.	September 2009 to June 2010
Step 5—Formulate alternatives	A range of reasonable management alternatives is developed to address issues identified during scoping.	May 2010 to April 2012
Step 6—Assess alternatives	The effects of each alternative are estimated.	April 2012 to October 2012
Step 7—Select preferred alternative	The alternative that best resolves planning issues is identified as the preferred alternative.	April 2012 to October 2012
Step 8—Select RMP	First, a draft RMP/EIS is issued and is made available to the public for a review period of 90 days. After comments to the draft document have been received and analyzed, it is modified as necessary, and the proposed RMP/final EIS is published and made available for public review for 30 days. The BLM signs a ROD to approve the RMP/EIS.	Draft RMP/EIS: 2016 Proposed RMP/Final EIS: estimated 2017 Approved RMP/ROD: estimated 2018
Step 9—Implementation Monitoring	Management measures outlined in the approved plan are implemented on the ground, and future monitoring is conducted to test their effectiveness. Changes are made as necessary to achieve desired results.	Ongoing after RMP approval

1.4 SCOPING AND PLANNING ISSUES

The policy of the BLM is to provide opportunities for the public, various groups, other federal agencies, Native American tribal members, and state and local governments to participate meaningfully and substantively by providing input and comments during the preparation of the RMP/EIS.

Public involvement is a vital and legal component of both the RMP and EIS processes. Public involvement vests the public in the decision-making process and allows for full environmental disclosure. Guidance for implementing public involvement under NEPA is codified in 40 CFR Section 1506.6, thereby ensuring that federal agencies make a diligent effort to involve the public in the NEPA process. Section 202 of FLPMA directs the Secretary of the Interior to establish procedures for public involvement during land use planning actions on BLM-administered lands. These procedures can be found in the BLM's Land Use Planning Handbook (H-1601-1) (BLM 2005a). Public involvement for the Uncompahgre RMP/EIS includes the following four methods:

- Public scoping before NEPA analysis begins to determine the scope of issues and alternatives to be addressed in the RMP/EIS
- Public outreach via newsletters, news releases, and RMP project Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html) updates
- Collaboration with cooperating agencies (participating federal, state, and local governments), tribal governments, and the BLM Colorado Southwest Resource Advisory Council
- Public review of and comment on the draft RMP/EIS, which analyzes likely environmental effects and identifies the BLM's preferred alternative

The public scoping phase of the process has been completed and is described in **Section 1.4.1** (Scoping Process) below. The public outreach and collaboration phases are ongoing, while public review of the draft RMP/EIS is occurring for 90 days following its publication. Information about the RMP/EIS process can be obtained by the public at any time on the project Web site at http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html. This Web site contains background information about the project, a public involvement timeline and calendar, maps and photos of the planning area, and copies of public information documents released throughout the RMP/EIS process.

1.4.1 Scoping Process

The BLM began the scoping process with seven open houses in January and February 2010 to provide the public with opportunities to become involved, to learn about the project and the planning process, to meet the Uncompahgre RMP team members, and to offer comments. Scoping meetings were held in an open house format to encourage participants to discuss concerns and questions with BLM staff representatives. The scoping meetings were attended by 369 individuals.

On December 24, 2009, the BLM mailed a newsletter announcing the start of the scoping period for the Uncompahgre RMP/EIS to more than 390 individuals from the public, agencies, and organizations who participated in past UFO activities, currently hold use permits, or requested to be included on UFO distribution lists. The newsletter provided the dates and venues for the original six scoping open houses (in Hotchkiss, Delta, Montrose, Ridgway, Norwood, and Naturita) scheduled in January 2010. The seventh open house in Telluride was added in response to a special request from the San Miguel County Commissioners. The newsletter included an insert with a comment form for submitting scoping comments, and described the various methods for submitting comments, including dedicated e-mail and postal

addresses. The newsletter was posted on the project Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html) and was available at scoping meetings.

In addition to the newsletter, information about the scoping period, the original six scoping open houses, and submitting scoping comments was provided in a press release dated January 5, 2010 and posted on the project Web site. The information was also publicized with display advertisements in six local newspapers in December 2009 and January 2010 and a flyer posted in various public locations throughout the planning area.

Although public scoping meetings began in January 2010, the formal scoping period began with publication of the Notice of Intent in the Federal Register on February 25, 2010 (75 *Federal Register* 8739-8740, February 25, 2010). A copy of the Notice of Intent was also posted on the project's Web site. The Notice of Intent notified the public of the BLM's intent to develop an RMP for the UFO. The scoping period for receipt of public comments ended March 29, 2010.

During the scoping period, the BLM received 214 unique written submissions and 13 different form letters containing a total of 2,496 unique comments. Detailed information about the comments received and the public outreach process can be found in the Uncompahgre RMP Revision Scoping Summary Report, finalized in July 2010 (BLM 2010a). A summary of the issues identified during public scoping and outreach is included in **Section 1.4.2** (Issue Identification).

Refer to **Section 1.6** (Collaboration) and **Chapter 5** (Consultation and Coordination) for additional information on other public participation opportunities.

1.4.2 Issue Identification

Issue identification is the first step of the nine-step BLM planning process (**Table 1-2**). A planning issue is a major controversy or dispute regarding management of resources or uses on BLM-administered lands that can be addressed in a variety of ways.

In September 2008, the BLM completed a preparation plan for the RMP revisions/EIS. This plan, used by the BLM interdisciplinary team to initiate the planning process, highlighted anticipated planning issues developed by the team internally. Based on the lands and resources managed in the planning area, preliminary issues fell into six categories. The comments received during the public scoping process were analyzed, and a scoping summary report was finalized in July 2010 (BLM 2010a). Issues raised during scoping were consistent with the planning issues developed during the internal, preplanning phase. A planning issue statement was developed for each of the six planning issue categories. Each planning issue statement summarizes the issues and concerns heard for each category during scoping. The six planning issue statements are presented in **Table 1-3** (Planning Issue Statements).

1.4.3 Issues Considered but Not Further Analyzed

During scoping, several concerns were raised regarding issues that would not be addressed in the RMP, including administrative/policy issues, implementation issues, issues outside the scope of the RMP, and issues that have already been addressed through other BLM activities. The Uncompahgre RMP Scoping Summary Report (BLM 2010a) provides a comprehensive list of issues outside the scope of the RMP.

Table 1-3
Planning Issue Statements

Issue	Resource Category	Planning Issue Statement
1.	• Soil, air, and water resources • Special management areas • Vegetation (including riparian and wetland areas and noxious weeds) • Fish and wildlife • Special status species • Drought management and climate change	How will vegetative resources, terrestrial and aquatic habitat, water resources, and special management areas be managed, while maintaining biological diversity and native species populations?
2.	• Non-renewable energy development • Renewable energy development • Minerals and mining	How will energy and minerals resources be managed?
3.	• Recreation • Travel management • Livestock grazing • Visual resources • Noise • Forestry • Wildland fire management	How will human activities and uses be managed?
4.	• Lands and realty	How will land tenure, withdrawals, and utility/energy corridors be managed or adjusted?
5.	• Cultural resources • Paleontological resources • Native American religious concerns	How will cultural, historical, and paleontological resources and Native American Religious Concerns be managed and protected?
6.	• Socioeconomic and environmental justice concerns • Public health and safety	How do population growth and an expanding urban interface affect the management of BLM-administered lands and resources, including authorized permitted land uses, while considering community values and needs?

The largest proportion of public comment centered around three issues: special designation areas (30.5 percent), notably wilderness, wilderness study areas (WSAs), and wild and scenic rivers; recreation and travel management (25 percent); and non-renewable energy development (10.3 percent).

1.5 Planning Criteria and Legislative Constraints

The FLPMA is the primary authority for the BLM's management of public lands. This law provides the policy by which BLM-administered lands will be managed and establishes provisions for land use planning, land acquisition and disposition, administration, range management, rights-of-way, designated management areas, and the repeal of certain laws and statutes. The NEPA

provides the basic national charter for environmental responsibility and requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. In concert, FLPMA and NEPA provide the overarching guidance for administrating all BLM activities.

Planning criteria are the standards, rules, and guidelines that help to guide data collection and alternative formulation and selection in the RMP-development process. In conjunction with the planning issues, planning criteria ensure that the planning process is focused. The criteria also help guide the final plan selection and provide a basis for judging the responsiveness of the planning options.

The BLM developed preliminary planning criteria before public scoping meetings to set the side boards for focused planning of the Uncompahgre RMP revision and to guide decision making by topic. These criteria were introduced to the public for review in January and February 2010 at all scoping meetings. The public was encouraged to comment on, and suggest additions to, these criteria at the meetings, through written correspondence, and at the Uncompahgre RMP revisions Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html). The planning criteria are:

- The proposed RMP will comply with FLPMA and all other applicable laws, regulations, and policies.
- Impacts from the management alternatives considered in the revised RMP will be analyzed in an EIS developed in accordance with regulations at 43 CFR 1610 and 40 CFR 1500.
- Lands covered in the RMP will be public land and split estates managed by the BLM. No decisions will be made relative to non-BLM administered lands (except when decisions regard federal mineral estate).
- For program-specific guidance of land use planning level decisions, the process will follow the Land Use Planning Manual 1601 (BLM 2000a) and Handbook H-1601-1, Appendix C (BLM 2005a), as amended.
- Broad-based public participation will be an integral part of the planning and EIS process.
- The planning team will work cooperatively with the State of Colorado, tribal governments, county and municipal governments, other federal agencies, the Southwest Resource Advisory Council, cooperating agencies, and all other interested groups, agencies, and individuals.
- Decisions in the RMP will strive to be compatible with the existing plans and policies of adjacent local, state, and federal agencies, as long as the decisions are consistent with the purposes, policies, and programs of federal law, and regulations applicable to public lands.
- The BLM will consult with Colorado Parks and Wildlife (CPW). The RMP will recognize the State's responsibility and authority to manage wildlife.

- The BLM will recognize the Office of Surface Mining's responsibility and authority to regulate coal activities.
- The BLM will recognize the State's responsibility for permitting related to oil and gas activities and in regulating air quality impacts.
- The BLM will recognize the State's responsibility for permitting related to uranium, coal, and sand and gravel activities, and in regulating water quality impacts.
- The National Sage-grouse Strategy (BLM 2004a) requires that impacts on sagebrush habitat and sagebrush-dependent wildlife species be analyzed and considered in BLM land use planning efforts for public lands with sagebrush habitat in the planning area.
- The RMP will recognize valid existing rights.
- The planning process will incorporate BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; **Appendix C**).
- The BLM will follow guidance in Instruction Memorandum 2012-169, Resource Management Plan Alternative Development for Livestock Grazing, when developing a range of alternatives for livestock grazing.
- Wilderness study areas will continue to be managed according to BLM Manual 6330, Management of Wilderness Study Areas (BLM 2012b) until Congress either designates all or portions of the WSA as wilderness or releases the lands from further wilderness consideration. It is no longer the policy of the BLM to make formal determinations regarding wilderness character, to designate additional WSAs through the RMP process, or to manage any lands other than existing WSAs in accordance with BLM Manual 6330 (BLM 2012b).
- The planning process will involve American Indian tribal governments and will provide strategies for the protection of recognized traditional uses.
- Any location-specific information pertaining to cultural resources (either map, description, or photo) is proprietary to the BLM and will not become the property of any contractors working on the EIS or attached to any document (paper or electronic), nor is this information subject to any public release or Freedom of Information Act requests (36 CFR 7.18).
- The RMP will include adaptive management criteria and protocol to deal with future issues.
- A reasonable foreseeable development scenario for fluid minerals, mineral potential reports for coal and other minerals, and a renewable energy potential report will be developed from analysis of past activity, production, and other sources, which will aid in developing alternatives and in the environmental consequences analysis.
- Data in the Colorado Plateau Rapid Ecological Assessment will be considered as appropriate.

Additional planning criteria received in public scoping comments included incorporation of the Conservation Agreement or Strategy for Colorado River Cutthroat Trout.

All management direction and actions developed as part of the BLM planning process are subject to valid existing rights and must meet the objectives of BLM's multiple-use management mandate and responsibilities (FLPMA Section 202[c] and [e]). Valid existing rights include all valid lease, permit, rights-of-way, validated mining claims, or other land use rights or authorizations in effect on the date of approval of this RMP. Although the courts may recognize adjudicated Revised Statute 2477 rights-of-way as valid existing rights, current BLM policy does not allow BLM to consider unadjudicated Revised Statute 2477 claims as valid existing rights. The current moratorium precluding the BLM from processing Revised Statute 2477 claims is still in effect, making Revised Statute 2477 assertions a legal issue beyond the scope of this planning effort.

1.5.1 Relationship to BLM Policies, Plans, and Programs

Since the San Juan/San Miguel RMP (BLM 1985) and Uncompahgre Basin RMP (BLM 1989a) were developed and approved, it has been necessary to amend them to provide additional land management direction. As the land use plan guidance is put into practice on the ground, implementation-level planning is directed by BLM policy and program-specific guidance. **Table 1-4** (RMP Amendments and Other Documents Considered for Implementation-level Planning) identifies approved plan amendments incorporated into the existing land use plans. These plan amendments provide a perspective of the many management considerations pertinent to the decision area.

1.6 COLLABORATION

The benefits of enhanced collaboration among agencies in the preparation of NEPA analyses include disclosing relevant information early in the analytical process, applying available technical expertise and staff support, avoiding duplication with other federal, state, tribal, and local procedures, and establishing a mechanism for addressing intergovernmental issues. Additional information regarding collaboration with governments, agencies, and tribal representatives is provided in **Chapter 5**.

1.6.1 Cooperating Agency Collaboration

A cooperating agency is any federal, state, or local government agency or Native American tribe that enters into a formal agreement with the lead federal agency to help develop an environmental analysis. More specifically, cooperating agencies "work with the BLM, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks" (BLM Land Use Planning Handbook H-1601-1 [BLM 2005a]). The benefits of enhanced collaboration among agencies in preparing NEPA analyses include the following:

- Disclosing relevant information early in the analytical process
- Applying available technical expertise and staff support
- Avoiding duplication with other federal, state, tribal, and local procedures
- Establishing a mechanism for addressing intergovernmental issues

Table 1-4
RMP Amendments and Other Documents Considered for Implementation-level Planning

Amendments to the San Juan/San Miguel 1985 RMP
Colorado Oil and Gas Leasing and Development EIS (BLM 1991a)
EA for the Proposed Area of Critical Environmental Concern and Special Recreation Management Area on the San Miguel River (BLM 1993a)
EA for Off-highway Vehicle Designations (BLM 2010c)
Amendments to the Uncompahgre Basin 1989 RMP
EA for Fire Management (BLM 1992a)
EA for Land Disposal (BLM 1994a)
EA for Gunnison Travel Interim Restrictions (Forest Service and BLM 2001)
EA for Uncompahgre Field Office Dry Creek Travel Management Plan (BLM 2009a)
EA for Off-highway Vehicle Designations (BLM 2010c)
Record of Decision for Implementation of a Wind Energy Development Program and Associated Land Use Plan Amendments (BLM 2005b)
BLM Final Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Weed EIS on 17 Western States (BLM 2007a)
Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States (BLM 2008b)
Approved Resource Management Plan Amendments/Record of Decision for Designation of Energy Corridors on Bureau of Land Management-Administered Lands in the 11 Western States (US Department of Energy and BLM 2009)
Approved Resource Management Plan Amendments/Record of Decision for Solar Energy Development in Six Southwestern States (BLM 2012c)
Implementation-Level Plans
Final Wilderness Environmental Impact Statement for the Uncompahgre Basin Resource Area, Montrose District, Colorado (BLM 1989b)
Wilderness Study Report: Montrose District (BLM 1991b)
Mesa Creek Coordinated Resource Management Plan (BLM 1993b)
Withdrawal for Protection of Townsend's Big-eared Bat Maternity Roosting Sites (BLM 2008c)
Uncompahgre Field Office Fire Management Plan (BLM 2008d)

The primary role of cooperating agencies is to provide input during the EIS process on issues for which they have a special expertise or jurisdiction. The representatives meet with the lead agency periodically throughout the EIS process to discuss issues as a group. Cooperating agencies are expected to participate in the EIS process at the earliest possible time, including during scoping, and are available to enhance the interdisciplinary capability of the lead agency by providing needed information throughout the NEPA process.

On January 23, 2009, the BLM invited 40 local, state, federal, and tribal representatives to participate as cooperating agencies for the Uncompahgre RMP revision. The BLM invited one additional agency in March 2013. Eighteen agencies are participating in the RMP as designated cooperating agencies and have signed Memoranda of Understanding with the UFO (**Table 1-5** [Cooperating Agency Participation]).

Table 1-5
Cooperating Agency Participation

Agencies and Tribes Invited to be Cooperators	Agencies that Signed MOUs
US DOI, Fish and Wildlife Service	✓
US DOI, Bureau of Reclamation	✓
US DOI, National Park Service – Black Canyon National Park	
Forest Service – Grand Mesa, Uncompahgre, and Gunnison National Forests	✓
Forest Service – San Juan National Forest	
USDA, National Resource Conservation Service – Colorado State Office	
USDA, Animal and Plant Health Inspection Service	
US Department of Energy	
Western Area Power Administration	
Colorado Department of Natural Resources (Division of Parks and Wildlife, Natural Heritage Program, State Forest Service, Reclamation Division, Mining and Safety)	✓
Colorado Department of Transportation	
Colorado State Historical Preservation Office	
Delta Conservation District	✓
Delta County	✓
Gunnison County	✓
Mesa County	
Montrose County	✓
Ouray County	✓
San Miguel County	✓
City of Delta	
City of Montrose	✓
City of Ouray	
Town of Cedaredge	✓
Town of Crawford	
Town of Hotchkiss*	✓
Town of Mountain Village*	✓
Town of Naturita	
Town of Norwood	✓
Town of Nucla	✓
Town of Olathe	✓
Town of Orchard City	✓
Town of Paonia	✓
Town of Ridgway	✓
Town of Sawpit	
Town of Telluride	
Navajo Nation	
Northern Ute Indian Tribe	
Southern Ute Indian Tribe	
Ute Mountain Ute Indian Tribe	
Total	**20**

*Town signed MOU to be a cooperating agency. The MOU was subsequently terminated.

The BLM held a number of meetings with cooperating agencies at the UFO. Cooperating agencies were also encouraged to attend the scoping meetings and provide comments during the scoping period. These agencies were engaged throughout the planning process, including during alternatives development.

1.6.2 Resource Advisory Council Collaboration

A Resource Advisory Council is a committee established by the Secretary of the Interior to provide advice or recommendations to BLM management (BLM 2005a). A Resource Advisory Council is generally composed of 15 members of the public representing different facets. The members of the Colorado Southwest Resource Advisory Council, appointed by the Secretary of the Interior to represent constituent public land users, provide input on public management issues to the Secretary of the Interior through the BLM's Designated Federal Officer, the Southwest Colorado District Manager. Recommendations are based on consensus building and collaboration. Topics addressed by the Resource Advisory Council include BLM land health standards and grazing guidelines and recreation.

A subgroup has been formed under the Southwest Resource Advisory Council to advise it regarding the Uncompahgre RMP revision. The individuals on the subgroup represent a broad range of interests and have specific knowledge of the field office. The Resource Advisory Council subgroup focused on all aspects of the RMP revision. Recommendations developed by the subgroup were presented formally for discussion to the Southwest Resource Advisory Council at the October 26, 2012, public meeting of the full Southwest Resource Advisory Council. The Southwest Resource Advisory Council accepted the range of alternatives as a reasonable range.

1.6.3 Collaboration and Consultation with Tribes

Consultation with American Indian tribes is part of the NEPA scoping process and a requirement of the FLPMA. Tribal consultation for cultural resources for the Uncompahgre RMP revision began through a Ute Ethnohistory Project, which involved three BLM field offices—Grand Junction, Uncompahgre, and Colorado River Valley—that are currently preparing RMPs. Cultural representatives from the Ute Indian Tribe of the Uintah and Ouray Reservation (Ute Indian Tribe) and Ute Mountain Ute Tribe attended a general planning meeting in November 2007. Representatives from the Southern Ute Tribe were invited but were unable to attend.

Subsequent consultation meetings at which RMP issues were discussed occurred in March, April, and August 2008, July and November 2009, and April 2010.

No written comments were received from tribal agencies during the scoping period; tribal concerns or issues have been typically presented in oral format. Government-to-government consultation will continue throughout the RMP process to ensure that the concerns of tribal groups are considered in development of the RMP.

Native American Indian tribes and organizations consulted to date are:

- Navajo Nation
- Northern Ute Indian Tribe
- Southern Ute Indian Tribe
- Ute Mountain Ute Indian Tribe

The unique political relationship between the US government and federally recognized Indian tribes is defined by treaties, statutes, executive orders, judicial decisions, and agreements. This relationship has created a special federal trust responsibility, involving the legal commitments and obligations of the US toward Indian tribes, Indian lands, tribal trust resources, and the exercise of tribal rights.

1.7 RELATED PLANS

The BLM's planning regulations require that RMPs be consistent with officially approved or adopted resource-related plans of other federal, state, local, and tribal governments, so long as the RMPs are also consistent with the purposes, policies, and programs of federal laws and regulations applicable to BLM-administered lands. Plans formulated by federal, state, local, and tribal governments that relate to management of lands and resources have been reviewed and considered as the RMP/EIS has been developed. These plans include:

1.7.1 City and County Plans

- Town of Cedaredge Master Plan (Town of Cedaredge 2005)
- City of Delta Comprehensive Plan Update (City of Delta 2008)
- Delta County Master Plan (Delta County 1996)
- Gunnison County Land Use Resolution (Gunnison County 2006)
- Gunnison County Energy Action Plan (Gunnison County 2009)
- Mesa County Master Plan (Mesa County 2000)
- Mesa County Noxious Weed Management Plan (Mesa County 2009)
- City of Montrose Comprehensive Plan (City of Montrose 2008)
- Montrose County Master Plan (Montrose County 2010)
- Town of Norwood Land Use Code (Town of Norwood 2008)
- Ouray Community Plan (City of Ouray 2004)
- Ouray County Master Plan (Ouray County 1999)
- Ouray County Land Use Code (Ouray County 2005)
- Ridgway Comprehensive Plan (Town of Ridgway 2012)
- Northwest Area Master Plan (Town of Ridgway 2008a)
- Ridgway Municipal Code (Town of Ridgway 2008b)
- San Miguel County Comprehensive Development Plan (San Miguel County 2008)

1.7.2 State Agency Plans

- Colorado's Comprehensive Wildlife Conservation Strategy (CPW 2006)

1.7.3 Federal Agency Plans

National Park Service

- Curecanti National Recreation Area Final Resource Protection Study and Environmental Impact Statement (NPS 2008)

Forest Service, Colorado

- Noxious and Invasive Weed Management Plan for Oil and Gas Operators (Forest Service and BLM 2007)
- Forest Service Roadless Inventory and associated EIS (Forest Service 2001)
- Proposed Forest Plan for Grand Mesa, Uncompahgre, and Gunnison National Forests (Forest Service 2007)

Neighboring BLM Offices

- Colorado River Valley Field Office RMP revision (in progress)
- Grand Junction Field Office RMP revision (in progress)
- Gunnison Field Office RMP (BLM 1993c)
- Moab Field Office RMP (BLM 2008e)
- Monticello Field Office RMP (BLM 2008f)
- San Juan Public Lands Center Land Management Plan (BLM and Forest Service) (in progress)

1.7.4 Other

- Dolores River Riparian Action Plan: Recommendations for Implementing Tamarisk Control and Restoration Efforts (Tamarisk Coalition 2010)
- San Miguel Watershed Plan (San Miguel Watershed Coalition 1998)
- San Miguel Basin Gunnison Sage-grouse Conservation Plan (San Miguel Basin Gunnison Sage-grouse Working Group 2009)
- Migratory Bird Status Literature Review (Lambeth and Reeder 2009)
- Gunnison Sage-grouse Rangewide Conservation Plan (Gunnison Sage-grouse Rangewide Steering Committee 2005)
- Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats (Connelly et al. 2004)
- Colorado Sagebrush: A Conservation Assessment and Strategy (Boyle and Reeder 2005)
- Ecoregion-Based Conservation Assessment of the Colorado Plateau and Southern Rocky Mountains (Marshall et al. 2006)

- San Miguel/Lower Dolores River Project: Measures of Conservation Success (The Nature Conservancy 2008)
- Colorado Rare Plant Conservation Strategy (Neely et al. 2009)

1.8 IMPLEMENTATION AND MONITORING OF THE RESOURCE MANAGEMENT PLAN

Implementation of the RMP would begin when the Colorado BLM State Director signs the ROD for the RMP. Decisions in the RMP would be tied to the BLM budgeting process. An implementation schedule would be developed, providing for systematic accomplishment of decisions in the approved RMP. The BLM would prepare supplementary rules in order to provide full authority to BLM Law Enforcement to enforce management decisions made in the approved RMP pursuant to the BLM's authority under 43 CFR 8365.1-6.

During implementation of the RMP, the BLM would prepare additional documentation for site-specific actions to comply with NEPA. This can vary from a simple statement of conformance with the ROD and adequacy of existing NEPA analysis to more complex documents that analyze several alternatives.

Implementation of the RMP would be monitored and periodically evaluated based on guidance in the BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005a), as amended. Monitoring is the process of tracking and documenting the implementation (or the progress of implementation) of land use plan decisions. Evaluation is the process of reviewing the land use plan and the periodic plan monitoring reports to determine whether the land use plan decisions and NEPA analysis are still valid and how the plan is being implemented. As outlined in BLM's Land Use Planning Handbook, H-1601-1, the plan would be periodically evaluated as documented in an evaluation schedule (at a minimum every 5 years) to determine whether revisions or amendments to the RMP may be necessary to accommodate changes in resource needs, policies, or regulations. Implementation-level decisions would be issued in order to fully implement the RMP.

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Chapter 2
Alternatives

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
ACEC	area of critical environmental concern
ATV	all-terrain vehicle
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BOR	United States Department of the Interior, Bureau of Reclamation
CARMMS	Colorado Air Resources Management Modeling Study
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CPW	Colorado Parks and Wildlife
CSU	controlled surface use
decision area	public lands and federal mineral estate managed by the United States Department of the Interior, Bureau of Land Management
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
federal mineral estate	subsurface mineral estate administered by the United States Department of the Interior, Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fire management plan
Forest Service	United States Department of Agriculture, Forest Service
FWFMP	Federal Wildland Fire Management Policy
GIS	Geographic Information Systems
IMPLAN	impact analysis for planning (model)
IMPROVE	Interagency Monitoring of Protected Visual Environments
ISA	instant study area
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NGD	no ground disturbance
NHPA	National Historic Preservation Act of 1966
NL	no leasing
North Fork area	North Fork Alternative Plan area (63,390 acres of BLM-administered surface estate and 159,820 159,820 acres of federal mineral estate) (Figure 2-1)
NPS	United States Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System

	Full Phrase
OHV	off-highway vehicle
ORV	outstandingly remarkable value
PFC	proper functioning condition
PFYC	Potential Fossil Yield Classification
PILT	payment in lieu of taxes
planning area	Uncompahgre Field Office boundary, including all lands, regardless of land ownership, except the Gunnison Gorge NCA Planning Area and the Dominguez-Escalante NCA
$PM_{2.5}$	particulate matter smaller than 2.5 microns in effective diameter
PM_{10}	particulate matter smaller than 10 microns in effective diameter
RMA	recreation management area
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SRMA	special recreation management area
SRP	special recreation permit
SSR	site-specific relocation
TL	timing limitation
UFO	Uncompahgre Field Office
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface

CHAPTER 2
ALTERNATIVES

This chapter details Alternatives A through D for the Uncompahgre Draft Resource Management Plan/Draft Environmental Impact Statement (Draft RMP/EIS) and includes references to maps (in **Appendix A** [Figures]) identifying where actions would be applicable. The proposed alternatives were formulated in response to issues and concerns identified through public scoping and in an effort to resolve deficiencies with current management strategies and explore opportunities for enhanced management of resources and resource uses.

A glossary that provides a definition of terms is in **Volume 2** following the **References** section. A list of acronyms and abbreviations is at the beginning of each chapter.

Plan Maintenance

An approved decision can be refined or clarified through plan maintenance in response to changing information and conditions. Plan maintenance must not expand the scope of resource uses or restrictions or change the terms, conditions, and decisions of the approved plan. Plan maintenance is not considered a plan amendment and does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions. Examples of plan maintenance include correcting minor data or typographical errors or refining the known habitat and mapping of a special status species or wildlife winter range based on new information.

Decision Area for the Uncompahgre RMP

Decisions in this RMP apply to 675,800 acres of federal surface land and federal mineral estate under BLM jurisdiction in the planning area (shown in **Figures 1-1** [Uncompahgre RMP Planning Area] and **1-2** [Federal Mineral Estate]) administered by the United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM) Uncompahgre Field Office (UFO). Although there are approximately 2,234,600 acres of federal minerals in the planning area, management direction and actions outlined in the RMP apply to 971,220 acres of federal mineral estate over which BLM has jurisdiction. BLM jurisdiction of federal minerals is composed of federal mineral estate underlying BLM-administered lands, privately owned lands and state-owned lands.

The BLM is responsible for the leasing of all federally-owned mineral estate. The BLM adopts the leasing requirements determined by other federal surface-managing agencies when leasing the mineral estate.

This RMP will not make any decisions for the Gunnison Gorge or the Dominguez-Escalante National Conservation Areas (NCA). These NCAs are located within the UFO boundary but are managed under separate RMPs.

Management or Withdrawal by Other Federal Agencies

To lease minerals beneath surface lands administered by the US Department of Agriculture, Forest Service (Forest Service) the BLM must receive consent to lease from the Forest Service, and incorporate any accompanying stipulations required by forest land use plans or forest-wide programmatic leasing analyses.

The BOR has management jurisdiction over withdrawn lands on which there are BOR constructed projects or projects authorized for construction. The BLM administers BOR-withdrawn lands where there are no constructed projects or projects authorized for construction. In both cases, the BLM manages the federal mineral estate and, in consultation with the BOR, develops stipulations for mineral leases and develops terms and conditions to protect lands withdrawn for BOR purposes (BLM and BOR 1983).

The US Department of Energy (DOE) currently manages 32 lease tracts on approximately 10,520 acres in the planning area through the Office of Legacy Management Uranium Leasing Program. Although these lands are withdrawn from mineral entry, mineral leasing laws still apply. While the DOE manages uranium and vanadium leasing on these lands, the BLM manages surface resources and activities (such as grazing and recreation). The Uranium Leasing Program is managed in accordance with Title 10, Code of Federal Regulations (CFR) Part 760, in cooperation with the BLM and the State of Colorado.

2.1 INTRODUCTION TO RMP ALTERNATIVES

RMP decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. These critical determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health.

Purpose of Alternative Development

Alternative development is the heart of the RMP/EIS process. Land use planning and National Environmental Policy Act of 1969 (NEPA) regulations require the BLM to formulate a reasonable range of alternatives. Alternative development is guided by established planning criteria (as outlined in 43 CFR Section 1610).

The basic goal of alternative development is to produce distinct potential management scenarios that:

- Address the identified major planning issues
- Explore opportunities to enhance management of resources and resource uses
- Resolve conflicts among resources and resource uses
- Meet the purpose of and need for the RMP
- Are feasible

Pursuit of this goal provides the BLM and public with an appreciation for the diverse ways in which conflicts regarding resources and resource uses might be resolved, and offers the BLM State Director a reasonable range of alternatives from which to make an informed decision. The components and broad aim of each alternative considered for the Uncompahgre RMP are discussed below.

Components of Alternatives

Goals are broad statements of desired (RMP-wide and resource or resource-use specific) outcomes and are not quantifiable or measurable. Objectives are specific measurable desired conditions or outcomes intended to meet goals. While goals are the same across alternatives, objectives typically vary, resulting in different allowable uses and management actions for some resources and resource uses. Management actions and allowable uses are designed to achieve objectives. Management actions are measures that guide day-to-day and future activities. Allowable uses delineate which uses are permitted, restricted, or prohibited, and may include stipulations or restrictions. Allowable uses also identify lands where specific uses are excluded to protect resource values, or where certain lands are open or closed in response to legislative, regulatory, or policy requirements. Implementation decisions are site-specific on-the-ground actions and are typically not addressed in RMPs.

2.2 ALTERNATIVE DEVELOPMENT PROCESS FOR THE UNCOMPAHGRE RMP

The UFO planning team employed the BLM planning process (outlined in **Chapter 1**, **Table 1-2**, BLM Planning Process) to develop a reasonable range of alternatives for the RMP. The steps in this process were typically performed non-sequentially or concurrently, and involved frequent reexamination following periods of public and staff review.

2.2.1 Identify Planning Issues

The planning team developed preliminary planning issues to be addressed in the new RMP, based on broad concerns or controversies related to conditions, trends, needs, and existing and potential uses of planning area lands and resources identified during review of current land management documents, including the 1985 San Juan/San Miguel RMP and 1989 Uncompahgre

Planning Issues

Planning Issues express concerns, conflicts, and problems with existing management of public lands. Issues are frequently based on how land uses affect resources. Some issues are concerned with how one land use can affect other land uses, or how resource protection affects land uses. Planning issues involve levels of use, productivity, and other related management practices. The most effective planning issues are well defined, topically discrete, and elicit a range of different approaches for resolution.

Basin RMP, and associated plan amendments (refer to **Table 1-4** [RMP Amendments and Other Documents Considered for Implementation-level Planning]).

During the public scoping period in early 2010, the public was asked to comment on the preliminary planning issues and submit relevant issues not identified by the team. In May 2010, the UFO planning team met with and sought additional input from the Southwest Resource Advisory Council Subgroup and cooperating agencies (refer to **Section 1.6** [Collaboration]) a collaborative effort that continued throughout the planning process. The planning team integrated the public input to complete six planning issue statements, listed in **Chapter 1**, **Table 1-3** (Planning Issue Statements).

2.2.2 Analyze the Management Situation

BLM resource specialists assessed existing RMP goals, objectives, and actions in relation to measurement tools (such as land health assessments, human impact studies, biological assessments, NEPA actions, and fuel monitoring data) to gauge successes and deficiencies in addressing the planning issues. In June 2010, this detailed assessment was compiled and released in the Analysis of the Management Situation for the Uncompahgre Planning Area, providing information useful to the BLM in:

- Summarizing existing conditions
- Explaining the need for change
- Identifying management opportunities

2.2.3 Develop a Reasonable Range of Alternatives

Between June 2010 and May 2011, the UFO planning team met to develop management goals, and small teams met to identify objectives and actions to address the goals within their field(s) of expertise. The various groups met numerous times throughout this period to refine their work. Using a three-step process, the planning team:

1. Developed one no action alternative (A) and four preliminary action alternatives. The action alternatives were designed to:

    - Address the six planning issues
    - Fulfill the purpose and need for the RMP (outlined in **Section 1.1** [Purpose of and Need for the Resource Management Plan])
    - Meet the multiple use mandates of the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code 1716)

2. Refined the four preliminary action alternatives, identified obvious similarities among the goals, objectives, and actions of each, and consolidated these into two philosophically distinct alternatives (B and C).

3. Blended goals, objectives, and actions from the action alternatives and the no action alternative to formulate an agency- (BLM) preferred alternative (D) that strives for balance among competing interests and has the greatest potential to effectively address the planning issues.

2.2.4 Gunnison Sage-Grouse Rangewide RMP Amendment

Concurrently with this effort, the BLM is developing the Gunnison Sage-Grouse Rangewide RMP Amendment and EIS for all land use plans in the Amendment planning area (including Uncompahgre). Decisions will consist of identifying and defining goals and objectives (desired outcomes) for resources and resource uses, and allowable uses and management actions necessary for achieving the goals and objectives. These decisions will guide future land management actions and subsequent site-specific implementation actions to maintain or improve Gunnison sage-grouse habitat. If the Uncompahgre RMP is approved before the Gunnison sage-grouse Amendment is completed and approved, the Gunnison sage-grouse RMP Amendment may amend the revised Uncompahgre RMP. If the Gunnison sage-grouse RMP Amendment is approved prior to the revised Uncompahgre RMP completion, it would amend the existing San Juan/San Miguel Planning Area RMP (BLM 1985) and Uncompahgre Basin RMP (BLM 1989a). The Uncompahgre Proposed RMP/Final EIS likely would incorporate by reference the analysis in the Gunnison sage-grouse EIS, and the Uncompahgre approved RMP/ROD likely would include the decisions from the Gunnison sage-grouse RMP Amendment. Prior to the completion of the Gunnison sage-grouse RMP Amendment, Gunnison sage-grouse habitat will be managed consistent with BLM Instruction Memorandum 2014-100, Gunnison Sage-grouse Habitat Management Policy on Bureau of Land Management Administered Lands in Colorado and Utah (BLM 2014a).

2.3 ALTERNATIVES CONSIDERED FOR DETAILED ANALYSIS

The three resulting action alternatives (B, C, and D) and the partial alternative (B.1) offer a range of possible management approaches for responding to planning issues and resolving user conflicts. While the goals are the same across alternatives, each alternative, including the no action alternative (A), contains a discrete set of objectives and management actions constituting a separate RMP. Resource program goals are met in varying degrees, with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives.

Meaningful differences among the four alternatives and one partial alternative are described in **Table 2-1** (Comparative Summary of Alternatives). **Table 2-2** (Description of Alternatives A, B, C, and D) provides a complete description of proposed decisions for each alternative, including goals, objectives, management actions, and allowable uses for individual resource programs. Figures in **Appendix A** provide a visual representation of differences between alternatives. In some instances, varying levels of management from different resource programs overlap. For example, BLM guidance directs that wilderness study areas (WSAs) be managed as visual resource management (VRM) Class I, the highest standard for VRM. At the same time, management for the Adobe Badlands Area of Critical Environmental Concern (ACEC)/Outstanding Natural Area, which overlaps the Adobe Badlands WSA, prescribes VRM Class II for the ACEC. Because of the overlap, the ACEC would be managed as VRM Class I unless and until Congress releases the WSA from wilderness consideration and the BLM prescribes other management. In such instances where varying management levels overlap, the

stricter management prescriptions would apply. If such prescriptions were excepted, then the less strict management would prevail.

Geographic information systems (GIS) have been used to perform acreage calculations, and to generate the figures in **Appendix A**. Calculations are dependent upon the quality and availability of data, and most calculations in this RMP are rounded to the nearest 10 acres or 0.1 mile. Given the scale of the analysis, the compatibility constraints between datasets, and lack of data for some resources, all calculations are approximate, and serve for comparison and analytic purposes only. Likewise, the figures in **Appendix A** are provided for illustrative purposes and subject to the limitations discussed above. The BLM may receive additional or updated data; therefore, acreages may be recalculated and revised at a later date.

In the Chapter 4 environmental effects analysis, the proposed uses and restrictions that are discussed in this chapter were analyzed to determine where restrictions for one resource might provide indirect protection for another resource not expressly described in this chapter. Conversely, resource protections could inadvertently restrict resource uses.

2.3.1 Management Common to All Alternatives

Allowable uses and management actions from the existing RMPs that remain valid and do not require revision have been carried forward to Alternatives B, C, and D. Other decisions are common only to action Alternatives B, C, and D.

Although each alternative emphasizes a slightly different mix of resources and resource uses, all alternatives contain some common elements which are included at the beginning of **Table 2-2**. Additional management actions common to Alternatives A, B, C, and D (as indicated by a single cell across the table row) specific to certain resources or resource uses are listed under the respective program in **Table 2-2**.

Adaptive Management and Regional Mitigation Strategies

The systematic process of adaptive management (planning, implementation, monitoring, and evaluation) would be used to determine the success of management actions in achieving objectives, as described in the alternatives, and would be conducted within the framework of the RMP. Adaptive management would be guided by Adaptive Management, the US Department of the Interior Technical Guide (Williams et al. 2007). The RMP revision is based on current scientific knowledge and best available data. To be successful, the implementation of the RMP must have the flexibility to adapt and respond to new information. Under the concept of adaptive management, new information or changing conditions would be evaluated and a decision would be made as to whether to make implementation adjustments or changes. The adaptive management approach enables resource managers to determine how well implementation actions achieve the objectives and what steps are needed to modify or cease implementation to increase success or improve results.

The RMP would be implemented using regional mitigation strategies per BLM Instruction Memorandum 2013-142, Interim Policy, Draft Regional Mitigation Manual Section 1794 (BLM 2013c).

2.3.2 Alternative A: No Action

Alternative A meets the requirement that a no-action alternative be considered. This alternative continues current management direction and prevailing conditions derived from existing planning documents. Goals and objectives for resources and resource uses are based on the applicable portions of the San Juan/San Miguel RMP (BLM 1985) and the entire Uncompahgre Basin RMP (BLM 1989a), along with associated amendments, activity and implementation level plans, and other management decision documents. Laws, regulations, and BLM policies that supersede RMP decisions would apply.

Goals and objectives for BLM-administered lands and mineral estate would not change. Appropriate and allowable uses and restrictions pertaining to activities such as mineral leasing and development, recreation, timber harvesting, construction of utility corridors, and livestock grazing would also remain the same. The BLM would not modify existing or establish additional criteria to guide the identification of site-specific use levels for implementation activities.

2.3.3 Alternative B

Alternative B emphasizes improving, rehabilitating, and restoring resources and sustaining the ecological integrity of habitats for all priority plant, wildlife, and fish species, while allowing appropriate development scenarios for allowable uses (such as mineral leasing, locatable mineral development, recreation, ROWs, and livestock grazing). It particularly targets the habitats needed for the conservation and recovery of federally listed, proposed, or candidate threatened and endangered plant and animal species. Goals and objectives focus on environmental and social outcomes achieved by sustaining relatively unmodified physical landscapes and natural and cultural resource values for current and future generations. This alternative would establish the greatest number of special designation areas such as ACECs and special recreation management areas, with specific measures designed to protect or enhance resource values. Appropriate and allowable uses and restrictions would be contingent on minimizing impacts on natural and cultural resources.

2.3.4 Alternative B.1

Alternative B.1 is a partial alternative specific to oil and gas leasing and development in the North Fork and Smith Fork drainages of the Gunnison River (referred to as North Fork), primarily in portions of Delta and Gunnison Counties (**Figure 2-1**). Alternative B.1 is a resource-based set of recommendations provided by a community group (Citizens for a Healthy Community 2013). This partial alternative is treated as a subset of Alternative B (Alternative B.1 is most closely related to Alternative B) and applies only to the North Fork Alternative Plan area, herein referred to as the "North Fork area." The North Fork area has 63,390 acres of BLM-administered surface estate and 159,820 acres of federal mineral estate (underlying BLM surface and split-estate), 139,540 acres of which are federal fluid minerals. The North Fork Alternative Plan would close certain areas to oil and gas leasing and would also impose development setbacks with strict surface use restrictions, including no surface occupancy (NSO), controlled surface use (CSU), and timing limitations (TLs), in places where leasing may be allowed. Management actions and allowable uses under Alternative B that are not superseded by those in Alternative B.1 would also apply to the North Fork area.

2.3.5 Alternative C

Appropriate and allowable uses and restrictions would emphasize maximizing utilization of resources, while mitigating impacts on land health. Management direction would recognize and expand existing uses and accommodate new uses to the greatest extent possible. The appropriate development scenarios for allowable uses (such as mineral leasing, locatable mineral development, ROWs, renewable energy, and livestock grazing) would emphasize maximizing resource production in an environmentally responsible manner, while maintaining the basic protection needed to sustain resources.

2.3.6 Alternative D: Agency Preferred

Alternative D is the agency-preferred alternative, which emphasizes balancing resources and resource use among competing human interests, land uses, and the conservation of natural and cultural resource values, while sustaining and enhancing ecological integrity across the landscape, including plant, wildlife, and fish habitat. This alternative incorporates a balanced level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. Goals and objectives focus on environmental, economic, and social outcomes achieved by strategically addressing demands across the landscape. **Section 2.5** (Considerations in Selecting a Preferred Alternative) outlines the selection process for the preferred alternative.

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use *Resources*	**Alt A**	**Alt B**		**Alt C**	**Alt D**
Ecological Emphasis Areas (acres)[1]		***Figure 2-2***		***Figure 2-3***	***Figure 2-4***
Adobe		40,730			24,170
Dry Creek		20,320			10,790
Jumbo Mountain / McDonald Creek		17,220			15,630
La Sal		22,350		13,270	22,350
Monitor / Potter / Roubideau		27,320		10,880	27,320
Naturita Canyon		15,620			1,510
Ridgway		16,700			9,070
San Miguel		25,520			17,840
Sims Mesa		19,650			19,650
Spring Canyon		3,380			3,380
Tabeguache		31,540			23,760
Terror Creek		2,230			2,230
Total	**0**	**242,580**		**24,150**	**177,700**
Visual Resource Management (VRM) (acres)	***Figure 2-5***	***Alt B*** ***Figure 2-6***	***Alt B.1*** ***Figure 2-7***	***Figure 2-8***	***Figure 2-9***
BLM Surface/Federal Minerals					
VRM Class I	44,220	53,870	53,860	44,220	46,440
VRM Class II	21,930	176,010	181,650	31,260	112,540
VRM Class III	280,520	427,580	421,290	431,330	398,410

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B		Alt C	Alt D
VRM Class IV	9,260	18,340	19,000	168,990	118,410
Undesignated	319,870				
Private and State Surface/Federal Minerals[2]					
VRM Class I	20	100		20	20
VRM Class II	10	135,030	142,710	69,040	94,250
VRM Class III	243,410	139,390	131,720	196,120	173,300
VRM Class IV	420	13,050		22,230	20,000
Undesignated[3]	51,560	7,850		8,010	7,850
Lands Managed to Protect Wilderness Characteristics (acres)		***Figure 2-10***			***Figure 2-10***
Adobe Badlands WSA Addition		6,180			
Camel Back WSA Adjacent		6,950			6,950
Dolores River Canyon WSA Adjacent		550			
Dry Creek Basin		7,030			7,030
Lower Tabeguache/Campbell Creek		11,060			
Roc Creek		5,480			4,340
Shavano Creek		4,900			
Total	**0**	**42,150**		**0**	**18,320**
Resource Uses					
Livestock Grazing	***Figure 2-11***	***Figure 2-12***		***Figure 2-13***	***Figure 2-14***
Allocated acres open for all classes of livestock grazing[4]	658,540	510,070		647,900	611,560
Closed to all classes of livestock grazing (acres)	17,260	165,730		27,900	64,240
Available animal unit months (AUMs)	38,364	29,862		37,926	36,424
Open for sheep grazing (acres)	658,540	115,530		647,900	611,560
Closed to sheep grazing (acres)		394,540			
Coal (acres)	***Figure 2-15***	***Figure 2-16***		***Figure 2-17***	***Figure 2-18***
Unsuitable for surface mining and surface mining operations	490	2,500		2,500	2,500
BLM surface/federal minerals	490	2,170		2,170	2,170
Private or State surface/federal minerals		330		330	330
Unacceptable for Coal Leasing	0	96,650		11,860	45,690
BLM surface/federal minerals	0	88,890		7,960	43,510
Private or State surface/federal minerals		7,760		3,900	2,180
Congressionally Closed to Coal Leasing	580	1,910		1,910	1,910
BLM surface/federal minerals	0	1,330		1,330	1,330

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B		Alt C	Alt D
Private or State surface/federal minerals	580	580		580	580
Acceptable for Coal Leasing	144,790	320,440		405,230	371,400
BLM surface/federal minerals	33,890	168,700		249,620	214,070
Private or State surface/federal minerals	110,900	151,740		155,610	157,330
Fluid Mineral Leasing (acres)	***Figure 2-19 Figure 2-24***	***Alt B Figure 2-20 Figure 2-25***	***Alt B.1 Figure 2-21 Figure 2-25***	***Figure 2-22 Figure 2-26***	***Figure 2-23 Figure 2-27***
Closed to fluid mineral leasing	44,220	219,580	306,670	44,220	50,060
Closed to leasing——BLM surface/federal minerals	44,220	181,220	221,570	44,220	48,510
Closed to leasing—Private or State surface/federal minerals		38,360	85,100		1,550
Open to fluid mineral leasing *(refer to Appendix B)*	871,810	696,450	609,360	871,810	865,970
Open to leasing—BLM surface/federal minerals	631,580	494,580	454,230	631,580	627,290
Open to leasing—Private or State surface/federal minerals	240,230	201,870	155,130	240,230	238,680
Open to leasing subject to standard terms and conditions (i.e., not subject to no surface occupancy [NSO] or controlled surface use [CSU] stipulations)—BLM surface/federal minerals[5]	496,510	50	60	251,090	174,590
Open to leasing subject to standard terms and conditions (i.e., not subject to NSO or CSU stipulations)—Private or State surface/federal minerals[4]	229,830	5,460	5,450	141,300	119,910
Open to leasing subject to No Surface Occupancy (NSO)—BLM surface/federal minerals	24,890	354,970	318,630	14,680	187,560
Open to leasing subject to No Surface Occupancy (NSO)—Private or State surface/federal minerals	720	97,960	86,060	7,620	50,580
Open to leasing subject to Controlled Surface Use (CSU)—BLM surface/federal minerals	110,180	139,560	135,550	365,810	265,140

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B		Alt C	Alt D
Open to leasing subject to Controlled Surface Use (CSU)—Private or State surface/federal minerals	9,680	98,450	63,620	91,310	68,190
Open to leasing subject to Timing Limitations (TL)—BLM surface/federal minerals	423,900	494,580	454,230	475,220	627,290
Open to leasing subject to Timing Limitations (TL)—Private or State surface/federal minerals	77,200	201,870	155,130	107,170	238,680
Restrictions for Surface-disturbing Activities (acres) *(refer to Appendix B)*	***Figure 2-24 Figure 2-27***	***Figure 2-25 Figure 2-29***		***Figure 2-26 Figure 2-30***	***Figure 2-27 Figure 2-31***
No ground disturbance (NGD)	36,450	445,720		42,660	36,180
Site-specific relocation (SSR)		230,020		241,400	512,570
Timing limitations (TL)		675,800		503,410	675,800
Locatable Minerals, Mineral Materials, and Nonenergy Solid Leasable Minerals (acres)	***Figure 2-32 Figure 2-36 Figure 2-40***	***Figure 2-33 Figure 2-37 Figure 2-41***		***Figure 2-34 Figure 2-38 Figure 2-42***	***Figure 2-35 Figure 2-39 Figure 2-43***
BLM Surface/Federal Minerals[6]					
Withdrawn from locatable mineral entry	28,060	28,060		28,060	28,060
Recommend for withdrawal from locatable mineral entry	27,690	367,350		9,550	54,090
Open to locatable mineral exploration or development	620,050	280,390		638,190	593,650
Closed to mineral materials disposal	102,190	499,960		56,350	132,520
Open for consideration for mineral materials disposal	573,610	175,840		619,450	543,280
Closed to nonenergy solid leasable mineral exploration and development	44,220	387,020		55,570	168,130
Open for consideration of nonenergy solid leasable mineral exploration or development	631,480	288,780		620,230	507,670
Private, State, or BOR Project Lands Surface/Federal Minerals					
Withdrawn from locatable mineral entry					
Recommend for withdrawal from locatable mineral entry		4,370		1,700	1,790

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Open to locatable mineral exploration or development	220,390	216,020	218,690	218,600
Closed to mineral materials disposal	2,500	68,310	2,260	2,850
Open for consideration for mineral materials disposal	217,890	152,080	218,130	217,540
Closed to nonenergy solid leasable mineral exploration and development		9,380	1,820	2,360
Open for consideration of nonenergy solid leasable mineral exploration or development	220,390	211,010	218,570	218,030
Special Recreation Management Areas (SRMAs) (acres)	***Figure 2-44***	***Figure 2-45***		***Figure 2-47***
Burn Canyon		9,160		
Dolores River Canyon	13,380	13,380		13,380
Dry Creek		42,180		42,180
Jumbo Mountain		5,020		1,360
Kinikin Hills		11,320		
North Delta		8,520		
Paradox Valley		86,990		
Ridgway Trails		1,130		1,130
Roubideau		25,350		25,350
San Miguel River	35,940	36,020		36,020
Spring Creek		4,980		4,980
Total	**49,320**	**244,050**	**0**	**124,400**
Extensive Recreation Management Areas[7] (ERMAs) (acres)			***Figure 2-46***	***Figure 2-47***
Adobe Badlands			6,370	
Burn Canyon			9,160	9,160
Dolores River Canyon			13,380	
Dry Creek			41,290	
Jumbo Mountain			5,020	
Kinikin Hills			11,310	10,810
North Delta			8,520	8,520
Paradox Valley			44,820	44,820
Ridgway Trails			1,130	
Roubideau			25,350	
San Miguel River Corridor			36,020	
Spring Creek			13,510	
Total	**0**	**0**	**215,880**	**73,310**

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
Comprehensive Trails and Travel Management (acres)	***Figure 2-48***	***Figure 2-49***	***Figure 2-50***	***Figure 2-51***
Open to cross-country motorized travel	8,560		16,070	
Closed to motorized travel *(mechanized travel limited to designated routes)*	11,950	12,180		1,160
Closed to motorized and mechanized travel	44,200	102,790	45,170	57,400
Limited to existing routes for motorized and mechanized travel	465,790			
Limited to designated routes for motorized and mechanized travel	145,300	560,830	614,560	617,240
Lands and Realty (acres)	***Figure 2-52*** ***Figure 2-56*** ***Figure 2-59***	***Figure 2-53*** ***Figure 2-57*** ***Figure 2-60***	***Figure 2-54*** ***Figure 2-58*** ***Figure 2-61***	***Figure 2-55*** ***Figure 2-57*** ***Figure 2-62***
ROW exclusion areas	85,080	431,040	44,550	53,700
ROW avoidance areas		195,460	210,390	276,500
Designated utility corridors	297,930	64,180	26,880	64,180
Identified for disposal	9,850	2,650	9,850	1,930
Special Designations				
Areas of Critical Environmental Concern (ACECs) (acres)	***Figure 2-63***	***Figure 2-64***	***Figure 2-65***	***Figure 2-66***
Adobe Badlands	6,370		6,370	6,370
Biological Soil Crust				1,900
Coyote Wash		2,100		
Dolores River Slickrock Canyon				9,780
Dolores Slickrock Canyon		10,670		
East Paradox		7,360		
Fairview South	210		210	
Fairview South (BLM Expansion)				610
Fairview South (Colorado Natural Heritage Program [CNHP] Expansion)		4,250		
La Sal Creek		10,490		
Lower Uncompahgre Plateau		31,810		
Needle Rock	80	80	80	80
Paradox Rock Art		1,080		1,080
Roubideau-Potter-Monitor		20,430		
Roubideau Corridors				8,720
Salt Desert Shrub Ecosystem		34,510		
San Miguel Gunnison Sage-Grouse		470		

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
San Miguel River	22,780		22,780	22,780
San Miguel River Expansion		35,480		
Sims-Cerro Gunnison Sage-Grouse		25,620		
Tabeguache Creek	560			
Tabeguache Pueblo and Tabeguache Caves		26,300		
West Paradox		5,190		
Total	**30,000**	**215,840**	**29,440**	**51,320**
Wilderness and Wilderness Study Areas (WSAs) (acres)	***Figure 2-67***			
Adobe Badlands	10,320			
Camel Back	10,680			
Dolores River Canyon	13,340			
Needle Rock Instant Study Area (ISA)	80			
Sewemup Mesa	1,740			
Tabeguache Area	8,060			
Total	**44,220**			
Eligible (Alternative A) or Suitable (Alternatives B and D) Wild and Scenic River Study Segments (miles crossing BLM-administered land)	***Figure 2-68***	***Figure 2-68***		***Figure 2-69***
Gunnison River Segment 2	0.4	0.4		
Monitor Creek	9.4	9.4		9.4
Potter Creek	9.8	9.8		9.8
Roubideau Creek Segment 1	10.0	10.0		10.0
Roubideau Creek Segment 2	3.5	3.5		
Deep Creek	0.6	0.6		
West Fork Terror Creek	0.5	0.5		
Beaver Creek	14.2	14.2		14.2
Dry Creek Segment 1	10.4	10.4		
Naturita Creek	10.0	10.0		
Saltado Creek	4.1	4.1		4.1
San Miguel River Segment 1	17.3	17.3		17.3
San Miguel River Segment 2	3.6	3.6		3.6
San Miguel River Segment 3	5.3	5.3		4.5
San Miguel River Segment 5	2.6	2.6		1.3
San Miguel River Segment 6	2.3	2.3		2.1
Tabeguache Creek Segment 1	3.6	3.6		3.4
Tabeguache Creek Segment 2	7.9	7.9		
Lower Dolores River	6.9	6.9		4.2

Table 2-1
Comparative Summary of Alternatives

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D
North Fork Mesa Creek	5.8	5.8		
Dolores River Segment 1a	8.7	8.7		8.7
Dolores River Segment 1b	0.9	0.9		
Dolores River Segment 2	5.4	5.4		5.3
Ice Lake Creek Segment 2	0.3	0.3		
La Sal Creek Segment 1	0.6	0.6		
La Sal Creek Segment 2	3.8	3.8		3.3
La Sal Creek Segment 3	3.4	3.4		3.4
Lion Creek Segment 2	1.3	1.3		
Spring Creek	1.5	1.5		
Total	**154.1**	**154.1**	**0**	**104.6**
Watchable Wildlife Viewing Sites (acres)		***Figure 2-70***		
Uncompahgre Riverway		20		
Billy Creek		2,990		
San Miguel River ACEC (Important Bird Area)		22,780		
Total	**0**	**25,790**	**0**	**0**

[1]Refer to **Appendix D** (Ecological Emphasis Areas, for more information).
[2]VRM on split-estate is a recommendation and would be used as a tool for designing and siting development of energy projects.
[3]Private edge-holdings and inholdings on National Forest System lands which do not have a Visual Resource Inventory.
[4]Alternatives A and C: Allocated acres "open" and Available AUMs include areas that are unallotted; see **Appendix E** (Livestock Grazing Allotments and Allotment Levels).
[5]Some TLs could overlap this area but were not excluded due to the temporal nature of the TL stipulation.
[6]Includes BOR-withdrawn non-project lands.
[7]Planning guidance in place when the San Juan/San Miguel and Uncompahgre Basin RMPs were written directed that all BLM-administered land not designated as an SRMA should be designated as an ERMA. Under today's recreation guidance, what was formerly the Uncompahgre ERMA would be considered "undesignated" (i.e., neither an ERMA nor an SRMA). As such, the terminology has been updated to reflect more closely the recreation guidance under which this RMP was written to avoid nonequivalent comparisons.
Shading indicates zero acres or miles under that alternative.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were considered but eliminated from detailed study because of the purposes stated within each.

2.4.1 Implement Exclusive Resource Use or Protection

As outlined in **Section 1.1**, the purpose of this RMP is to ensure that public lands are managed in accordance with the intent of Congress, as stated in the FLPMA, under the principles of multiple use and sustained yield. Alternatives that promote exclusive use or maximum development, production, or protection of one resource at the expense of other resources or resource uses were eliminated from further consideration. This eliminates alternatives such as closing all BLM lands to livestock grazing (discussed further in **Section 2.4.7**, Close Entire

Decision Area to Livestock Grazing) or wood harvest, or managing those lands only for fish, wildlife, and wilderness values at the exclusion of other resource considerations. Each proposed alternative allows for some level of support, protection, or use of all resources in the planning area. In some instances, the alternatives include various considerations for eliminating or maximizing individual resource values or uses in specific areas where conditions warrant.

2.4.2 Open or Close Entire Decision Area to Off-highway Vehicle Use

Alternatives that open or close all BLM-administered lands within the decision area to year-round off-highway vehicle (OHV) use, regardless of current travel restrictions, were considered and eliminated from further consideration. Opening the entire decision area to OHV use would conflict with policy and legislation. All of the alternatives propose closure of areas to OHV use based on policy, legislation, or conflict with resources or uses. Restrictions are needed to address travel concerns and recreation demands, and also to protect resource values. However, resource values that can only be protected by prohibiting OHV use throughout the entire decision area have not been identified.

2.4.3 Prohibit Fluid Mineral Leasing throughout Decision Area

All of the alternatives propose closure of areas to fluid mineral leasing based on policy or legislation, or when is has been determined that resource values cannot be adequately protected even with restrictive lease stipulations. Resource values that can only be protected by prohibiting all fluid mineral leasing throughout the decision area have not been identified. An alternative that prohibits fluid mineral leasing throughout the decision area would not meet the purpose of and need for the RMP (detailed in **Section 1.1**), part of which is management direction in accordance with principles of multiple use and sustained yield. Leasing of public lands for fluid mineral exploration and production is authorized by the Mineral Leasing Act of 1920 (as amended). The Mineral Leasing Act of 1920 directs field offices to apply the least restrictive management constraints necessary to achieve resource goals and objectives for principal uses of public lands.

2.4.4 Prohibit Coal Leasing throughout Decision Area

All of the alternatives propose closure of areas to coal leasing based on policy, legislation, or protecting resource values. Resource values that can only be protected by prohibiting all coal leasing throughout the decision area have not been identified. An alternative that prohibits coal leasing throughout the decision area would not meet the purpose of and need for the RMP (detailed in **Section 1.1**), part of which is management direction in accordance with principles of multiple use and sustained yield. The BLM authority for coal leasing on public lands is mandated by the Mineral Leasing Act of 1920 (as amended) and the Mineral Leasing Act for Acquired Lands of 1947 (as amended). The Mineral Leasing Act of 1920 directs field offices to apply the least restrictive management constraints necessary to achieve resource goals and objectives for principal uses of public lands.

2.4.5 Prohibit Herbicide Use throughout Decision Area

The BLM adheres to an integrated vegetation management program, using fire, mechanical and manual methods, biological treatments, and herbicides. Each of these management tools has different strengths and weaknesses and should be available for use, enabling the BLM to select the control method or combination of methods that optimizes the effectiveness of vegetation

management while minimizing costs and environmental impacts. Eliminating the use of pesticides could lead to increases in noxious and invasive species and decreases in native species, in conflict with BLM Colorado Public Land Health Standard 3 (outlined in **Appendix C**). In addition, the UFO adheres to the Vegetation Treatments Using Herbicides Plan (BLM 2007a). The EIS for the plan analyzed an alternative that considered not using herbicides (Alternative C). For these reasons, an alternative that prohibits the use of pesticides was considered but dismissed.

2.4.6 Designate Additional Wilderness Study Areas

Because BLM authority to designate WSAs ended in 1993, additional WSAs were not considered during development of this RMP. The BLM does have an obligation under FLPMA Sections 201 and 202 to maintain an inventory of all public lands and their resources, including wilderness characteristics, and to consider such information during land use planning. Plan alternatives include allocations and actions that protect lands with wilderness characteristics. **Appendix F** (Summary of Uncompahgre Planning Area Wilderness Characteristics Inventory: 2011 Update) details results of the BLM inventory of non-WSA lands (excluding the Tabeguache Area) for wilderness characteristics. Only areas with inventoried wilderness characteristics have been brought forward for further analysis.

2.4.7 Close Entire Decision Area to Livestock Grazing

An alternative that proposes to make all BLM-administered lands within the planning area (i.e., the decision area) unavailable for livestock grazing was considered but dismissed from detailed analysis.

Management of livestock grazing in the RMP, which includes proposed reductions and closures, considered many issues, including existing and potential ACECs, selenium/saline soils, riparian issues, water supplies, disturbed areas (e.g., wildfire), private land conflicts, recent use (e.g., 10 years or longer since it was used or permitted), special use areas (e.g., special status species), domestic sheep/bighorn sheep interaction, and the precipitation zone (16 inches) where salts and carbonates are present in the Mancos shale soil profile.

During this planning process, including public scoping, the BLM did not identify issues or conflicts that could only be resolved through the elimination of all livestock grazing throughout the decision area. Where appropriate, the preclusion or adjustment of livestock use within an allotment or area was incorporated into the alternatives to address the issues noted above. This resulted in a reduction in AUMs and the amount of BLM-administered land available for livestock grazing in all action alternatives, with the largest reduction in Alternative B (approximately 22 percent reduction, as compared with the no action alternative).

Land health has been assessed across the Uncompahgre decision area using the BLM Colorado Standards for Public Land Health (BLM 1997; **Appendix C**). Standards describe conditions needed to sustain public land health and relate to all uses of BLM lands. Most lands are meeting land health standards.

The cumulative evaluation for Land Health Standard 1 (upland soils exhibit infiltration and permeability rates that are appropriate) and for Land Health Standard 3 (healthy, productive plant and animal communities of native and other desirable species) showed that 93 percent of the decision area is meeting Land Health Standard 1, and 84 percent of the decision area is

meeting Land Health Standard 3. The most common resource issues were: 1) historic grazing; 2) noxious and invasive weeds; 3) roads; and 4) OHVs.

Only 1.1 percent of the decision area was determined not to be meeting Land Health Standard 1, and 1.8 percent of the decision area was determined not to be meeting Land Health Standard 3, with livestock grazing noted as a significant contributing factor. Alternative B closes grazing in some areas that have land health problems. When considering allotments that would be available for livestock grazing in Alternative B, 1 percent of the decision area was determined not to be meeting Land Health Standard 1, and 0.7 percent of the decision area was determined not to be meeting Land Health Standard 3, with livestock grazing noted as a significant contributing factor.

Alternative B would close livestock grazing on selenium/saline soils and the precipitation zone (16 inches), below which salts and carbonates are present in the Mancos shale soil profile, and would avoid some sensitive resources associated with ACECs. Alternative B would also exclude livestock grazing for three years on disturbed areas, such as after a fire or vegetation treatment project.

Closure to grazing is not the only available mechanism to reduce grazing-related impacts. If livestock grazing is identified as a significant factor for not achieving or moving toward achieving BLM Colorado Public Land Health Standards, or if monitoring shows an adjustment is needed, then implementation-level management changes can be made in coordination with the permittees and interested public. Such actions can include adjusting AUMs, changing the season or length of grazing use, implementing vegetation treatments, and adjusting grazing management practices. Permit terms and conditions could also be modified.

In addition, closing the decision area to livestock grazing would be inconsistent with planning criteria, which established the parameters for the alternatives and provided guidance by program. No comments were received on the preliminary planning criteria related to livestock grazing during the scoping period.

For these reasons, the no grazing alternative for the entire planning area was dismissed from further consideration in this EIS.

2.5 Considerations in Selecting a Preferred Alternative

The proposed alternatives offer a range of discrete strategies for resolving deficiencies in existing management, exploring opportunities for enhanced management, and addressing issues identified through internal assessment and public scoping. Comments submitted by other government agencies, public organizations, state and tribal entities, and interested individuals were given careful consideration. Public scoping efforts enabled the BLM to identify and shape significant issues pertaining to recreational opportunities, wildlife habitat, mineral exploration and development, cultural resources, grazing, land tenure, potential ACECs, public land access, and other program areas. Cooperating Agencies and the Southwest Resource Advisory Council Subgroup reviewed and provided comments at critical intervals during the alternative development process.

The BLM land use planning regulations require the BLM to identify a preferred alternative in the Draft RMP/EIS. Formulated by the UFO planning team, the preferred alternative represents those goals, objectives, and actions determined to be most effective at resolving planning issues and balancing resource use at this stage of the process. While collaboration is critical in developing and evaluating alternatives, the final designation of a preferred alternative remains the exclusive responsibility of the BLM.

2.5.1 Recommendation and Resulting Actions

The Field Manager recommends Alternative D as the preferred alternative. The preferred alternative (D) consists of components (objectives and actions) of the other alternatives considered (A, B, and C). During public review of this Draft RMP/EIS, the BLM is seeking constructive input regarding the proposals for managing resources and resource uses. After considering these comments, the BLM will develop a proposed RMP to be evaluated in the final EIS. The proposed RMP can be any reasonable combination of objectives and actions from the four alternatives (A, B, C, and D) presented in this Draft RMP/EIS.

2.6 MANAGEMENT GUIDANCE FOR ALTERNATIVES A, B/B.1, C, AND D

Table 2-2 is a description of all decisions proposed for each alternative, including goals and objectives. All decisions in **Table 2-2** are land use plan-level decisions, with the exception of some decisions that are implementation-level decisions. Implementation-level decisions will be identified in the Proposed RMP/Final EIS.

NSO, CSU, and TL are stipulation decisions and apply to fluid mineral leasing and development of federal mineral estate underlying BLM lands, privately owned lands, and state-owned lands, but not National Forest System lands. NGD, SSR, and TL are restriction decisions and apply to other surface-disturbing activities on BLM-administered surface lands. Definitions of these stipulations are provided in **Appendix B** (Restrictions Applicable to Fluid Minerals Leasing and Other Surface-disturbing Activities).

Acreages for alternatives in this chapter and stipulations in **Appendix B** are calculated based on current information and may be adjusted in the future through RMP maintenance as conditions warrant.

2.6.1 How to Read Table 2-2

The following describes how **Table 2-2** is written and formatted to show the land use plan decisions proposed for each alternative. Refer to the diagram on the next page for an example of how to read **Table 2-2**.

- Per Appendix C of BLM Land Use Planning Handbook H-1601-1, land use plan decisions are broad-scale decisions that guide future land management actions and subsequent site-specific implementation decisions. Land use plan decisions fall into two categories, which establish the base structure for **Table 2-2:** desired outcomes (**goals** and **objectives**), and **allowable uses** and **actions** to achieve outcomes.
    - *Goals* are broad statements of desired outcomes and management direction that usually are not quantifiable.

  - *Objectives* identify specific desired outcomes for resources. Objectives may be quantifiable and measurable and may have established timeframes for achievement, as appropriate.
  - *Actions* identify measures or criteria to achieve desired outcomes (i.e., objectives), including actions to maintain, restore, or improve land health.
  - *Allowable uses* identify uses, or allocations, that are allowable, restricted, or prohibited on the public lands and mineral estate.
  - *Stipulations* (NSO, CSU, TL), which fall under the allowable uses category, are also applied to surface-disturbing activities to achieve desired outcomes (i.e., objectives).
- In general, only those resources and resource uses that have been identified as planning issues have notable differences between the alternatives.
- Actions that are applicable to all alternatives are shown in one cell across a row. These particular objectives and actions would be implemented regardless of which alternative is ultimately selected.
- Actions that are applicable to more than one but not all alternatives are indicated by either combining cells for the same alternatives, or by denoting those objectives or actions as the "same as Alternative B," for example.

Diagram 2-1
How to Read Table 2-2

Line #	Alternative A *Current Management (No Action)* **Resources**	Alternative B	Alternative C	Alternative D *Agency Preferred*
1.	**SOILS AND WATER**			
2.	**GOAL – SOILS:** Manage for soil stability and productivity to maintain overall watershed health. Manage erosion to minimize downstream impacts from soil-related issues (e.g., sediment runoff, selenium, salinity).			
3.	**Objective:** Make management units available for erosion and salinity control objectives and projects that do not conflict with primary objectives of each unit.	**Objective:** Manage surface-disturbing activities to minimize the yield of sediment, salt, and selenium contributions from BLM lands to water resources.		
4.	**Action:** Develop necessary erosion-control structures, vegetation improvements, or salinity/selenium-reduction measures to improve water quality. (BLM 1985) Develop in-channel structures and land treatment projects designed to reduce runoff and soil erosion where it does not conflict with management of other resources. (BLM 1989a)	**Action:** Improve water quality and overall watershed health by managing the soil for adequate watershed cover and a healthy soil surface on soils high in salinity/selenium. This may include but is not limited to: • Reducing livestock grazing animal unit months (AUM); • Limiting livestock grazing season of use; • Including additional livestock grazing rest-rotation; and • Limiting recreational uses.	**Action:** No similar action.	**Action:** Improve water quality and overall watershed health by managing the soil for adequate watershed cover and a healthy soil surface on soils high in salinity/selenium. This may include but is not limited to: • Modifying livestock grazing practices to reduce sediment yield; • Limiting recreational uses; and • Planning and implementing comprehensive travel management.
5.	**Action:** No similar action in current RMPs.	**Action:** Protect rare biological soil crust in the East Paradox area by pursuing acquisition of private parcels from willing sellers. (Also refer to *Lands and Realty* section.)	**Action:** Same as Alternative A.	**Action:** Same as Alternative B.

Goals, objectives, or actions that are applicable to more than one alternative are indicated by combining cells for the same alternatives.

Where an action in one or more alternatives does not apply to another, for example Alternative C, it states, "No similar action."

Actions that are the same as another alternative but whose cells cannot be combined are noted as, "Same as Alternative __."

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Air Quality (p. 2-23)	Native American Tribal Uses (p. 2-372)	Vegetation – General (p. 2-49)
Areas of Critical Environmental Concern (p. 2-326)	Other Minerals (p. 2-208)	*Uplands* (p. 2-53)
Climate (p. 2-24)	*Locatable Minerals* (p. 2-208)	*Riparian* (p. 2-54)
Coal (p. 2-178)	*Mineral Materials* (p. 2-211)	*Weeds* (p. 2-61)
Comprehensive Travel and Transportation Management (p. 2-300)	*Nonenergy Solid Leasable Minerals* (p. 2-214)	Visual Resources (p. 2-138)
Cultural Resources (p. 2-124)	Paleontological Resources (p. 2-136)	Watchable Wildlife Viewing Sites (p. 2-370)
Fluid Minerals *(Oil and Gas and Geothermal Resources)* (p. 2-187)	Public Health and Safety (p. 2-373)	Wild and Scenic Rivers (p. 2-359)
Forestry and Woodland Products (p. 2-152)	Recreation and Visitor Services (p. 2-216)	Wild Horses (p. 2-120)
Land Health (p. 2-25)	Soils and Water Resources (p. 2-28)	Wildland Fire Ecology and Management (p. 2-120)
Lands and Realty (p. 2-311)	Special Status Species – General (p. 2-82)	Wilderness and Wilderness Study Areas (p. 2-352)
Lands with Wilderness Characteristics (p. 2-148)	*Plants* (p. 2-88)	Wildlife – General (p. 2-63)
Livestock Grazing (p. 2-163)	*Fish and Aquatic* (p. 2-92)	*Fish and Aquatic* (p. 2-65)
National Trails and Byways (p. 2-365)	*Terrestrial* (p. 2-94)	*Terrestrial* (p. 2-68)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
1.	**Management Common to All Alternatives**			
2.	Comply with state and federal laws, regulations, policies, and standards, including FLPMA multiple use mandates.			
3.	Implement actions originating from laws, regulations, and policies and conform to day-to-day management, monitoring, and administrative functions not specifically addressed.			
4.	Preserve valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Existing fluid mineral leases are managed through conditions of approval outlined in the RMP.			
5.	Apply conditions of approval, best management practices (BMPs), standard operating procedures (shown in Appendix G), other site-specific mitigation, and/or off-site mitigation measures to all resource uses to promote rapid reclamation, maximize resource protection, and minimize soil erosion.			
6.	Seek to enhance collaborative opportunities, partnerships, and communications with other agencies and interested parties to implement the RMP, including education and outreach and project-specific activities (such as monitoring and trail development).			
7.	**Resources**			
8.	**AIR QUALITY**			
9.	**GOAL:** Protect air resources from significant adverse impacts associated with BLM-authorized/permitted actions in accordance with the methodology and provisions outlined in the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H).			
10.	**Objective:** Limit air quality degradation from authorized activities on BLM-administered lands by providing appropriate analyses for compliance with applicable Colorado and National Ambient Air Quality Standards, applicable federal, state, and local air quality laws, rules, regulations, and implementation plans, and applicable federal land management guidance documents (e.g., Federal Land Managers' Air Quality Related Values Work Group Phase 1 Report—Revised [2010] [Forest Service et al. 2010]).			
11.	**Action:** Participate in, conduct, or require air modeling analyses as described in the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H) as part of a comprehensive strategy to prevent BLM-permitted activities from causing or contributing to violations of ambient air quality standards or causing significant adverse impacts on air quality-related values.			
12.	**Action:** Attach Lease Notice CO-56 to new oil and gas leasing agreements to provide notice to operators of air quality analysis and mitigation requirements that will be determined on a case-by-case basis at the permitting/development stage.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
13.	**Action:** Develop Conditions of Approval for project-specific surface-disturbing activities to prevent BLM-permitted actions from causing or contributing to exceedances of ambient air quality standards or causing significant adverse impacts on air quality-related values (on both a project level and contemporaneous cumulative basis).			
14.	**Action:** Work cooperatively with local, state, federal, and tribal agencies to enhance air monitoring efforts in order to provide a broader measure of spatially distributed air pollutant concentrations for the purposes of evaluating atmospheric conditions with respect to ambient air quality standards and air quality-related values.			
15.	**Action:** Implement the adaptive management strategy for protecting air resources as described in the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H). Provide an annual activity summary report of BLM-authorized actions (track project-specific emissions) for comparison against the most recent regional air quality model results to provide cumulative context for any analyzed contemporaneous development period. Produce the annual report as required in the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H) to track progress toward meeting the defined goal and objectives.			
16.	**CLIMATE**			
17.	**GOAL:** No similar goal in current RMPs.	**GOAL:** Manage native vegetation and wildlife species, soil and water resources, and wildlife habitats to maintain productivity, viability, and natural processes in response to stresses induced by climate change.		
18.	**Objective:** No similar objective in current RMPs.	**Objective:** Reduce impacts from climate change on soil and water resources, native vegetation and wildlife species and communities, and wildlife habitats.		
19.	**Action:** No similar action in current RMPs.	**Action:** Address climate change effects on soil and water resources, vegetation, and habitats and apply appropriate management to protect these resource values. Where feasible, coordinate with local or regional scientists and organizations in addressing climate change.	**Action:** No similar action. (There would not be any required actions to reduce impacts from climate change.)	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
20.	**Action:** No similar action in current RMPs.	**Action:** Transplant or seed local native species into new habitats where needed to improve restoration and revegetation success and to improve long-term survival of plant populations.	**Action:** Seed local native species into new habitats where needed to improve restoration and revegetation success, and to improve long-term survival of plant populations.	**Action:** Same as Alternative B.
21.	**Action:** No similar action in current RMPs.	**Action:** Minimize unnatural (e.g., size and intensity) soil and vegetation disturbance in ecological emphasis areas to reduce barriers to plant migration.	**Action:** No similar action. (There would not be a similar requirement.)	**Action:** Same as Alternative B.
22.	**LAND HEALTH**			
23.	**GOAL:** Manage soils, riparian-wetland areas, native plant and animal communities, special status species, and water quality to meet land health standards.			
24.	**Objective:** Manage public lands according to BLM Colorado Public Land Health Standards (BLM 1997; Appendix C).	**Objective:** Manage lands, streams, and wetlands to *fully meet* or *exceed* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C).	**Objective:** Manage lands, streams, and wetlands to, at a minimum, *meet with problems* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C), provided that lands meeting with problems are stable or trend toward achievement of the BLM Colorado Public Land Health Standards.	**Objective:** Manage ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, areas with exemplary, ancient, or rare vegetation, and Wild and Scenic River segments with a vegetation Outstandingly Remarkable Value (ORV) to *fully meet* or *exceed* the BLM Colorado Public Land Health Standards

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				(BLM 1997; Appendix C). Manage the remaining lands, streams, and wetlands to *fully meet* the BLM Colorado Public Land Health Standards or to *meet with problems* where needed to support resource uses, provided that lands meeting with problems are stable or trend toward achieving the BLM Colorado Public Land Health Standards.
25.	**Action:** No similar action in current RMPs.	**Action:** Apply land and stream health improvement projects in areas likely to be stabilized or improved to a higher health condition, regardless of land health status.	**Action:** Apply land and stream health improvements on lands, streams, and wetlands rated as *not meeting* BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) or on lands *meeting with problems* and showing a downward trend.	**Action:** Apply land and stream health improvement projects in areas likely to be stabilized or improved to a higher health condition, regardless of land health status. This would apply to ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, areas with exemplary, ancient, or rare vegetation, and Wild and Scenic River segments with a vegetation ORV. In the remaining lands, streams, and wetlands, apply land and stream health improvement

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				projects in areas rated as *not meeting* BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) or on lands *meeting with problems*.
26.	**Action:** No similar action in current RMPs.	**Action:** Close, limit, or modify the causes, where an activity has been demonstrated to be causing land health problems, to improve the health of lands, streams, and wetlands rated as *not meeting* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) or *meeting with problem*. Activities could include the following: • Grazing • Plant material and wood collection • Noncommercial mineral material collection (e.g., moss rock collection and decorative stone collection) • Travel • Camping	**Action:** Limit or modify the cause, where an activity has been demonstrated to be causing land health problems, to improve health of lands, streams, and wetlands rated as *meeting* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) *with problems* with a downward trend. Activities could include the following: • Grazing • Plant material and wood collection • Noncommercial mineral material collection (e.g., moss rock collection and decorative stone collection) • Travel • Camping	**Action:** Limit, modify, or manage the cause, where an activity has been demonstrated to be causing land health problems, to improve land health of lands, streams, and wetlands rated as *not meeting* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) or *meeting with problems*. Activities could include the following: • Grazing • Plant material and wood collection • Noncommercial mineral material collection (e.g., moss rock collection and decorative stone collection) • Travel • Camping
27.	**Action:** No similar action in current RMPs.	**Action:** Apply the following management, unless it can be demonstrated that	**Action:** Require that new projects and land use authorizations identify	**Action:** Require that new projects and land use authorizations

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		new projects and land use authorizations do not reduce the opportunity to improve the health of lands, streams, and wetlands rated as *not meeting* the BLM Colorado Public Land Health Standards or *meeting with problems* (BLM 1997; Appendix C): • ROW avoidance • **STIPULATION** CSU-1/SSR-1: *Lands, Streams, and Wetlands "Not Meeting" or "Meeting with Problems" BLM Colorado Public Land Health Standards*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied. (Refer to Appendix B; Figures 2-20 and 2-29)	such measures as BMPs, conditions of approval, and stipulations to ensure that the project does not reduce the opportunity to improve the health of lands, streams, and wetlands rated as *meeting* the BLM Colorado Public Land Health Standards *with problems* with a downward trend (BLM 1997; Appendix C).	identify BMPs or conditions of approval that minimize conflicts with health-improvement measures for lands, streams, and wetlands rated as *not meeting* the BLM Colorado Public Land Health Standards or *meeting with problems* (BLM 1997; Appendix C).
28.	**SOILS AND WATER RESOURCES**			
29.	**GOAL – SOILS:** Manage for soil stability and productivity to maintain overall watershed health. Manage erosion to minimize downstream impacts from soil-related issues (e.g., sediment runoff, selenium, and salinity). **GOAL – WATER:** Protect, restore, and enhance watershed function in the capture, retention, and release of water in quantity, quality, and timing, thereby ensuring aquatic and terrestrial ecosystem health and public uses. Maintain and restore the physical integrity of the aquatic system, including stream banks and bottom configurations; maintain and restore the sediment regime under which aquatic ecosystems evolved; maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in wetlands, seeps and springs.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
30.	**Objective:** Make management units available for erosion and salinity control objectives and projects that do not conflict with primary objectives of each unit.	**Objective:** Manage activities to minimize the yield of sediment, salt, and selenium contributions from BLM-administered lands to water resources.		
31.	**Action:** Develop necessary erosion-control structures, vegetation improvements, or salinity/selenium-reduction measures to improve water quality (BLM 1985). Develop in-channel structures and land treatment projects designed to reduce runoff and soil erosion in places where it does not conflict with management of other resources (BLM 1989a).	**Action:** Improve water quality and overall watershed health by managing the soil for adequate watershed cover and a healthy soil surface on soils high in salinity/selenium. This could include the following: • Modifying livestock grazing practices to reduce sediment yield • Limiting recreational uses • Planning and implementing comprehensive travel management	**Action:** Manage activities to minimize soil erosion and sediment yields to water bodies.	**Action:** Same as Alternative B.
32.	**Action:** Locate and assess nonfunctional, eroding, earthen check dams in the Mancos Shale areas north of Delta.	**Action:** Inventory and assess stock ponds, check dams, and contour furrows and rehabilitate, repair, or remove those structures that are eroding soils with the highest salinity and selenium concentrations and containing severe	**Action:** No similar action. (A similar activity is not required.)	**Action:** When feasible, inventory and assess stock ponds, check dams, and contour furrows and rehabilitate, repair, or remove those structures with severe/active erosion.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		weed infestations. Areas in need of improvements include, but are not limited to: • Mancos shale areas north of Delta • East side of the Uncompahgre Plateau, from 25 Mesa Road to Dry Creek Canyon (contour furrow area) • Negro Creek/Dough Spoon Area			Combine efforts with other projects (e.g., range water projects, road maintenance, and recreation projects) where feasible to increase efficiency.
33.	**Action:** No similar action in current RMPs.	**Action:** Manage saline/selenium soils as ROW exclusion areas.		**Action:** Manage saline/selenium soils as ROW avoidance areas.	**Action:** No similar action. (Soil would be managed to meet the objective.)
34.	Allowable Use: **STIPULATION** TL-UB-1 (BLM 1989a): *Highly Erodible and/or Saline Soil Areas*. Prohibit surface-disturbing activities from March 1 to May 31 when saturated soils are most vulnerable to damage. (Refer to Appendix B; Figure 2-24, Appendix A.) **Action:** Manage 24,180 acres of Mancos shale hills, commonly known as the "adobes," to reduce salinity loads in the Upper Colorado River Basin (BLM 1989a).	**Alternative B:** Allowable Use: **STIPULATION** NSO-1/NGD-1: *Geology Soil: Saline/Selenium Soils*. Prohibit surface occupancy and use and apply NGD restrictions on lands with soils, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING (NL)** NL-1: *Selenium Soils*. Close to oil and gas leasing and geophysical exploration soils with high and very high potential for selenium loading. Allowable Use: **STIPULATION**	Allowable Use: **STIPULATION** CSU-2/ SSR-2: *Geology Soil: Saline/Selenium Soils*. Surface occupancy or use may be restricted and SSR restrictions applied on lands within mapped soils with the following special characteristics: saline/selenium soils. Special design, construction, and implementation measures, including relocation of operation by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the	Allowable Use: **STIPULATION** CSU-3/ SSR-3: *Geology Soil: Saline/Selenium Soils*. Surface occupancy or use may be restricted and SSR restrictions applied on lands within mapped soils with the following special characteristics: saline/selenium soils. Special design, construction, and implementation measures, including relocation of operation by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		tribal agencies that are analyzed and accepted by the BLM, with the following special characteristics: saline/selenium soils. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	NSO-2: *Selenium Soils*. Prohibit surface occupancy within 402 meters (0.25-mile) of soils with high and very high potential for selenium loading. (Refer to Appendix B; Figure 2-21, Appendix A.)	operator may be required to submit an engineering/reclamation plan to avoid, minimize, and mitigate potential effects to soil productivity. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	operator may be required to submit an engineering/ reclamation plan to avoid, minimize, and mitigate potential effects to soil productivity. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
35.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: No similar allowable use. (There would not be a similar stipulation near agricultural operations.)	**Alternative B.1** (North Fork area only):Allowable Use: **STIPULATION** NSO-3: *Agricultural Operations*. Prohibit surface occupancy on, or within 0.25-mile of, any prime and unique farmlands, livestock operations, organic farm, conventional	Allowable Use: No similar allowable use. (There would not be a similar stipulation near agricultural operations.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		farm, ranch, orchard, and the West Elks American Viticultural area. (Refer to Appendix B; Figure 2-21, Appendix A.)		
36.	**Action:** No similar action in current RMPs.	**Action:** Manage 7,360 acres of potential biological soil crust in the East Paradox ACEC as a ROW exclusion area.	**Action:** Manage 360 acres of rare biological soil crust (*Lecanora gypsicola* and *Gypsoplaca macrophylla*) in East Paradox as ROW exclusion areas.	**Action:** Manage 1,900 acres of rare biological soil crust (*Lecanora gypsicola* and *Gypsoplaca macrophylla*) in the Biological Soil Crust ACEC as a ROW exclusion area, with the following additional exception (manage these areas as ROW avoidance): • Allow ROWs for private edge-holdings for reasonable access and utilities only if other access is not possible.
37.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-4/SSR-4: *Geology Soil; Potential Biological Soil Crust*. Surface occupancy or use may be restricted and SSR restrictions applied on lands within mapped soils	Allowable Use: **STIPULATION** CSU-5/SSR-5: *Geology Soil; East Paradox Biological Soil Crust*. Surface occupancy or use may be restricted and SSR restrictions	Allowable Use: **STIPULATION** CSU-6/SSR-6: *Geology Soil; Potential Biological Soil Crust*. Surface occupancy or use may be restricted and SSR restrictions

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		with the following special characteristics: potential biological soil crust. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit an engineering/reclamation plan to mitigate potential effects to soil productivity. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	applied on lands within mapped soils with the following special characteristics: East Paradox biological soil crust. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit an engineering/ reclamation plan to mitigate potential effects to soil productivity. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	applied on lands within mapped soils with the following special characteristics: biological soil crust only when high levels of crust development are found. Determine the level of crust development using best available techniques. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit an engineering/ reclamation plan to mitigate potential effects to soil productivity. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
38.	**Action:** No similar action in current RMPs.	**Action:** Protect rare biological soil crust in the East Paradox area by pursuing acquisition of private parcels from willing sellers. (Also refer to *Lands and Realty* section.)	**Action:** No similar action. (Land acquisition would not be actively pursued.)	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
39.	**Action:** No similar action in current RMPs.	**Action:** Manage slopes of 30 percent or greater (174,540 acres) as ROW exclusion areas.		**Action:** Manage slopes of 40 percent or greater (115,080 acres) as ROW avoidance areas.	**Action:** Manage slopes of 30 percent or greater (174,540 acres) as ROW avoidance areas.
40.	Allowable Use: **STIPULATION** CSU-CO-27 (BLM 1991a): *Slopes of or Greater than 40 Percent*. Before disturbing the surface on slopes of 40 percent or greater, require a BLM Authorized Officer's approval of a professional engineering/reclamation plan. Require that such a plan demonstrate how the following will be accomplished: • Site productivity will be restored. • Surface runoff will be adequately controlled. • Off-site areas will be protected from accelerated erosion, such as rilling, gullying, piping, and mass wasting. • Surface-disturbing activities will not be conducted during	**Alternative B:** Allowable Use: **STIPULATION** NSO-4/NGD-2: *Geology: Slope Greater than 30 Percent*. Prohibit surface occupancy and use and apply NGD restrictions on lands with steep slopes greater than 30 percent. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-5: *High Geologic Hazard*. Prohibit surface occupancy on all areas with medium to high geologic hazard and on slopes greater than 30 percent. Allowable Use: **STIPULATION** CSU-7: *Moderate Geologic Hazard*. Surface occupancy or use may be restricted on all areas with moderate geologic hazards.	Allowable Use: **STIPULATION** CSU-8/ SSR-7: *Geology: Slope Greater than 40 Percent.* Surface occupancy or use may be restricted and SSR restrictions applied on steep slopes over 40 percent. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit an engineering/ reclamation plan to mitigate potential effects to slope stability. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-6/ SSR-8: *Geology: Slope Greater than 40 Percent*. Prohibit surface occupancy and use and apply SSR restrictions on lands with steep slopes greater than 40 percent. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) **STIPULATION** CSU-9/SSR-9: *Geology Slope, Slopes of 30 to 39 Percent.* Surface occupancy or use may be restricted and SSR restrictions applied on steep slopes of 30 to 39 percent. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	extended wet periods. (Refer to Appendix B; Figure 2-19, Appendix A.)		Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. (Refer to Appendix B; Figure 2-21, Appendix A.)		submit an engineering/ reclamation plan to mitigate potential effects to slope stability. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
41.	Allowable Use: **STIPULATION** TL-UB-1 (BLM 1989a): *Highly Erodible and/or Saline Soil Areas*. Prohibit surface-disturbing activities from March 1 to May 31 when saturated soils are most vulnerable to damage. (Refer to Appendix B; Figure 2-24, Appendix A.)	Allowable Use: **STIPULATION** TL-1: *Saturated Soils*. Prohibit surface occupancy and surface-disturbing activities in areas where soils are saturated or that demonstrate rutting of 2 inches or more. The BLM Authorized Officer would determine when soil conditions are appropriate for activities to resume. (Refer to Appendix B; Figure 2-25, Appendix A.)		Allowable Use: No similar allowable use. (A TL for saturated soil would not exist.)	Allowable Use: **STIPULATION** TL-2: *Saturated Soils*. Prohibit surface occupancy and surface-disturbing activities in areas where soils are saturated or that demonstrate rutting of 3 inches or more. The BLM Authorized Officer would determine when soil conditions are appropriate for activities to resume. (Refer to Appendix B; Figure 2-27, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
42.	**Objective:** Maintain or improve water quality in accordance with state and federal laws and approved standards, including consultation with state agencies on proposed projects that could significantly affect water quality (BLM 1985).	**Objective:** Maintain and improve water quality by ensuring streams are in compliance with the Clean Water Act for biological, chemical, and physical constituents.			
43.	**Action:** No similar action in current RMPs.	**Action:** Manage lands to improve water quality and promote the delisting of state impaired water bodies (303[d]-listed and Monitoring and Evaluation list) in areas where BLM management actions are contributing to impaired water quality.		**Action:** Manage lands to improve water quality and promote the delisting of state impaired water bodies (303[d]-listed water bodies only) in areas where BLM management actions are contributing to impaired water quality. Develop a water and aquatic monitoring plan, if necessary, to determine areas where adaptive management is needed.	
44.	Allowable Use: **STIPULATION** NSO-CO-7 (BLM 1991a): *Waterfowl and Shorebird.* Prohibit surface occupancy and use on significant production areas; major areas are Waterfowl Habitat Management Areas and rookeries. (Refer to Appendix B; Figure 2-19, Appendix A.)	**Alternative B:** Allowable Use: **NO LEASING/ STIPULATION** NL-2/NGD-3: *Hydrology River.* Close to fluid mineral leasing and geophysical exploration and prohibit surface-disturbing	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-3: *Major River Corridors.* Close to oil and gas leasing and geophysical exploration within 0.50-mile mile of the North	Allowable Use: **STIPULATION** CSU-10/ SSR-10: *Hydrology River.* Surface occupancy or use may be restricted and SSR restrictions may be applied within 402 meters (1,320 feet) (0.25-mile) of the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever area is greatest) on	Allowable Use: **STIPULATION** NSO-9/ SSR-11: *Hydrology River.* Prohibit surface occupancy and use and apply SSR restrictions within 400 meters (1,312 feet) of the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever area is greatest) on the following

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		activities within 402 meters (1,320 feet) (0.25-mile) the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever is greatest) on the following major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Fork of the Gunnison and Smith Fork of the Gunnison Rivers. Allowable Use: **STIPULATION** NSO-7: *Major River Corridors.* Prohibit surface occupancy within 0.50 to 1.0-mile of the North Fork of the Gunnison and Smith Fork of the Gunnison Rivers. Allowable Use: **STIPULATION** NSO-8: *Floodplains.* Prohibit surface occupancy within the 100-year floodplain of any stream or river system. (Refer to Appendix B;	the following major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
			Figure 2-21, Appendix A.)		
45.	**Action:** No similar action in current RMPs.	**Action:** Designate as ROW avoidance areas a 0.25-mile buffer along the Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores river corridors.		**Action:** No similar action. (The major river corridors would not be ROW avoidance or exclusion areas.)	
46.	**Action:** No similar action in current RMPs.	**Action:** Manage a 325-foot buffer along perennial streams as ROW exclusion areas.		**Action:** No similar action. (Perennial streams would not be ROW avoidance or exclusion areas.)	**Action:** Manage a 325-foot buffer along perennial streams as ROW avoidance areas.
47.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: **STIPULATION** NSO-10/NGD-4: *Perennial Streams.* Prohibit surface occupancy and use and apply NGD restrictions within 152 meters (500 feet) of the edge of the ordinary high-water mark (bank-full stage) of perennial streams. (Refer to Appendix B;	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-4: *Water Bodies.* Close to oil and gas leasing and geophysical exploration within 805 meters (2,640 feet) (0.50-mile) of lakes, ponds, naturally occurring wetlands and impounding reservoirs (not	Allowable Use: **STIPULATION** CSU-11/ SSR-12: *Perennial Streams.* Surface occupancy or use may be restricted and SSR restrictions may be applied on lands within 100 meters (325 feet) of the edge of the ordinary high-water mark (bank-full stage) of perennial streams. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-11/ SSR-13: *Hydrology Features.* Prohibit surface occupancy and use and apply SSR restrictions within 100 meters (328 feet) from the mapped extent of perennial, intermittent, and ephemeral streams; riparian areas, fens, and/or wetlands; and water impoundments. For streams, measure the buffer from ordinary high-water mark (bank-full stage); for wetland features, measure the buffer from the edge of the mapped extent. (Refer to Appendix B;

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		Figures 2-22 and 2-29, Appendix A.)	including stock ponds for livestock). Allowable Use: **NO LEASING** NL-5: *Water Ways:* Close to oil and gas leasing and geophysical exploration within 805 meters (2,640 feet) (0.50-mile) of all streams, watercourses, and waterways. (Refer to Appendix B; Figure 2-21, Appendix A.)		Figures 2-23 and 2-31, Appendix A.) **STIPULATION** CSU-12: *Hydrology Features.* Surface occupancy or use may be restricted on lands adjacent to perennial, intermittent, and ephemeral streams; riparian areas, fens, and/or wetlands; and water impoundments. For perennial, intermittent, and ephemeral streams, measure the extent from the ordinary high-water mark (bank-full stage); for wetland features, measure the buffer from the edge of the mapped extent. For unmapped wetlands, determine the vegetation boundary (from which the buffer originates) in the field. Surface-disturbing activities may require special engineering design, construction, and implementation measures, including relocation of operations beyond 200 meters (656 feet), from the

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
					extent of water impoundments, streams, riparian areas, and/or wetlands to protect water resources. Apply CSU restrictions from 325 to 500 feet of the edge of the ordinary high-water mark (bank-full stage) of perennial streams. (Refer to Appendix B; Figure 2-23, Appendix A.)
48.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage lands within municipal watersheds and public water supply areas to provide clean drinking water to local communities.			
49.	**Action:** No similar action in current RMPs.	**Action:** Manage as ROW exclusion areas those lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high-water mark of a water body) for a distance of 5 miles upstream of a public water supply intake.		**Action:** Manage as ROW avoidance areas those lands within 1,000 feet of either side of a classified surface water supply-stream segment (as measured from the average high-water mark of a water body) for a distance of 5 miles upstream of a public water supply intake.	
50.	Allowable Use: **LEASE NOTICE** LN-UFO-1: *Municipal Water Supply*. If drilling is proposed, the operator is hereby notified that there are concerns about the	**Alternative B:** **Action:** Apply the restrictions or closures specified below on the following lands:	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-7: *Public Water Supplies.*	**Action:** Apply the restrictions or closures specified below on the following lands: • Within 1,000 feet on either side of a classified surface water-supply stream	**Action:** Apply the restrictions or closures specified below on the following lands: • Within 1,000 feet on either side of a classified surface water-supply stream

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	municipal water source and water conveyance for the town of Norwood, Colorado. The lessee is hereby notified that special design, construction, and scheduling measures may be required in order to minimize the impacts of drilling and production. The overall goal of these measures is to protect Norwood's municipal water source (refer to Appendix B).	• Within 2,640 feet (0.50-mile) on either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as a "water supply." • Within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring. Apply the following	Close to oil and gas leasing and geophysical exploration within 1,320 feet of a municipal water supply (classified surface water-supply stream segment), including intakes, and within a 1,320-foot buffer of all public water supplies that use a groundwater well or spring. Allowable Use: **STIPULATION** NSO-12: *Public Water Supplies.* Prohibit surface occupancy from 1,320 feet (0.25-mile) to 2,640 feet (0.50-mile) of a municipal water supply (classified surface water-	segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as a "water supply." • Within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring. Apply the following restrictions or closures on these lands: • Close to mineral materials disposal (e.g., sand and gravel). • Close to nonenergy solid mineral leasing (e.g., potash, sodium, and phosphate). • Close to coal leasing. • Close to livestock grazing. • Recommend to the Secretary of the Interior withdrawal from locatable minerals (e.g., gold, uranium, and other hard rock). • **STIPULATION** NSO-13: *Hydrology Source.* Prohibit	segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as a "water supply." • Within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring. Apply the following restrictions or closures on these lands: • Close to mineral materials disposal (e.g., sand and gravel). • Close to nonenergy solid mineral leasing (e.g., potash, sodium, and phosphate). • Minimize impacts from livestock grazing on these lands. • Recommend to the Secretary of the Interior withdrawal from locatable minerals (e.g., gold, uranium, and other hard rock). • Allowable Use:

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		restrictions or closures on these lands: • Close to mineral materials disposal (e.g., sand and gravel). • Close to nonenergy solid mineral leasing (e.g., potash, sodium, and phosphate). • Close to coal leasing. • Close to livestock grazing. • Recommend to the Secretary of the Interior withdrawal from locatable minerals (e.g., gold, uranium, and other hard rock). • Allowable Use:	supply stream segment), including intakes, and from 1,320 feet (0.25-mile) to 2,640 feet (0.50-mile) of all public water supplies that use a groundwater well or spring. (Refer to Appendix B; Figure 2-21, Appendix A.)	surface occupancy and use within 305 meters (1,000 feet) of a classified surface water supply stream segment (as measured from the average high water mark) for a distance of 8 kilometers (5 miles) upstream of a public water supply intake with the classification "*Water Supply*" by the State of Colorado. • **STIPULATION** NSO-13b: *Hydrology Public Well.* Prohibit surface occupancy and use within 305 meters (1,000 feet) of groundwater public water supply wells. If public water providers develop source water protection plans, apply this stipulation to cover the appropriate designated area in the protection plan and apply these protection measures. (Refer to Appendix B; Figure 2-22, Appendix A.)	**NO LEASING** NL-8: *Public Water Supplies.* Close to fluid mineral leasing and geophysical exploration 1,000 feet on either side of a classified surface water-supply stream segment (as measured from the average high water) for a distance of 5 miles upstream of a public water supply intake classified by the State as a "water supply," and within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring. If public water providers develop source water protection plans, apply this "No Leasing" to cover the appropriate designated area in the protection plan and apply these protection measures. (Refer to Appendix B; Figure 2-23, Appendix A.)
				Allowable Use: **STIPULATION** CSU-13: *Hydrology Source.* Surface occupancy	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		NO LEASING NL-6: *Public Water Supplies.* Close to fluid mineral leasing and geophysical exploration within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as a "water supply," and within a 2,640-foot (0.50-mile) buffer of all		or use may be restricted on lands located greater than 305 meters (1,000 feet) but less than 805 meters (2,640 feet) (0.50-mile) of a classified surface water supply stream segment (as measured from the average high-water mark) for a distance of 8.05 kilometers (5 miles) miles upstream of a public water supply intake classified by the State as a "water supply," and all public water supplies that use a groundwater well or spring. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit a coordinated water resources monitoring plan to mitigate potential effects to the source water protection areas of public water supply. If public water providers develop source water protection plans, apply this stipulation to cover the appropriate designated area in the protection plan and apply these protection measures. (Refer to Appendix B; Figures 2-22 [Alternative C] and 2-23 [Alternative D], Appendix A.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		public water supplies that use a groundwater well or spring. • Allowable Use: **STIPULATION** NGD-5: *Public Water Supplies.* Prohibit surface-disturbing activities on lands within 2,640 feet (0.50-mile) on either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		"water supply" and within 2,640 feet (0.50-mile) of all public water supplies that use a groundwater well or spring. If public water providers develop source water protection plans, apply this "No Leasing" and NGD restriction to cover the appropriate designated area in the protection plan and apply these protection measures. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
51.	**Objective:** No similar objective in current RMPs.	**Objective:** Provide sufficient water quantity on BLM-administered lands for multiple use management and functioning, healthy riparian and aquatic ecosystems.		
52.	**Action:** Work with Colorado Water Conservation Board to ensure a sufficient instream flow to benefit warm and cold water fish species on: • 23 existing instream flow rights held by the Colorado Water Conservation Board and • Streams where Colorado Water Conservation Board applications for instream flow water rights are pending, such as the Lower San Miguel River and Tabeguache Creek.	**Action:** Make recommendations to the Colorado Water Conservation Board for protection or enlargements of instream flows on appropriate stream segments. Assist the Conservation Board in instream flow assessments and monitoring of current BLM instream flow stream reaches for compliance.	**Action:** No similar action. (Recommendations to the Colorado Water Conservation Board would not be required.)	**Action:** Same as Alternative B.
53.	**Action:** Maintain current water rights, including groundwater (e.g., wells and springs), to benefit wildlife and livestock, including: • 54 surface water rights • 2 ditches • 1 well • 15 reservoirs • 121 springs/seeps	**Action:** Maintain current water rights to benefit wildlife and livestock. Object to proposals that could jeopardize existing rights. File for new surface water rights on perennial and seasonal streams and new water rights for groundwater sources (i.e., springs/seeps, wells, reservoirs, streams) in adequate quantities to protect planning area resource needs and sustainability.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
54.	**Objective:** No similar objective in current RMPs.	**Objective:** Protect groundwater resources and recharge areas to maintain functioning condition of all parameters within the hydrologic cycle, including groundwater quantity and quality.			
55.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: **STIPULATION** NSO-14: *Domestic Water Wells.* Prohibit surface occupancy within 305 meters (1,000 feet) of all domestic water wells. (Refer to Appendix B; Figure 2-20, Appendix A.)	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-9: *Domestic Water Wells and Private Water Systems.* Close to oil and gas leasing and geophysical exploration within 1,320 feet of all domestic water wells and private water systems, including ditches and domestic water decrees. Allowable Use: **STIPULATION** NSO-15: *Domestic Water Wells and Private Water Systems.*	Allowable Use: No similar allowable use or action. (There would not be a stipulation or requirement on well bores.)	**Action:** Apply the following requirements to oil and gas well bores that are within 305 meters (1,000 feet) of a domestic water well, beginning at the ground surface and extending through the freshwater aquifer: • Extend surface casing through the freshwater aquifer. • Require freshwater mud for drilling the surface casing.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
			Prohibit surface occupancy from 402 meters (1,320 feet) (0.25-mile) to 805 meters (2,640 feet) (0.50-mile) of all domestic water wells and private water systems, including ditches and domestic water decrees. (Refer to Appendix B; Figure 2-21, Appendix A.)		
56.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: No similar allowable use. (There would not be a stipulation on water conveyance systems.)	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-16: *Water Conveyance Systems.* Prohibit surface occupancy within 1,320 feet of any dam, ditch,	Allowable Use: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		irrigation intake, canal, or other water conveyance. (Refer to Appendix B; Figure 2-21, Appendix A.)		
57.	**Objective:** No similar objective in current RMPs.	**Objective:** Protect soil, water, and vegetation resources during periods of drought.		
58.	**Action:** No similar action in current RMPs.	**Action:** Implement drought management guidelines, outlined in Appendix I, Drought Management, during drought to maintain or achieve long-term resource productivity.		
59.	**VEGETATION**			
60.	*VEGETATION – GENERAL*			
61.	**GOAL:** Manage vegetation for a mix of productive and resilient plant and biological soil crust communities that sustain native plant and animal species at viable population levels. Manage shrub and woodland communities within the Historic Range of Natural Variability, maintaining successional processes and sustaining all structural stages across the landscape. Manage riparian and wetland systems to function properly, have the ability to recover from disturbance, and sustain native species at viable population levels.			
62.	**Objective:** No similar objective in current RMPs.	**Objective:** Maximize native vegetation.	**Objective:** Minimize loss of native vegetation.	**Objective:** Maximize native vegetation and natural processes.
63.	**Action:** Where reseeding is required, emphasize using native plant species. Consider seeding nonnative plant species based on local	**Action:** Use locally derived native species for revegetation. If locally derived native species are not available or cost prohibitive, allow some use of sterile nonnative species.	**Action:** Use native species for revegetation. If native species are not available or cost prohibitive, allow some use of nonnative species that are not	**Action:** Use locally derived native species for revegetation. If locally derived native species are not available, are cost prohibitive, or are not likely

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	goals, native seed availability and cost, persistence of nonnative plants and annuals and noxious weeds on the site, and composition of nonnative species in the seed mix (BLM 1997).		invasive.	to succeed, allow use of native species from outside the area or nonnative species that are not invasive.
64.	**Action:** No similar action in current RMPs.	**Action:** Restore areas of degraded vegetation where there is a high probability of success. Use test plots first for more difficult areas. Revegetate areas that are impacted by wildfire or resource use and development to basic levels of ecologic functionality as on-site mitigation.	**Action:** As off-site mitigation for vegetation damaged by nearby resource use and development, restore areas of degraded vegetation where there is a high probability of success. Revegetate areas that are impacted by wildfire or resource use and development as on-site mitigation.	**Action:** On ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, and areas with rare vegetation, restore areas of degraded vegetation, including burned areas, where there is a high probability of success. Use test plots first for more difficult areas. On other lands, revegetate areas that are impacted by wildfire or resource use and development to basic levels of ecologic functionality as on-site or off-site mitigation.
65.	**Objective:** No similar objective in current RMPs.	**Objective:** Provide the public with commonly available and renewable native plant materials through the sale of wilding permits, commercial and institutional seed-collecting permits, and permits for the collection of other plant products, while protecting other resources.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
66.	**Action:** No similar action in current RMPs.	**Action:** Make 444,160 acres available for seed collection permits. Close the following areas to permits: • WSAs • ACECs • Lands managed to protect wilderness characteristics • Ecological emphasis areas • Riparian areas, except for research and revegetation purposes • Exemplary, ancient, and rare vegetation communities • Occupied threatened and endangered plant habitat • Occupied special status plant species habitat	**Action:** Make 631,060 acres available for permits for seed collection, wildings, and other plant materials. Close the following areas to permits: • WSAs • Occupied threatened and endangered plant habitat • Occupied special status plant species habitat	**Action:** Make 582,950 acres available for permits for seed collection, wildings, and other plant materials. Close the following areas to permits: • WSAs • ACECs, except for research and revegetation purposes • Lands managed to protect wilderness characteristics • Ecological emphasis areas • Riparian areas, except for research and revegetation purposes • Exemplary, ancient, and rare vegetation communities • Occupied threatened and endangered plant habitat • Occupied special status plant species habitat
67.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage exemplary, ancient, and rare vegetation communities; and ecological emphasis areas to maintain their integrity and functionality. (Refer to Wildlife – Terrestrial for actions related to ecological emphasis areas.)		
68.	**Action:** No similar action in current RMPs.	**Action:** Manage exemplary, ancient, and rare vegetation communities as ROW exclusion areas.	**Action:** Manage exemplary, ancient, and rare vegetation communities as ROW avoidance areas.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
69.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-17/NGD-6: *Plant Community*. Prohibit surface occupancy and use and apply NGD restrictions within occupied habitat for exemplary, ancient, rare, and relict vegetation communities. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar allowable use. (There would not be NSO, CSU, NGD, or SSR restrictions in exemplary, ancient, rare, or relict vegetation communities.)	Allowable Use: **STIPULATION** CSU-14/ SSR-14: *Plant Community*. Surface occupancy or use may be restricted and SSR restrictions applied within occupied habitat that meets BLM's criteria established in the RMP for significant and/or relict plant communities (exemplary, ancient, and rare vegetation communities). Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit a plan of development that would demonstrate that habitat would be preserved to maintain the viability of significant or relict plant communities. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
70.	*VEGETATION – UPLANDS*			
71.	**Objective:** No similar action in current RMPs.	**Objective:** Manage vegetation structure for maximum naturalness, with secondary outcomes of sensitive species habitat, resource production, and fuels reduction.	**Objective:** Manage vegetation structure to emphasize resource production and fuels reduction as needed.	**Objective:** On ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, and areas with exemplary, ancient, or rare vegetation, manage vegetation structure to emphasize naturalness of vegetation age class distribution across the landscape and to support sensitive species habitat, with resource production, big game habitat, and fuels reduction as secondary outcomes. On the remaining areas, manage vegetation structure to emphasize resource production and fuels reduction and to support big game species habitat, with naturalness and sensitive species habitat as secondary outcomes.
72.	**Action:** To maintain dispersed ecologic communities for	**Action:** Update the vegetation mosaic objectives in the Fire Management	**Action:** No similar action. (The FMP would be updated to meet	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	wildlife, in all vegetation types, maintain as leave strips or islands interspersed throughout the project areas, 5 to 15 percent of the existing vegetation (emphasis area A; BLM 1985).	Plan (FMP) to meet RMP objectives for upland vegetation. Vegetation treatments must be consistent with these mosaic objectives and must meet multiple interdisciplinary objectives.	RMP objectives, without a specific design requirement for vegetation treatments.)	
73.	*VEGETATION – RIPARIAN*			
74.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage naturally occurring riparian and wetland areas to maintain or improve hydrologic and riparian vegetation conditions.	**Objective:** Manage naturally occurring riparian and wetland areas for Proper Functioning Condition.	**Objective:** Manage naturally occurring riparian and wetland areas to maintain or improve hydrologic and riparian vegetation conditions and to meet or exceed Proper Functioning Condition.
75.	**Action:** On 15,350 acres (management unit 7), protect riparian/aquatic zones up to 0.25-mile wide. Activities that disturb these areas could be approved on a site-specific basis after consultation with affected entities and development of mitigating measures (BLM 1989a).	**Action:** Manage naturally occurring riparian and wetland areas, seeps, and springs, as well as a 100-foot buffer from their edge, as ROW exclusion areas, unless it can be determined that the project would not diminish site integrity.	**Action:** Require that new ROW authorizations in naturally occurring wetlands and riparian areas, seeps, and springs identify effective measures to maintain Proper Functioning Condition.	**Action:** Manage naturally occurring riparian and wetland areas, seeps, and springs, as well as a 325-foot buffer from their edge, as ROW avoidance areas unless it can be determined that the project would not diminish hydrologic or vegetation conditions.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
76.	**Action:** On 6,480 acres (emphasis area J), coordinate forestry and woodland products management on a case-by-case basis to ensure riparian resources are protected and, in some cases, improved (BLM 1985; also refer to the *Forest and Woodland Products* section.)	**Action:** Close riparian areas to mineral materials disposal (with a 500-foot buffer), wood products collection and harvest, and other plant products collection (with a 100-foot buffer). Prohibit issuing permits for recreation activities or events.	**Action:** Limit mineral materials disposal, wood products collection and harvest, and other plant products collection within riparian areas to locations where they would have the least impact.	**Action:** Close riparian areas to mineral materials disposal, wood products collection and harvest, and other plant products collection, except for research, invasive species control, and revegetation (with a 100-foot buffer). Require additional riparian stipulations for commercial special recreation permits (SRPs) and restrict use to designated routes in locations where they would have the least impact for organized group and event permits.
77.	**Action:** No similar action in current RMPs	**Action:** Limit vegetation treatments in riparian areas to weed treatment and managed wildland fire from natural ignition.	**Action:** Allow vegetation treatments in riparian areas that do not impair riparian/wetland values.	**Action:** Allow vegetation treatments in riparian areas that are compatible with and promote natural riparian/wetland function and improvement.
78.	**Action:** Improve aquatic/riparian habitat on the following priority areas: • Upper San Miguel River and its tributaries (44	**Action:** No similar action; this is addressed by other actions.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	miles) • Upper Dolores River (30 miles) • Lower San Miguel and its tributaries (20 miles) (BLM 1985) Manage 680 acres in the Roubideau Creek and Potter Creek drainages for improvement of riparian habitat (BLM 1989a). Manage 3,720 acres (management unit 9) to restore and enhance riparian vegetation along 40 miles of streams (BLM 1989a). On 3,720 acres (management unit 9), incorporate into existing activity plans, or develop in new riparian/aquatic system management plans, objectives and projects designed to accelerate improvement of species diversity, stream bank cover and stability, and instream			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	structure and to raise the water table (BLM 1989a). On 5,200 acres (emphasis area B), invest wildlife funds for structural improvements and vegetation restoration projects to improve high-priority riparian habitat at the following drainages: Roc, North and South Mesa, and La Sal Creeks (BLM 1985; also refer to the *Terrestrial Wildlife* section).			
79.	**Action:** At a minimum, maintain or preferably improve riparian vegetation and stream bank cover (BLM 1989a). Maintain or improve vegetation conditions and stream bank cover (BLM 1989a). Restore and enhance riparian vegetation along 40 miles of streams (management unit 9; BLM 1989a).	**Action:** Create, enhance, and restore wetland and riparian areas impacted by historic land use and flow regime modification.	**Action:** No similar action. (There would not be a specific requirement to create, enhance, and restore wetland and riparian areas impacted by historic land use and flow regime modification.)	**Action:** Pursue opportunities to enhance and restore wetland and riparian areas impacted by historic land use and flow regime modification.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
80.	**Action:** Limit vehicle use in the riparian zones associated with Bear and Roatcap Creeks to designated roads and trails yearlong (BLM 1989a).	**Action:** No similar action; travel management limits vehicles to designated roads and trails.			
81.	Allowable Use: **STIPULATION** CSU-CO-28 (BLM 1991a): *Riparian Vegetation Zone*. Restrict oil and gas exploration and development, including roads, transmission lines, and storage facilities, to an area beyond the riparian vegetation zone. (Refer to Appendix B; Figure 2-19, Appendix A.)	**Alternative B:** Allowable Use: **STIPULATION** NSO-18/NGD-7: *Hydrology Features*. Prohibit surface occupancy and use and apply NGD restrictions within 201 meters (660 feet) from the mapped extent of perennial, intermittent, and ephemeral streams; riparian areas, fens, and/or wetlands; springs and seeps; and water impoundments. For streams,	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-4: *Water Bodies.* Close to oil and gas leasing and geophysical exploration within 805 meters (2,640 feet) (0.50-mile) of lakes, ponds, naturally occurring wetlands, and impounding reservoirs (not including stock ponds for livestock). (Refer to Appendix B; Figure 2-21, Appendix A.)	Allowable Use: **STIPULATION** CSU-15/ SSR-15: *Naturally Occurring Riparian and Wetland Areas, Water Bodies, Springs, and Seeps.* Surface occupancy or use may be restricted and SSR restrictions applied on lands within 30 meters (100 feet) of the edge of the riparian zone along perennial and intermittent waters and naturally occurring wetlands, springs, and seeps. Surface-disturbing activities may require special engineering design, construction, and implementation measures, including relocation of operations beyond 200 meters (656 feet), to protect water resources. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-19/ SSR-16: *Hydrology Features*. Prohibit surface occupancy and use and apply SSR restrictions within 100 meters (325 feet) from the mapped extent of perennial, intermittent, and ephemeral streams; riparian areas, fens, and/or wetlands; and water impoundments. For streams, measure the buffer from the ordinary high-water mark (bank-full stage); for riparian and wetland features, measure the buffer from the edge of the mapped extent. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) **STIPULATION** CSU-16: *Hydrology Features.* The CSU restrictions apply from 325 to

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		measure the buffer from the ordinary high-water mark (bank-full stage); for wetland features, measure the buffer from the edge of the mapped extent. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)			500 feet of the hydrology features shown below. Surface occupancy or use may be restricted on lands adjacent to perennial, intermittent, and ephemeral streams; riparian areas, fens, and/or wetlands; and water impoundments. For perennial, intermittent, and ephemeral streams, measure the extent from the ordinary high-water mark (bank-full stage); for wetland features, measure the buffer from the edge of the mapped extent. For unmapped wetlands, determine the vegetation boundary (from which the buffer originates) in the field. Surface-disturbing activities may require special engineering design, construction, and implementation measures, including relocation of operations beyond 200 meters (656 feet), from the extent of water impoundments, streams, riparian areas, and/or

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				wetlands to protect water resources. (Refer to Appendix B; Figure 2-23, Appendix A.)
82.	**Action:** Incorporate into existing activity plans or develop in new riparian/aquatic system management plans objectives and projects designed to accelerate improvement of species diversity, stream bank cover and stability, and instream structure and to raise the water table. Prepare and design riparian improvement plans to accelerate the improvement of riparian vegetation. Incorporate into new management plans for riparian/aquatic systems wildlife habitat management objectives, projects, and mitigating measures that do not conflict (management unit 9; BLM 1989a).	**Action:** No similar action; this is addressed by other actions in this section that manage riparian and wetland areas.		
83.	**Action:** On 3,890 acres (emphasis area F), protect riparian zones on springs associated	**Action:** No similar action; this is addressed by other actions to protect riparian zones.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	with cultural sites (BLM 1985; also refer to the *Cultural Resources* section.)			
84.	**Action:** Maintain or improve riparian habitat to good or excellent ecological condition, using acceptable grazing systems and fencing where needed (BLM 1989a).	**Action:** No similar action; this is addressed by the objective and other actions in this section.		
85.	*VEGETATION – WEEDS*			
86.	**GOAL:** Through Integrated Weed Management, suppress and eradicate, where possible, noxious and invasive species to support healthy native plant communities.			
87.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage lands under Integrated Weed Management strategies to support BLM Colorado Public Land Health Standards (BLM 1997; Appendix C).		
88.	**Action:** Implement Integrated Weed Management using the UFO Weed Management Strategy, including Strategy by Species (BLM 2010c). Apply appropriate integrated noxious weed control methods (e.g., physical, mechanical, educational, biological, herbicide, and fire) to noxious/invasive weed infestations.	**Action:** Implement Integrated Weed Management using the UFO Weed Management Strategy, including Strategy by Species (BLM 2010c). Apply appropriate integrated noxious weed control methods (e.g., physical, mechanical, educational, biological, herbicide, and fire) to noxious/invasive weed infestations of state-listed "A" noxious weed species and early detection rapid response species.	**Action:** Implement Integrated Weed Management using the UFO Weed Management Strategy, including Strategy by Species (BLM 2010c). Apply appropriate integrated noxious weed control methods (e.g., physical, mechanical, educational, biological, herbicide, and fire) to noxious/invasive weed infestations of state-listed "A"	**Action:** Same as Alternative A.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Continue to update the Strategy as needed to address issues as they arise.	Continue to update the strategy as needed to address issues as they arise.	and "B" noxious weed species and early detection rapid response species. Continue to update strategy as needed to address issues as they arise.	
89.	**Action:** No similar action in current RMPs.	**Action:** Prioritize streams supporting rare or exemplary vegetation for weed treatment.	**Action:** Prioritize for weed treatment streams with recreational, livestock, or mineral developments and maintained routes.	**Action:** Prioritize for weed treatment ACECs, WSAs, ecological emphasis areas, areas with exemplary, ancient, or rare vegetation, lands managed to protect wilderness characteristics, Wild and Scenic River segments with a vegetation ORV, and high-use areas with recreational, livestock, or mineral developments and maintained routes.
90.	**Action:** No similar action in current RMPs.	**Action:** Maintain all quarry pits weed-free of all state-listed A, B, and C noxious weed species and for BLM weed species of concern.	**Action:** Maintain all quarry pits weed-free of all state-listed A and B noxious weed species.	**Action:** Maintain all quarry pits weed-free of all state-listed A, B, and C noxious weed species.
91.	**Action:** Require that all seed slated for BLM reclamation projects meet the Colorado	**Action:** Require that all seed used on BLM-administered lands meet the Colorado Noxious Weed Seed requirements of	**Action:** Same as Alternative A.	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	Noxious Weed Seed requirements of prohibited and restricted seed. Seed lots shall contain no more than 0.5 percent by weight of other weed seed (BLM 1997).	prohibited and restricted seed. In addition to BLM policy of weed-free seed use, seed lots shall contain less than 250 seeds per pound of cheatgrass and/or Japanese brome (in combination). Other species determined to be noxious or invasive may be added to this list. All seed must be of certified quality or source identified.		
92.	**Action:** No similar action in current RMPs.	**Action:** Require all hay, straw, or mulch that is used or stored on BLM-administered lands be certified as weed free.		
93.	**FISH & WILDLIFE**			
94.	*WILDLIFE – GENERAL*			
95.	**GOAL:** Manage terrestrial and aquatic habitats and species to promote ecosystem diversity, productivity, viability, and natural processes.			
96.	**Objective:** Intensively manage for optimal aquatic wildlife habitat. Provide necessary investments to enhance wildlife habitat. Cooperate with the Colorado Parks and Wildlife (CPW) for funding of habitat improvement projects, and also cooperate with CPW on the reintroduction program (BLM 1985).	**Objective:** Restore, enhance, preserve, and promote aquatic and terrestrial ecosystem integrity and values. Emphasis is on native fish and cold-water sport fish, and native nongame species, while allowing for improvements to habitat for native game species. Protect breeding habitats of migratory birds by managing for ecosystem diversity, productivity, viability and	**Objective:** Maintain aquatic and terrestrial ecosystem integrity and productivity. Emphasis is on sports fisheries and upland game species. Protect migratory birds to the extent required by the Migratory Bird Treaty Act of 1918.	**Objective:** Restore, enhance, conserve, and promote aquatic and terrestrial species conservation and ecosystem integrity and values. Emphasis is on native species (mammals, reptiles, amphibians, birds, fish, invertebrates and plants) management, including objectives and improvements for ensuring habitat diversity, productivity, viability, and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Comply with FLPMA to maintain, enhance, and protect fish habitat on public lands. Continue to apply seasonal restrictions where they are needed to mitigate impacts of human activities on important seasonal wildlife habitat.	natural processes through use of the vegetation mosaic objectives (refer to the *Vegetation* section).		natural processes throughout the ecosystem (s). Protect endangered species and migratory birds to the extent required by the Endangered Species Act and the Migratory Bird Treaty Act of 1918. Protect breeding habitats of migratory birds by managing for ecosystem diversity, productivity, viability and natural processes through use of the vegetation mosaic objectives (refer to the *Vegetation* section).
97.	**Action:** The BLM District Manager may authorize supplemental releases and reintroduction of native or naturalized wildlife species (excluding federal or state-listed endangered, threatened, or candidate species) following environmental analysis in management units 3, 5, 8, 9, 13-15 (BLM 1989a).	**Action:** Allow augmentation and reintroduction to expand the current range of native species in response to partner or stakeholder proposals and requests and in coordination with CPW.	**Action:** Allow augmentation and reintroduction to expand the current range of desired game species and species of economic importance, in coordination with CPW.	**Action:** Allow augmentation and reintroduction to expand the current range of aquatic and terrestrial species or to expand population numbers to improve genetic viability of native terrestrial and aquatic species, in coordination with CPW.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Allow CPW to introduce chukar. Allow other game species introduction if site-specific analysis indicates that significant conflicts with livestock will not occur (emphasis area A; BLM 1985). Reestablish river otters in the Dolores River (emphasis areas B, C, and D; BLM 1985). Allow introduction or reintroduction of bighorn sheep in the Dolores River Canyon WSA. Expand pronghorn antelope herds (emphasis area A; BLM 1985). Manage for 300 head of pronghorn antelope.			
98.	*WILDLIFE – FISH AND AQUATIC*			
99.	**Action:** Give special management consideration to all perennial streams that could provide quality fisheries through the	**Action:** Annually enhance, protect, or restore at least 5 miles of aquatic habitat, including modification or removal of special status fish migration barriers, in	**Action:** Annually improve at least 2 miles of aquatic habitat, including structural and vegetation improvements to	**Action:** Pursue opportunities to enhance, protect, or restore native aquatic species habitats, in consultation with the CPW,

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	activity planning process and monitoring system to maintain, improve, or enhance resource conditions associated with aquatic/riparian habitat (emphasis area A; BLM 1985). Manage the following riparian areas to improve aquatic habitat: Roc, North Mesa, South Mesa, La Sal and Dry Creeks, and the east and west forks of Dry Creek Canyon (BLM 1985). Invest wildlife funds for structural improvements and vegetation restoration projects to improve high-priority riparian habitat at the following drainages: Roc, North and South Mesa, La Sal, and Dry Creeks (East and West Forks) (emphasis area B; BLM 1985).	consultation with the CPW, and structural and vegetation improvements to benefit primarily nongame native species.	benefit primarily game species and popular fisheries.	including modification or removal of special status fish migration barriers and structural and vegetation improvements commensurate with other resource objectives.
100.	**Action:** Monitor, maintain, or improve known active	**Action:** Maintain or improve fisheries habitat where consistent with maintaining	**Action:** Maintain or improve sports fisheries habitat where	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	fisheries habitat. Focus initially on the San Miguel and Dolores Rivers and their major tributaries. Improve aquatic habitat on these areas, listed in priority order: • The upper San Miguel River and its tributaries (44 miles) • The upper Dolores River and its tributaries (30 miles) • The lower San Miguel River and its tributaries (20 miles) Develop aquatic/riparian habitat management plans for these priority areas, including intensive monitoring plans (emphasis area B; BLM 1985).	native species populations. Prioritize systems based on CPW conservation and management objectives.	compatible with adjoining surface uses.	
101.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** TL-3: *Wildlife Native and Sport Fish.* Prohibit in-stream channel work within occupied fisheries as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies	Allowable Use: **STIPULATION** TL-4: *Wildlife Coldwater Sport Fish.* Prohibit in-stream channel work within occupied fisheries as mapped in the RMP, BLM's GIS database, or other maps	Allowable Use: **STIPULATION** TL-5: *Wildlife Native and Sport Fish.* Prohibit in-stream channel work within occupied fisheries as mapped in the RMP, BLM's GIS database, or other maps

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		that are analyzed and accepted by the BLM, during the following periods: • Spring spawning period: April 1 to August 1 (rainbow trout, cutthroat trout, native warm water fish [flannelmouth sucker, bluehead sucker, and roundtail chub]), and Paiute and mottled sculpin • Fall spawning period: October 1 to November 30 (brown and brook trout) (Refer to Appendix B; Figure 2-25, Appendix A.)	provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM, during the following periods: • Spring spawning period: April 1 to June 15 (rainbow and cutthroat trout) • Fall spawning period: October 1 to November 30 (brown and brook trout) (Refer to Appendix B; Figure 2-26, Appendix A.)	provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM, during the following period: • Spring spawning period: April 1 to July 15 (native cutthroat trout, rainbow trout, and native warm water fish [flannelmouth sucker, bluehead sucker, and roundtail chub]) (Refer to Appendix B; Figure 2-27, Appendix A.)
102.	*WILDLIFE – TERRESTRIAL*			
103.	**Action:** Key habitats include big game winter range, winter raptor concentration areas, bighorn sheep, pronghorn antelope, and aquatic/riparian habitats. Maintain and improve vegetation conditions. Protect, maintain, and enhance the following: • Critical habitats for big game, upland game birds,	**Action:** Designate the following 242,580 acres as ecological emphasis areas (Figure 2-2, Appendix A) and manage to preserve the continuity of habitats, vegetation communities, and native wildlife within: • Adobe Zones 1-4 (40,730 acres) • Dry Creek Zones 1-5 (20,320 acres) • Jumbo Mountain/McDonald Creek Zones 1-5 (17,220 acres) • La Sal Zones 1-3 (22,350 acres) • Monitor-Potter-Roubideau Zones 1-	**Action:** Designate the following 24,150 acres as ecological emphasis areas (Figure 2-3, Appendix A) and manage to preserve as much as possible the continuity of habitats, vegetation communities, and native wildlife within: • La Sal Zones 1 and 3 (13,270 acres) • Monitor-Potter-Roubideau Zones 5, 6, 7, 10, and 11 (10,880 acres)	**Action:** Designate the following 177,700 acres as ecological emphasis areas (Figure 2-4, Appendix A) and manage to preserve the continuity of habitats, vegetation communities, and native wildlife within, while following vegetation mosaic objectives: • Adobe Zones 1, 3, and 4 (24,170 acres) • Dry Creek Zones 1-3 (10,790 acres)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	and waterfowl • Crucial habitats for nongame species of special interest or concern to state and other federal agencies (BLM 1985) Comply with the FLPMA to maintain, enhance, and protect fish habitat on public lands. Manage 2,500 acres in Camel Back Ridge and Upper Roubideau Creek drainages along the southeastern portion of the Camel Back WSA to maintain the area's capability to support wintering deer, elk, and bighorn sheep.	11 (27,320 acres) • Naturita Canyon Zones 1- 4 (15,620 acres) • Ridgway Zones 1-4 (16,700 acres) • San Miguel Zones 1-7 (25,520 acres) • Sims Mesa (19,650 acres) • Spring Canyon (3,380 acres) • Tabeguache Zones 1-10 (31,540 acres) • Terror Creek (2,230 acres) (Refer to Appendix D, Ecological Emphasis Areas, for an explanation of these areas.)	(Refer to Appendix D, Ecological Emphasis Areas, for an explanation of these areas.)	• Jumbo Mountain/McDonald Creek Zones 1-4 (15,630 acres) • La Sal Zones 1-3 (22,350 acres) • Monitor-Potter-Roubideau Zones 1-11 (27,320 acres) • Naturita Canyon Zone 1 (1,510 acres) • Ridgway Zones 1 and 2 (9,070 acres) • San Miguel Zones 1, 2, 3, 5, and 7 (17,840 acres) • Sims Mesa (19,650 acres) • Spring Canyon (3,380 acres) • Tabeguache Zones 1, 2, 4, 5, 6, 9, and 10 (23,760 acres) • Terror Creek (2,230 acres) (Refer to Appendix D, Ecological Emphasis Areas, for an explanation of these areas.)
104.	**Action:** No similar action in current RMPs.	**Action:** Manage portions of the following ecological emphasis areas, totaling 186,080 acres, as ROW exclusion areas: • Adobe Zone 1 (11,480 acres) • Dry Creek Zones 1-4 (14,310 acres) • Jumbo Mountain/McDonald Creek	**Action:** Manage all ecological emphasis areas totaling 24,150 acres as ROW avoidance.	**Action:** Manage all ecological emphasis areas totaling 177,700 acres as ROW avoidance areas.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Zones 1-4 (15,630 acres) • La Sal Zones 1-3 (22,350 acres) • Monitor-Potter-Roubideau Zones 1-11 (27,320 acres) • Naturita Canyon Zones 1-4 (15,620 acres) • Ridgway Zones 1-4 (16,700 acres) • San Miguel Zones 1-7 (25,520 acres) • Spring Canyon (3,380 acres) • Tabeguache Zones 1-10 (31,540 acres) • Terror Creek (2,230 acres) Manage portions of the following ecological emphasis areas, totaling 56,500 acres, as ROW avoidance: • Adobe Zones 2-4 (29,250 acres) • Dry Creek Zone 5 (6,000 acres) • Jumbo Mountain/McDonald Creek Zone 5 (1,600 acres) • Sims Mesa (19,650 acres)		
105.	Allowable Use: No similar allowable use in current RMPs, although this is partially addressed by other actions.	Allowable Use: **STIPULATION** NSO-20/SSR-17: *Ecological Emphasis Areas*. Prohibit surface occupancy and use and apply SSR restrictions within portions of ecological emphasis areas (207,320 acres): • Adobe Zone 1 (11,480 acres)	Allowable Use: **STIPULATION** CSU-17/ SSR-18: *Ecological Emphasis Areas*. Surface occupancy or use may be restricted and SSR restrictions applied within all ecological emphasis areas (24,150 acres). (Refer to Appendix B; Figures 2-22 and	Allowable Use: **STIPULATION** CSU-17/ SSR-18: *Ecological Emphasis Areas.* Surface occupancy or use may be restricted and SSR restrictions applied within all ecological emphasis areas (177,700 acres). (Refer to Appendix B; Figures 2-23 and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Dry Creek Zones 1-4 (14,310 acres) • Jumbo Mountain/McDonald Creek Zones 1-5 (17,220 acres) • La Sal Zones 1-3 (22,350 acres) • Monitor-Potter-Roubideau Zones 1-11 (27,320 acres) • Naturita Canyon Zones 1-4 (15,620 acres) • Ridgway Zones 1-4 (16,700 acres) • San Miguel Zones 1-7 (25,520 acres) • Sims Mesa (19,650 acres) • Spring Canyon (3,380 acres) • Tabeguache Zones 1-10 (31,540 acres) • Terror Creek (2,230 acres). (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.) Allowable Use: **STIPULATION** CSU-17/SSR-18: *Ecological Emphasis Areas*. Surface occupancy or use may be restricted and SSR restrictions applied within portions of ecological emphasis areas, (35,250 acres): • Adobe Zones 2-4 (29,250 acres) • Dry Creek Zone 5 (6,000 acres) (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	2-30, Appendix A.)	2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
106.	**Action:** Implement habitat improvement projects where necessary to stabilize and/or improve unsatisfactory or declining habitat conditions. Identify such projects through habitat management plans or coordinated resource management plans. On 51,680 acres (management unit 2), manage vegetation to improve the areas' capabilities to support wintering deer, elk, and bighorn sheep populations. Develop habitat management plans and design land treatment projects and other facilities to improve the quality and quantity of winter habitat (management unit 2; BLM 1989a). Maintain, improve, and enhance crucial habitats for	**Action:** Annually enhance or restore at least 500 acres of terrestrial habitat to benefit primarily native, nongame species, including birds, and to increase carrying capacity for native game species, emphasizing winter range and crucial habitat types.	**Action:** Annually treat at least 3,000 acres of terrestrial habitat to increase carrying capacity for game species, including game birds, emphasizing winter range and crucial habitat types.	**Action:** Restore, enhance, conserve, and promote aquatic and terrestrial species conservation and ecosystem integrity and values in consultation with the CPW. Emphasize the management of native species (mammals, reptiles, amphibians, birds, fish, invertebrates, and plants), including objectives and improvements for ensuring habitat diversity, productivity, viability, and natural processes throughout the ecosystem(s). Design land treatment projects and other facilities to improve the quality and quantity of wildlife habitats. Protect endangered species and migratory birds to the extent required by the Endangered Species Act and the Migratory Bird Treaty Act of 1918.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	nongame species of special interest or concern to state and other federal agencies (BLM 1985). Open the planning area to land treatments for wildlife and project facility development. Maintain existing wildlife facilities and land treatments (BLM 1989a). Maintain existing wildlife habitat projects on 121,710 acres (management unit 1; BLM 1989a). On 83,630 acres (management units 3, 5, 8, 9, 13-15), maintain existing wildlife habitat projects and develop new projects if they will not decrease the woodland base (BLM 1989a). In wildlife emphasis areas (22,410 acres) where livestock also graze, maintain an overall hiding cover-to-forage ratio of 40:60 for wildlife (BLM 1985).			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
107.	**Action:** Incorporate objectives to protect or improve aquatic habitat into allotment management plans and habitat management plans. Develop and implement needed habitat management plans and improvements, including monitoring plans. Habitat management plan development for aquatic species will be closely coordinated with CPW, the Forest Service, and, where appropriate, US DOI Fish and Wildlife Service (USFWS). Project development will require input from all resource programs to assess impacts through the environmental process (BLM 1985). Subject to the availability of manpower and funds to complete necessary wildlife habitat improvements on 23,100 acres (emphasis area B), manage the habitat for	**Action:** Develop a strategy with the CPW to achieve desired habitat conditions for native species and to achieve BLM Colorado Public Land Health Standards (BLM 1997; Appendix C). Review this strategy every five years.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	current levels of deer and elk (20,000 and 1,600, respectively). Consider wildlife reductions in localized areas if vegetation resource monitoring indicates the need to maintain use within the carrying capacity. Share the reductions with domestic livestock, depending on monitoring results (BLM 1985).			
108.	**Action:** On 51,680 acres (management unit 2), give wildlife priority for all additional forage made available as a result of BLM habitat improvement (BLM 1989a). Maintain wildlife forage allocations at current levels until studies determine adjustments are needed to achieve management directives. Divide additional forage allocations equally between wildlife and	**Action:** No similar action; this is addressed in the *Livestock Grazing* section.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	livestock grazing (management units 3, 5, 8, 9, 13-15; BLM 1989a).			
109.	**Action:** On crucial (now termed "severe and winter concentration areas") deer and elk winter range (17,370 acres), give wildlife priority for forage allocations (management unit 7; BLM 1989a).	**Action:** No similar action; this has been completed.		
110.	**Action:** Provide investments to enhance wildlife species that will benefit from uneven-aged timber management (emphasis area J; BLM 1985).	**Action:** No similar action; other actions address timber management.		
111.	*Terrestrial Wildlife – Big Game (Mule Deer, Elk, Pronghorn Antelope, Bighorn Sheep, Moose, Black Bear, Mountain Lion)* Note: Bighorn sheep include both Rocky Mountain and desert subspecies, unless otherwise designated as one or the other.			
112.	Allowable Use: **STIPULATION** TL-CO-9 (BLM 1991a): *Big Game Species (Mule Deer, Elk, Pronghorn Antelope, and Bighorn Sheep).* Prohibit surface occupancy in big game crucial winter habitat (now termed "severe and winter concentration	Allowable Use: **STIPULATION** TL-6: *Wildlife Big Game Winter*. Prohibit surface use and surface-disturbing and disruptive activities during the following time period(s) in big game crucial winter habitat as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and	Allowable Use: **STIPULATION** TL-7: *Wildlife Big Game Winter.* Prohibit surface use and surface-disturbing and disruptive activities during the following time period(s) in big game crucial winter habitat as mapped in the RMP, BLM's GIS database, or other maps	Allowable Use: **STIPULATION** TL-8: *Wildlife Big Game Winter.* Prohibit surface use and surface-disturbing and disruptive activities during the following time period(s) in big game crucial winter habitat as mapped in the RMP, BLM's GIS database, or other maps

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	areas"), including severe big game winter range or other definable winter ranges as mapped by the CPW, from December 1 to April 30. (Refer to Appendix B; Figure 2-24, Appendix A.)	accepted by the BLM: crucial winter range, severe winter range, and winter concentration areas. • Elk, mule deer, and pronghorn antelope: December 1 to April 30 • Moose: November 15 to May 30 • Rocky Mountain and desert bighorn sheep: November 1 to April 30 Some travel closures and restrictions may also apply in specific geographic areas. (Refer to Appendix B; Figure 2-25, Appendix A.)	provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: crucial winter range, severe winter range and winter concentration areas. • Elk and mule deer: January 1 to March 31 (Refer to Appendix B; Figure 2-26, Appendix A.)	provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: crucial winter range, severe winter range and winter concentration areas. • Elk, mule deer, pronghorn antelope, and moose: December 1 to April 30 • Rocky Mountain and desert bighorn sheep: November 1 to April 30 (Refer to Appendix B; Figure 2-27, Appendix A.)
113.	Allowable Use: **STIPULATION** TL (BLM 1991a): *Big Game Birthing Areas (by Species)*. Restrict surface-disturbing activities in the following areas: • Elk calving (now termed "production"): April 16 to June 30 (Stipulation: TL-CO-10 and TL-UB-05) • Pronghorn antelope fawning: May 1 to July 15 (Stipulation: TL-CO-11) • Rocky Mountain bighorn sheep lambing: May 1 to	Allowable Use: **STIPULATION** TL-9: *Wildlife Big Game Production.* Prohibit surface use and surface-disturbing and disruptive activities during the following time period(s) in big game production areas as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: • Elk: May 15 to June 30 • Pronghorn antelope: May 1 to July 15 • Rocky Mountain bighorn sheep: ○ May 1 to July 15 for lambing range	Allowable Use: **STIPULATION** TL-10: *Wildlife Big Game Production.* Prohibit surface use and surface-disturbing activities during the following time period in big game production areas as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: • Elk: May 15 to June 15. (Refer to Appendix B; Figure 2-26, Appendix A.)	Allowable Use: **STIPULATION** TL-11: *Wildlife Big Game Production.* Prohibit surface use and surface-disturbing and disruptive activities during the following time period(s) in big game production areas as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: • Elk, pronghorn antelope, Rocky Mountain bighorn

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	July 15 (Stipulation: TL-CO-12) • Desert bighorn sheep lambing: March 16 to May 30 (Stipulation: TL-CO-14) (Refer to Appendix B; Figure 2-24, Appendix A.)	○ October15 to December15 for rutting grounds • Desert bighorn sheep: ○ March 15 to June 15 for lambing range ○ August 1 to September 30 for rutting grounds • Moose: May 15 to July 15 Some travel closures and restrictions may also apply in specific geographic areas. (Refer to Appendix B; Figure 2-25, Appendix A.)			sheep, and moose: April 15 to June 30 • Desert bighorn sheep: February 1 to May 1 (Refer to Appendix B; Figure 2-27, Appendix A.)
114.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: No similar allowable use. (There would not be a similar stipulation within mule deer and elk habitat).	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-21: *Mule Deer and Elk Habitat.* Prohibit surface occupancy in mule deer and elk crucial winter range, including severe winter range and winter concentration areas, and in elk reproduction	Allowable Use: No similar allowable use. (There would not be a similar stipulation within mule deer and elk habitat).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		areas. Also prohibit surface occupancy in big game migration corridors. (Refer to Appendix B; Figure 2-21, Appendix A.)		
115.	**Action:** To protect elk calving areas, prohibit motorized and mechanized travel from May 15 to June 15 in the Storm King area.	**Action:** To protect elk calving areas, prohibit motorized and mechanized travel from April 15 to June 30 in elk production/calving areas. Add other areas as appropriate through future site-specific travel management analyses. Where needed, extend seasonal closures to include pedestrian or equestrian traffic.	**Action:** To protect elk calving areas, prohibit motorized and mechanized travel from May 15 to June 15 in elk production/calving areas. Add other areas, as appropriate, through future site-specific travel management analyses. Where needed, extend seasonal closures to include pedestrian or equestrian traffic.	**Action:** No similar action (there would not be similar motorized or mechanized restrictions in elk calving areas).
116.	**Action:** Transplant bighorn sheep into the Winter Mesa area if they will not conflict with livestock. The objective is to reestablish this species in	**Action:** Allow for restoring wild sheep populations in suitable and historic wild sheep habitat not currently stocked with domestic sheep and goats.	**Action:** No similar action. (Restoration of wild sheep would not be pursued.)	**Action:** Allow for restoring wild sheep populations in areas where 1) the Domestic/Bighorn Sheep Probability of Interaction Assessment depicts existing

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	historically occupied habitat, increase total population numbers, and ensure species viability in the region (management unit 1; BLM 1989a).			sheep allotments are not at a high or moderate risk for disease transmission and 2) in suitable and historic wild sheep habitat not currently stocked with domestic sheep and goats.
117.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-18/SSR-19: *Desert and Rocky Mountain Bighorn Sheep Summer Range.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied to reduce impacts of surface-disturbing activities and operations on bighorn sheep summer range. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a stipulation.)	Allowable Use: Same as Alternative B. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
118.	Refer to the *Livestock Grazing* section for information on domestic sheep grazing.			
119.	**Action:** Allow for introduction of bighorn sheep and river otters in Dolores River and the Dolores River Canyon WSA (emphasis areas C and D; BLM 1985).	**Action:** No similar action; this is addressed by other actions.		
120.	**Action:** In big game winter range (emphasis area B), limit the width of vegetation openings	**Action:** No similar action; this is addressed by other actions (a habitat management strategy and vegetation mosaic objectives would be developed from other actions).		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	to approximately 150 to 200 yards (BLM 1985).			
121.	*Terrestrial Wildlife – Raptors*			
122.	Refer to the *Special Terrestrial Wildlife – Raptors* section.			
123.	*Terrestrial Wildlife – Upland Game Birds (Wild Turkeys)*			
124.	Allowable Use: No similar allowable use in current RMPs, although this is partially addressed for some species, areas, or situations.	Allowable Use: **STIPULATION** TL-12: *Wildlife Turkey.* Prohibit surface use and surface-disturbing and disruptive activities within wild turkey habitat as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM during the following time period): • Wild turkey winter habitat from December 1 to April 1. (Refer to Appendix B; Figure 2-25, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a TL stipulation.)	Allowable Use: Same as Alternative B. (Refer to Appendix B; Figure 2-27, Appendix A.)
125.	*Terrestrial Wildlife – Migratory Birds*			
126.	**Action:** No similar action in current RMPs.	**Action:** Use adaptive management to conserve and avoid impacts on populations of Birds of Conservation Concern, Partners-in-Flight priority species, and other species of concern.		
127.	Allowable Use: Avoid large-scale disrupting land use activities, such as surface disturbance, from May 15 to July 15 in migratory bird habitats. Focus these protection	Allowable Use: **STIPULATION** TL-13: *Wildlife Migratory Bird.* Prohibit surface use and surface-disturbing and disruptive activities, including vegetation-altering projects, on lands where nesting migratory birds are present during the	Allowable Use: No similar allowable use. (There would not be a TL stipulation.)	Allowable Use: Same as Alternative B. (Refer to Appendix B; Figure 2-27, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	efforts on USFWS Birds of Conservation Concern.	following time period: April 1 to July 15. (Refer to Appendix B; Figure 2-25, Appendix A.)		
128.	**Action:** No similar action in current RMPs.	**Action:** Apply appropriate restrictions and mitigation to minimize impacts on migratory birds. Focus these protection efforts on USFWS Birds of Conservation Concern, Partners-in-Flight species, and other conservation priority habitats. This is to protect breeding and nesting migratory bird species and to comply with the Migratory Bird Treaty Act of 1918.		
129.	**SPECIAL STATUS SPECIES**			
130.	*SPECIAL STATUS SPECIES – GENERAL*			
131.	**GOAL:** Protect and enhance special status species and habitats to promote their conservation, recovery, and persistence.			
132.	**Objective:** Maintain or improve historically occupied or potentially suitable threatened and endangered species habitat. Maintain or improve habitat for sensitive plant species and wildlife species of high federal interest (emphasis area A; BLM 1985). Require in all land use activity plans measures designed to protect threatened and endangered species and their habitat (BLM 1989a).	**Objective:** Restore and enhance special status species and habitats. Preserve and promote special status species conservation. Prohibit any activity that would have measurable impacts on subpopulations, populations, or habitats over the short or long term. Prohibit land use activities in specific areas. Manage all federally threatened, endangered, candidate, and BLM sensitive species as key/priority species.	**Objective:** Maintain special status terrestrial and aquatic species populations and habitats. Maintain special status plant populations and habitats while maximizing land use activities and commodity production. Provide reasonable exceptions to restrictions to facilitate land use and development. Manage all federally threatened, endangered, and candidate species as key/priority species.	**Objective:** Restore, enhance, preserve, and promote special status species (aquatic and terrestrial) conservation and ecosystem integrity and values. Emphasis is on special status species habitat and population (mammals, reptiles, amphibians, birds, fish, invertebrates and plants) management, including objectives and improvements for ensuring population and habitat diversity, productivity, viability, and natural processes throughout the ecosystem(s).

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Protect, maintain, and enhance crucial habitats for nongame species of special interest or concern to state and other federal agencies (BLM 1985).			Design land treatment projects and other facilities to improve the quality and quantity of special status species (aquatic and terrestrial) habitats. Protect endangered species and migratory birds to the extent required by the Endangered Species Act and the Migratory Bird Treaty Act of 1918.
133.	**Action:** No similar action in current RMPs.	**Action:** Recognize the following as key/priority habitats for special status terrestrial wildlife: • Major perennial rivers • Mixed conifer and aspen • Riparian areas • Salt-desert • Sagebrush • Cliff and canyon areas Recognize the following priority habitats for special status fish and aquatic wildlife: • Perennial water sources • Riparian areas • Intermittent streams and ponds	**Action:** Recognize the following as key/priority habitats for special status terrestrial wildlife: • Major perennial rivers • Riparian areas Recognize the following priority habitats for fish and aquatic wildlife: • Perennial water sources • Riparian areas	**Action:** Recognize the following as key/priority habitats for special status terrestrial wildlife: • USFWS-designated critical habitats • Occupied and suitable habitat for USFWS endangered, threatened, proposed and candidate species • Occupied and suitable habitat for BLM sensitive species

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Ephemeral/seasonal waters Recognize USFWS-designated critical habitats as key/priority areas.		
134.	**Action:** Allow authorization of supplemental releases and reintroduction of federal and state-listed endangered, threatened, and candidate species following environmental analysis and consultation with USFWS, CPW, and other affected parties (emphasis area A; BLM 1989a).	**Action:** No similar action (allowed by policy and law).		
135.	**Action:** No similar action in current RMPs.	**Action:** Pursue opportunities to enhance, protect, or restore federally threatened and endangered species habitats, including structural and vegetation improvements.	**Action:** Pursue opportunities to improve habitat, including structural and vegetation improvements, to benefit primarily game species and popular fisheries. Consider projects that would also enhance nongame species.	**Action:** Pursue opportunities to enhance, protect, or restore federally threatened and endangered species habitats.
136.	**Action:** Maintain species of special importance to maintain viable population levels (emphasis area L; BLM 1989a).	**Action:** Manage for sensitive species that are recognized by the State but not the BLM, endemic, rare, or imperiled species or those species otherwise	**Action:** No similar action. (Sensitive species are not a key/priority species under this alternative.)	**Action:** Promote BLM-sensitive species conservation to reduce the likelihood and need for species to be listed

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		important to achieve resource goals and to prevent the need to protect them under BLM sensitive species designation or federal listing.		pursuant to the Endangered Species Act (BLM Manual 6840).
137.	Allowable Use: **LEASE NOTICE** LN-CO-34 (BLM 1991a): *Endangered Species Act Section 7 Consultation*. The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened or endangered or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid a BLM-approved activity that would contribute to a need to list such a species or its habitat. The BLM may require modifications to or may disapprove proposed activity that is likely to jeopardize the continued existence of a proposed or listed	**Action:** Attach the following standard stipulations to any BLM-issued permit in which there may be surface-disturbing activities: • To avoid impacts on federally listed threatened, endangered, proposed, or candidate species or designated critical habitat and BLM special status species: project proponents, lessees, operators, and ROW holders must contact the BLM before any surface-disturbing activities. Additional inventories may be required to ensure that there are no protected species on the proposed disturbance sites. The BLM may recommend, require modifications to, or disapprove proposed activities to avoid an activity that may affect a federally listed or BLM-sensitive species. Modification or disapproval may also be required on a proposed activity that is likely to jeopardize the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. This could include completion of any required conference or consultation with USFWS.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 United States Code (USC) 1531, et seq., including completion of any required procedure for conference or consultation. (Refer to Appendix B.) Allowable Use: **LEASE NOTICE** LN-UFO-2: *Special Status Plants*. The lease area is known to contain populations of endangered plants and may hereafter contain other species protected under the Endangered Species Act or other special status species.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	To avoid impacts on endangered, threatened, proposed species, designated critical habitat, or BLM special status species, lessees must contact the UFO before any surface activities associated with this lease. The lessee may also be required to conduct additional inventories to ensure that there are no protected species on the proposed disturbance sites. The BLM may recommend modifications to exploration and development proposals to avoid impacts on any species listed under the Endangered Species Act or proposed for listing under the Endangered Species Act or designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	requirements of the Endangered Species Act, as amended, 16 USC 1531 et seq. This could include completing any required conference or consultation with the USFWS. Additionally, project modifications may be required to avoid impacts on BLM-sensitive species. (Refer to Appendix B.)			
138.	**Action:** Conduct on-site biological surveys by qualified individuals (BLM 1991a).	**Action:** To protect key wildlife species, special status species, and their habitats, surveys conducted by qualified individuals may be required during the period appropriate to the species and before surface disturbance, habitat treatments, or similar activities.		
139.	**Action:** No similar action in current RMPs.	**Action:** Designate occupied habitat of known populations of federally threatened and endangered species as ROW exclusion.	**Action:** Designate occupied habitat of known populations of federally threatened and endangered species as ROW avoidance. Surveys may be required before surface disturbance.	
140.	*SPECIAL STATUS PLANTS*			
141.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: Close all federally threatened, endangered, proposed, and candidate plant species' occupied habitat (plant with a 200 meter/656 foot buffer) to mineral materials disposal and nonenergy solid mineral leasing.	Allowable Use: Close all federally threatened, endangered, and proposed plant species' occupied habitat (plant with a 200 meter/656 foot buffer) to mineral materials disposal and nonenergy solid mineral leasing.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
142.	Allowable Use: Promote BLM-sensitive plant conservation and reduce the likelihood and need for species to be listed pursuant to the Endangered Species Act (BLM Manual 6840).	Allowable Use: Prohibit any land use that would damage, injure, or remove a sensitive plant element occurrence or subpopulation. Also prohibit any activity that would detrimentally alter connectivity between subpopulations.	Allowable Use: Prohibit any land use activity that would damage, injure, or remove more than 10 percent of a sensitive plant element occurrence or subpopulation, either by total number of individual plants or acres of occupied habitat within the activity area. Prohibit more than 10 percent cumulative disturbance of sensitive plant element occurrences or subpopulations at any one time.	Allowable Use: **STIPULATION** CSU-19/ SSR-20: *BLM Sensitive Plant Species.* Surface occupancy or use may be restricted and SSR restrictions applied within 100 meters (328 feet) of BLM-sensitive plant species. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Prior to authorizing activities in this area, the operator may be required to submit a plan of development that would demonstrate that habitat would be preserved to maintain sensitive plant species. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
143.	Allowable Use: **STIPULATION** NSO-UB-2 (BLM 1989a): *Threatened, Endangered, Candidate, and Sensitive Plant Areas.* Prohibit surface occupancy in the Fairview South	Allowable Use: **STIPULATION** NSO-22/NGD-8: *Plant ESA-Listed Species.* Prohibit surface occupancy and use and apply NGD restrictions within a 200-meter (656-foot) buffer of the edge of habitat of federally listed, proposed, or	Allowable Use: No similar allowable use. (There would not be a stipulation.)	Allowable Use: **STIPULATION** CSU-20/ SSR-21: *Plant ESA-Listed Species.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	ACEC/Research Natural Area to protect the threatened, endangered, candidate, and sensitive plants and their potential habitat. (Refer to Appendix B; Figure 2-19, Appendix A.) **STIPULATION** NSO-CO-8 (BLM 1991a): *Special Status Plant Species*. Prohibit surface occupancy in special status plant species habitat (including federally listed and proposed species for listing and candidate species). (Refer to Appendix B; Figure 2-19, Appendix A.)	candidate threatened or endangered plant species as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)		habitat for federally listed, proposed, or candidate threatened or endangered plant species as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of habitat may be required before drilling and construction may commence. The operator may be required to submit a plan of development that demonstrates how the proposed activities will avoid or minimize disruption of threatened and endangered species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling,

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				completion, and utility installation). The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species, result in the destruction or adverse modification of designated or proposed critical habitat, or contribute to a need to list a proposed or candidate threatened and endangered species. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, including completion of any required procedure for conference or consultation. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
144.	**Action:** Protect sensitive plant species in the Coyote Wash area of Dolores Canyon (emphasis area D; BLM 1985).	**Action:** No similar action; this is addressed by other actions that protect sensitive plants.		
145.	*SPECIAL STATUS FISH AND AQUATIC WILDLIFE*			
146.	**Action:** No similar action in current RMPs.	**Action:** Partner with CPW, Forest Service, USFWS, and others to remove nonnative trout and other fishes from occupied native cutthroat trout habitat.	**Action:** No similar action. (Nonnative trout and other fishes would not be removed from occupied native cutthroat trout habitat.)	**Action:** Same as Alternative B.
147.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-23/NGD-9: *Wildlife ESA-Listed Species (Occupied Federally Listed Fish Habitat).* Prohibit surface occupancy and use and apply NGD restrictions within 1.0 mile of federally listed fish occupied habitat as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a stipulation.)	Allowable Use: **STIPULATION** NSO-24/ SSR-22: *Wildlife ESA-Listed Species (Occupied Federally Listed Fish Habitat).* Prohibit surface occupancy and use and apply SSR restrictions within 2,500 feet of the ordinary high-water mark of the Lower Gunnison River, below the confluence with the Uncompahgre River, along occupied federally listed fish habitat. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
148.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: **STIPULATION** CSU-21/SSR-23: *Occupied Native Cutthroat Trout Habitat.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within 0.25-mile of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-25: *Occupied Native Cutthroat Trout Habitat.* Prohibit surface occupancy within 0.50-mile of stream segments occupied by native cutthroat trout. (Refer to Appendix B; Figure 2-21, Appendix A.)	Allowable Use: **STIPULATION** CSU-22/ SSR-24: *Occupied Native Cutthroat Trout Habitat.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within 500 feet of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-26/ SSR-25: *Occupied Native Cutthroat Trout Habitat.* Prohibit surface occupancy and use and apply SSR restrictions within 325 feet of the edge of the ordinary high-water mark (bank-full stage) of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) Allowable Use: **STIPULATION** CSU-23/ SSR-26: *Occupied Native Cutthroat Trout Habitat.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied between 325 and 500 feet from occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
149.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: No similar allowable use. (There would not be a similar stipulation for northern leopard frog).	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-27: *Northern Leopard Frog Breeding Sites.* Prohibit surface-occupancy within 0.25-mile of northern leopard frog breeding sites. (Refer to Appendix B; Figure 2-21, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a similar stipulation for northern leopard frog).	
150.	*SPECIAL STATUS TERRESTRIAL WILDLIFE*				
151.	**Action:** Develop habitat management plans for key species and their related habitat. Several key habitats in which plans might be developed are winter raptor concentration areas, aquatic/riparian habitats, and threatened and endangered species habitat. Closely coordinate development of habitat	**Action:** No similar action; this is addressed by the Objective.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	management plans for terrestrial and aquatic species with CPW, Forest Service, and, where appropriate, USFWS (BLM 1985).			
152.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-28/NGD-10: *Wildlife ESA-Listed Species (Wildlife and Bird Species' Occupied Habitat).* Prohibit surface occupancy and use and apply NGD restrictions within habitat for federally listed wildlife and bird species, except for Canada lynx and yellow-billed cuckoo, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: **STIPULATION** CSU-24/ SSR-27: *Wildlife ESA-Listed Species (Wildlife and Bird Species' Occupied Habitat).* Surface occupancy or use may be restricted or prohibited within habitat for federally listed, proposed, or candidate threatened or endangered wildlife and bird species (except for Canada lynx), as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of	Allowable Use: **STIPULATION** NSO-29/ SSR-28: *Federally Wildlife ESA-Listed Species (Wildlife and Bird Species' Occupied Habitat).* Prohibit surface occupancy and use and apply SSR restrictions within habitat for federally listed, proposed, or candidate threatened or endangered wildlife and bird species, except for Canada lynx, Mexican spotted owl, and yellow-billed cuckoo, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			habitat may be required before drilling and construction may commence. The operator may be required to submit a plan of development that demonstrates how the proposed activities will avoid or minimize disruption of threatened and endangered species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species, result in the destruction or adverse modification of designated or proposed critical habitat, or contribute to a need to list a proposed or candidate threatened and endangered species. The BLM will not	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, including completion of any required procedure for conference or consultation. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	
153.	*Special Status Terrestrial Wildlife – Yellow-Billed Cuckoo*			
154.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-30/ NGD-11: *Wildlife ESA-Listed Species (Yellow-Billed Cuckoo Habitat)*. Prohibit surface occupancy and use and apply NGD restrictions in yellow-billed cuckoo habitat. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: **STIPULATION** TL-14: *Yellow-Billed Cuckoo Habitat*. Prohibit surface occupancy and surface-disturbing activities within 100 meters (328 feet) of yellow-billed cuckoo habitat within riparian areas from May 15 to August 5. (Refer to Appendix B; Figure 2-26, Appendix A.)	Allowable Use: **STIPULATION** CSU-25/ SSR-29: *Wildlife ESA-Listed Species (Yellow-Billed Cuckoo Habitat)*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within habitat for the following federally listed, proposed, or candidate threatened or endangered wildlife species, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: within yellow-billed

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				cuckoo habitat. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of habitat may be required before drilling and construction may commence. The operator may be required to submit a plan of development that demonstrates how the proposed activities will avoid or minimize disruption of threatened and endangered species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				endangered species, result in the destruction or adverse modification of designated or proposed critical habitat, or contribute to a need to list a proposed or candidate threatened and endangered species. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, including completion of any required procedure for conference or consultation. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
155.	*Special Status Terrestrial Wildlife – Desert Bighorn Sheep*			
156.	Refer to the *Terrestrial Wildlife – Big Game (Mule Deer, Elk, Pronghorn Antelope, Bighorn Sheep, Moose, Black Bear, Mountain Lion)* section.			
157.	**Action:** Make habitat available in the Camel Back-Roubideau Creek area for possible introduction of desert bighorn sheep to increase population numbers and genetic diversity	**Action:** No similar action; this action has been completed.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	(management unit 1; BLM 1989a).			
158.	*Special Status Terrestrial Wildlife – Canada Lynx*			
159.	**Action:** No similar action in current RMPs.	**Action:** Follow management actions from the most current Lynx Management Plan approved by USFWS.		
160.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-26/SSR-30: *Wildlife ESA-Listed Species (Canada Lynx Habitat)*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within habitat for the following federally listed, proposed, or candidate threatened or endangered wildlife species, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: in mapped or identified Canada lynx habitat in Lynx Analysis Units and to any activities that would negatively alter connectivity between and within Lynx Analysis Units. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of habitat may be required before drilling and construction may	Allowable Use: No similar allowable use. (There would not be a stipulation.)	Allowable Use: **STIPULATION:** CSU-27/ SSR-31: *Wildlife ESA-Listed Species (Canada Lynx Habitat)*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within habitat for the following federally listed, proposed, or candidate threatened or endangered wildlife species, as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM: in mapped or identified Lynx Linkage Corridors and Canada lynx habitat within Lynx Analysis Units and to any activities that would negatively alter connectivity between and within Lynx Analysis

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		commence. The operator may be required to submit a plan of development that demonstrates how the proposed activities will avoid or minimize disruption of threatened and endangered species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species, result in the destruction or adverse modification of designated or proposed critical habitat, or contribute to a need to list a proposed or candidate threatened and endangered species. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, including completion of any required procedure for conference or consultation. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)		Units. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of habitat may be required before drilling and construction may commence. The operator may be required to submit a plan of development that demonstrates how the proposed activities will avoid or minimize disruption of threatened and endangered species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				endangered species, result in the destruction or adverse modification of designated or proposed critical habitat, or contribute to a need to list a proposed or candidate threatened and endangered species. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, including completion of any required procedure for conference or consultation. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
161.	*Special Status Terrestrial Wildlife – Gunnison Sage-Grouse*			
162.	Allowable Use: **STIPULATION** TL-CO-15 (BLM 1991a): *Grouse.* Prohibit surface occupancy and surface-disturbing activities in grouse (sage-grouse and mountain sharp-tailed grouse) crucial winter habitat (now termed "severe and winter concentration	Allowable Use: **STIPULATION** TL-15: *Gunnison Sage-Grouse Winter Habitat.* Prohibit surface use and surface-disturbing and disruptive activities within occupied winter habitat for Gunnison sage-grouse from October 1 to March 15. If winter habitats are not mapped or identified, this stipulation would apply to the entire area within 6.0 miles of	Allowable Use: No similar allowable use. (There would not be a TL stipulation.)	Allowable Use: **STIPULATION** TL-16: *Gunnison Sage-Grouse Winter Habitat.* Prohibit surface use and surface-disturbing and disruptive activities in mapped important Gunnison sage-grouse winter range, as defined by the BLM and CPW, from December 1 to March

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	areas") from December 16 to March 15. (Refer to Appendix B; Figure 2-24, Appendix A.)	leks (courtship areas). (Refer to Appendix B; Figure 2-25, Appendix A.)		15. (Refer to Appendix B; Figure 2-27, Appendix A.)
163.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** TL-17: *Gunnison Sage-Grouse Breeding (Non-lek) Habitat.* Prohibit surface use and surface-disturbing and disruptive activities within 6.0 miles of Gunnison sage-grouse leks from March 1 to June 30. (Refer to Appendix B; Figure 2-25, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a TL.)	Allowable Use: **STIPULATION** TL-18: *Gunnison Sage-Grouse Breeding (Lek and Non-Lek) Habitat.* Prohibit surface use and surface-disturbing and disruptive activities in suitable habitat that is within mapped nesting habitat or within 4.0 miles of active Gunnison sage-grouse leks (if nesting habitat is not mapped) from March 1 to June 30. (Refer to Appendix B; Figure 2-27, Appendix A.)
164.	Allowable Use: **STIPULATION** NSO-CO-2 (BLM 1991a): *Grouse.* Prohibit surface occupancy within a 0.25-mile radius of a lek site for grouse (sage-grouse, mountain sharp-tailed grouse, and lesser and greater prairie chickens). (Refer to Appendix B; Figure 2-19, Appendix A.)	Allowable Use: **NO LEASING** NL-10: *Gunnison Sage-Grouse Critical Habitat and Breeding (Lek) Habitat.* Close to fluid mineral leasing and geophysical exploration all Gunnison sage-grouse critical habitat and all Gunnison sage-grouse lek habitat (lek area plus a 0.6-mile radius). When existing leases expire, do not offer to lease Gunnison sage-grouse critical habitat, as defined by BLM,	Allowable Use: **STIPULATION** NSO-31/SSR-32: *Gunnison Sage-Grouse Breeding (Lek) Habitat.* Prohibit surface occupancy and use and apply SSR restrictions in Gunnison sage-grouse lek habitat (lek area plus a 0.6-mile radius). (Refer to Appendix B; Figures 2-22 and 2-30 [Alternative C] and 2-23 and 2-31 [Alternative D], Appendix A.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		CPW, and USFWS. (Refer to Appendix B; Figure 2-20, Appendix A.)			
165.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NGD-12: *Gunnison Sage-Grouse Breeding (Lek) Habitat.* Prohibit surface-disturbing activities in all Gunnison sage-grouse lek habitat (lek area plus a 0.6-mile radius), as defined by BLM and CPW. (Refer to Appendix B; Figure 2-29, Appendix A.)			
166.	Allowable Use: **LEASE NOTICE** LN-CO-30 (BLM 1991a): *Grouse*. In order to protect nesting grouse species, surface-disturbing activities proposed from March 1 to June 30 will be relocated, consistent with lease rights granted and Section 6 of standard lease terms, out of grouse nesting habitat. Sage-grouse nesting habitat is described as sage stands with sagebrush plants between 30 and 100 centimeters in height and a mean canopy cover between 15 and 40 percent (BLM	**Alternative B:** Allowable Use: **NO LEASING** NL-10: *Gunnison Sage-grouse Critical Habitat and Breeding (Lek) Habitat.* (See NL-10, above.) **STIPULATION** NSO-32/NGD-13: *Gunnison Sage-grouse Breeding (Non-Lek) Habitat.* Prohibit surface occupancy and use and apply NGD restrictions within 4.0 miles	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-33: *Gunnison Sage-grouse Habitat.* Prohibit surface occupancy within 4.0 miles of any known lek, and within mapped Gunnison sage-grouse breeding, summer, and winter habitat outside of the 4.0-mile buffer. (Refer to	Allowable Use: **STIPULATION** CSU-28/ SSR-33: *Gunnison Sage-Grouse Breeding (Non-Lek) Habitat.* Surface occupancy or use may be restricted and SSR restrictions applied in suitable habitat that is within 4.0 miles of an active lek or within mapped Gunnison sage-grouse nesting and early brood-rearing habitat. To the degree possible, avoid construction of permanent structures or facilities. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** CSU-29/ SSR-34: *Gunnison Sage-Grouse Breeding (Non-Lek) Habitat.* Surface occupancy or use may be restricted and SSR restrictions applied in suitable habitat that is within 4.0 miles of a lek to protect Gunnison sage-grouse mapped seasonal habitats (non-lek breeding, late brood-rearing, and winter habitat) or suitable sagebrush habitat. Conservation measures may be imposed as necessary to maintain high-quality Gunnison sage-grouse habitat, reduce fragmentation or loss of

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	1991a). (Refer to Appendix B.)	of an active lek or within mapped Gunnison sage-grouse nesting and early brood-rearing habitat. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Appendix B; Figure 2-21, Appendix A.)		habitat within or between population areas, reduce cumulative effects within population areas, and reduce disturbance to sage-grouse use in the area. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
167.	**Action:** No similar action in current RMPs.	**Action:** Manage Gunnison sage-grouse lek habitat (lek area plus 0.6-mile radius) and critical habitat as ROW exclusion (12,840 acres).		**Action:** No similar action.	**Action**: Manage Gunnison sage-grouse lek habitat (lek area plus 0.6-mile radius) (1,330 acres) as ROW avoidance.
168.	*Raptors*				
169.	This section includes both special status raptors and non-special status raptors (from the *Terrestrial Wildlife – Raptors* section). Special status raptors, including Birds of Conservation Concern, are Mexican spotted owl, peregrine falcon, northern goshawk, ferruginous hawk, burrowing owl, bald eagle, golden eagle, prairie falcon, and flammulated owl. Non-special status raptors are American kestrel, osprey, red-tailed hawk, Swainson's hawk, Cooper's hawk, sharp-shinned hawk, rough-legged hawk, northern harrier, merlin, barn owl, boreal owl, northern pygmy owl, northern saw-whet owl, short-eared owl, western screech owl, and great-horned owl.				
170.	Allowable Use: **STIPULATION** TL-CO-18 (BLM 1991a): *Raptor Nesting and Fledgling Habitat (Golden Eagle, Accipiters, Falcons*	Allowable Use: **STIPULATION** TL-19: *Raptor Breeding and Nesting Sites.* Prohibit surface use and surface-disturbing and disruptive activities as follows:		Allowable Use: No similar allowable use. (There would not be a TL stipulation.)	Allowable Use: **STIPULATION** TL-20: *Wildlife Sensitive Raptor Nest.* Prohibit surface use and surface-disturbing and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	[except the Kestrel], Buteos, and Owls). Prohibit surface occupancy and use within 0.25-mile of a nest site from February 1 to August 15. (Refer to Appendix B; Figure 2-24, Appendix A.) Allowable Use: **STIPULATION** TL-CO-20 (BLM 1991a): *Osprey Nesting and Fledgling Habitat*. April 1 to August 31. The sensitivity of osprey to human associated disturbance activities requires a half-mile buffer zone to avoid nest abandonment. (Refer to Appendix B; Figure 2-24, Appendix A.) Allowable Use: **STIPULATION** TL-CO-22 (BLM 1991a): *Bald Eagle Nesting Habitat*. Prohibit surface use within 0.5-mile of a nest site from December 15 to June 15. (Refer to Appendix B; Figure 2-24, Appendix A.)	• Special Status Raptors: Within 0.5-mile of active special status raptor nest sites and associated alternate nests from nest territory establishment to dispersal of young from nest (see Appendix B, Table B-8, Raptor Species Breeding Periods) • Non-Special Status Raptors (*except American kestrel*): Within 0.25-mile of active raptor nest sites and associated alternate nests from nest territory establishment to dispersal of young from nest (see Appendix B, Table B-8, Raptor Species Breeding Periods) (Refer to Appendix B; Figure 2-25, Appendix A.)		disruptive activities within an 805-meter (0.50-mile) radius of active raptor nests as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM, during the following time periods, or until fledging and dispersal of young: • Bald Eagle: November 15 to July 31 • Golden Eagle: December 15 to July 15 • Ferruginous Hawk: February 1 to August 15 • Peregrine and Prairie Falcon: March 15 to July 31 • Northern Goshawk: March 1 to August 31 • Burrowing Owl: March 15 to August 15 *Wildlife Raptor Nest*. Prohibit surface use within a 402-meter (0.25-mile) radius of active raptor nests as mapped in the RMP, BLM's GIS database, or other maps

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	Allowable Use: **STIPULATION** TL-CO-24 (BLM 1991a): *Peregrine Falcon Cliff Nesting Complex*. Prohibit surface use within 0.5-mile of peregrine falcon cliff nesting complex from March 16 to July 31. (Refer to Appendix B; Figure 2-24, Appendix A.) Allowable Use: **STIPULATION** TL-CO-19 (BLM 1991a): *Ferruginous Hawk*. Prohibit use within 1.0 mile of nesting and fledgling habitat from February 1 to August 15. (Refer to Appendix B; Figure 2-24, Appendix A.)				provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM, during the following time period(s), or until fledging and dispersal of young: • Osprey: April 1 to August 31 • Red-Tailed Hawk: February 15 to August 15 • Swainson's Hawk, Cooper's Hawk, Sharp-Shinned Hawk, and Northern Harrier: April 1 to August 15 • Great Horned Owl: February 1 to August 15 • Other Owls and Raptors (Excluding Kestrel): March 1 to August 15 (Refer to Appendix B; Figure 2-27, Appendix A.)
171.	Allowable Use: **STIPULATION** NSO-CO-3 (BLM 1991a): *Raptors (Golden Eagle, Osprey, Accipiters, Falcons [Except Kestrel], Buteos, and Owls)*. Prohibit surface occupancy and use within 0.125-mile of	**Alternative B:** Allowable Use: **STIPULATION** NSO-34/NGD-14: *Raptor Nest Sites.* • Special Status Raptors:	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-35: *Bald Eagle, Golden Eagle, and*	Allowable Use: **STIPULATION** CSU-31: *Raptor Nest Sites.* • Special Status Raptors: Apply CSU restrictions within the following areas: ○ Bald Eagle: Within 0.25-mile of bald eagle roost or	Allowable Use: **STIPULATION** NSO-36/ SSR-36: *Raptor Nest Sites (Except Mexican Spotted Owl)*. Prohibit surface occupancy and use and apply SSR restrictions in the following areas:

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	nest sites. (Refer to Appendix B; Figure 2-19, Appendix A.) Allowable Use: **STIPULATION** NSO-CO-4 (BLM 1991a): *Bald Eagle*. Prohibit surface occupancy and use within 0.25-mile of bald eagle roost or nest sites. (Refer to Appendix B; Figure 2-19, Appendix A.) Allowable Use: **STIPULATION** NSO-CO-5 (BLM 1991a): *Peregrine Falcons.* Prohibit surface occupancy and use within 0.25-mile of cliff nesting complex. (Refer to Appendix B; Figure 2-19, Appendix A.)	Prohibit surface occupancy and surface-disturbing and disruptive activities within 0.25-mile of active/inactive special status raptor nest sites and associated alternate nests. • Non-Special Status Raptors (*except kestrel*): Prohibit surface occupancy and surface-disturbing and disruptive activities within 0.125-mile of active nest sites and associated alternate nests. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	*Peregrine Falcon Nest Sites.* Prohibit surface occupancy within 0.25-mile of any active or historic bald eagle or golden eagle nest site and within 0.50-mile of any active or historic peregrine falcon nest site. (Refer to Appendix B; Figure 2-21, Appendix A.)	nest sites ○ Golden Eagle, Osprey, Accipiters, Falcons (Except Kestrel), Buteos, and Owls: Within 0.125-mile of nest sites ○ Peregrine Falcons: Within 0.25-mile of cliff nesting complex • Non-Special Status Raptors identified in the Migratory Bird Treaty Act of 1918 (*Except American Kestrel, Red-Tailed Hawk, and Great-Horned Owl*): Within 330 feet of active nest sites and associated alternate nests. (Refer to Appendix B; Figure 2-22, Appendix A.)	• Bald Eagle: Within 0.25-mile of active and inactive nest sites or within 100 meters (328 feet) of abandoned nests (i.e., unoccupied for 5 consecutive years but with all or part of the nest remaining) • Golden Eagle: Within 0.25-mile of active and inactive nest sites or within 100 meters (328 feet) of abandoned nests (i.e., unoccupied for 5 consecutive years but with all or part of the nest remaining) • Ferruginous Hawk, Peregrine Falcon, Prairie Falcon, and Northern Goshawk: Within 0.50-mile of active and inactive nest sites • All other Special Status and Non-Special Status Raptors (except Mexican spotted owl): Within 0.25-mile of active and inactive nest sites (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		Allowable Use: **STIPULATION** CSU-30/SSR-35: *Raptor Breeding Habitat.* Apply CSU and SSR restrictions within the following areas: • Special Status Raptors (including Mexican spotted owl): Within 1.0 mile of nest sites. • Non-Special Status Raptors (except American kestrel): Within 0.5-mile of nest sites. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)			Allowable Use: **STIPULATION** CSU-32/ SSR-37: *Raptor Breeding Habitat (Accipiters, Falcons [Except Kestrel], Buteos, and Owls [Except Mexican Spotted Owl]).* Apply CSU and SSR restrictions within 1.0 mile of nest sites. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
172.	Allowable Use: **STIPULATION** TL-CO-23 (BLM 1991a): *Bald Eagle Winter Roost Sites*. Prohibit surface use within 0.5-mile of bald eagle winter roost sites from November 16 to April 15. (Refer to Appendix B; Figure 2-24, Appendix A.)	Allowable Use: **STIPULATION** NSO-37/NGD-15: *Bald Eagle Winter Roost Sites*. Prohibit surface occupancy and use and apply NGD restrictions are applied, within 0.5-mile of bald eagle winter roost sites. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar allowable use; this is addressed by CSU-31: *Raptor Nest Sites*.	Allowable Use: **STIPULATION** NSO-38/ SSR-38: *Bald Eagle Winter Roost Sites*. Prohibit surface occupancy and use and apply SSR restrictions within 0.25-mile of bald eagle winter roost sites. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) Allowable Use: **STIPULATION** TL-21: *Bald Eagle Winter Roost Sites.* Prohibit surface use and surface-disturbing activities within an 805-meter (0.50-mile) radius of an active bald eagle winter roost as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM, from November 15 to March 15. (Refer to Appendix B; Figure 2-27, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
173.	Allowable Use: **STIPULATION** TL-SJ-7 (BLM 1991a): *Bald Eagle Winter Concentration Areas*. Prohibit surface use from December 1 to April 15. (Refer to Appendix B; Figure 2-24, Appendix A.) **STIPULATION** TL-UB-3 (BLM 1989a): *Bald Eagle Winter Concentration Areas*. Prohibit development (e.g., exploration and drilling) from December 1 to April 30. (Refer to Appendix B; Figure 2-24, Appendix A.)	Allowable Use: **STIPULATION** CSU-33/SSR-39: *Bald Eagle Habitat (Winter Concentration and Communal Roosts)*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied in bald eagle habitat to protect winter concentration areas and communal roost sites. Incorporate applicable conservation measures from the USFWS National Bald Eagle Management Guidelines. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.) Allowable Use: **STIPULATION** TL-22: *Bald Eagle Winter Concentration Areas*. Prohibit surface use and surface-disturbing and disruptive activities within bald eagle winter concentration areas from November 15 to April 1. (Refer to Appendix B; Figure 2-25, Appendix A.)	Allowable Use: No similar allowable use; this is addressed by CSU-31: *Raptor Nest Sites*.	Allowable Use: **STIPULATION** CSU-33/ SSR-39: *Bald Eagle Habitat (Winter Concentration and Communal Roosts)*. Same as Alternative B. (Refer to Appendix B; Figures 2-23, 2-27, and 2-31, Appendix A.) Allowable Use: **STIPULATION** TL-22: *Bald Eagle Winter Concentration Areas*. Same as Alternative B. (Refer to Appendix B; Figure 2-27, Appendix A.)
174.	Allowable Use: **STIPULATION** TL-CO-21 (BLM 1991a): *Mexican Spotted Owl Nesting and Fledgling Habitat*. Prohibit surface use in core area of territory from February 1 to	Allowable Use: **STIPULATION** NSO-39/NGD-16: *Mexican Spotted Owl*. Prohibit surface occupancy and use and apply NGD restrictions within 1.0 mile of confirmed roost and nesting sites. (Refer to Appendix B; Figures 2-20	Allowable Use: No similar allowable use; this is addressed by CSU-31: *Raptor Nest Sites*.	Allowable Use: **STIPULATION** TL-23: Wildlife *Mexican Spotted Owl Timing Limitation (Suitable Breeding Habitat)*. Prohibit surface use and surface-disturbing and disruptive

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	July 31. Mexican spotted owl habitat is restricted by use of a timing limitation applied to core areas within the owl habitat territory. (Refer to Appendix B; Figure 2-24, Appendix A.) **STIPULATION** NSO-CO-6 (BLM 1991a): *Mexican Spotted Owl*. Prohibit surface occupancy and use within 0.25-mile of confirmed roost and nesting sites. (Refer to Appendix B; Figure 2-19, Appendix A.)	and 2-29, Appendix A.)		activities in mapped suitable Mexican spotted owl breeding habitat as mapped in the RMP, BLM's GIS database, or other maps provided by local, state, federal, or tribal agencies, including as defined in the Mexican spotted owl recovery plan, that are analyzed and accepted by the BLM, from March 1 to August 31. (Refer to Appendix B; Figure 2-27, Appendix A.) Allowable Use: **STIPULATION** CSU-34/ SSR-40: *Mexican Spotted Owl Suitable Breeding Habitat.* Surface occupancy or use may be restricted or prohibited, and SSR restrictions applied, to Mexican spotted owl breeding habitat as defined in the Mexican spotted owl recovery plan. Manage in accordance with the current Mexican spotted owl recovery plan. Field Manager may require the proponent/ applicant to submit a plan of

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				development that demonstrates that impacts on Mexican spotted owl habitat have been avoided to the extent practicable. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) Allowable Use: **STIPULATION** NSO-40/ SSR-41: *Mexican Spotted Owl.* Prohibit surface occupancy and use and apply SSR restrictions on lands identified as Protected Activity Centers for Mexican spotted owl. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
175.	*Special Status Terrestrial Wildlife – Gunnison's and White-Tailed Prairie Dog*			
176.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-41/NGD-17: *Wildlife BLM Sensitive Species (Gunnison and White-Tailed Prairie Dogs).* Prohibit surface occupancy and use and apply NGD restrictions within 150 feet of active prairie dog towns. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: **STIPULATION** NSO-42/ NGD-18: *Wildlife BLM Sensitive Species (Gunnison and White-Tailed Prairie Dogs).* Prohibit surface occupancy and surface-disturbing activities of more than 1.0 acre in active prairie dog towns that are less than 10 acres. Relocate these activities that require more	Allowable Use: **STIPULATION** CSU-35/ SSR-42: *Wildlife BLM Sensitive Species (Gunnison and White-Tailed Prairie Dogs).* Surface occupancy or use may be restricted and SSR restrictions applied within habitat for the following BLM sensitive wildlife species: Within 150 feet of active

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			than 1.0 acre so they are outside the active prairie dog town. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Gunnison and white-tailed prairie dog towns. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. The operator may be required to submit a plan of development that reduces or eliminates threats to BLM identified sensitive species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
177.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** TL-24: *Gunnison and White-Tailed Prairie Dog.* Prohibit surface use and surface-disturbing and disruptive activities within 300 feet of active prairie dog colonies from March 1 to July 15. (Refer to Appendix B; Figure 2-25, Appendix A.)	Allowable Use: No similar allowable use. (There would not be a TL.)	Allowable Use: **STIPULATION** TL-25: *Gunnison and White-Tailed Prairie Dog.* Prohibit surface use and surface-disturbing and disruptive activities within 300 feet of active prairie dog colonies from April 1 to July 15 to protect reproduction.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
				(Refer to Appendix B; Figure 2-27, Appendix A.)
178.	**Action:** No similar action in current RMPs.	**Action:** Designate prairie dog colonies with burrowing owls as "no shooting zones." Allow hunting in accordance with CPW regulations.	**Action:** No similar action. (Prairie dog colonies would not be "no shooting zones.")	
179.	**Action:** No similar action in current RMPs.	**Action:** In cooperation with CPW, develop and manage prairie dog release areas on BLM-administered lands where private interest groups could be permitted to relocate prairie dogs from areas threatened by development on private lands.	**Action:** No similar action. (Prairie dog release sites would not be developed on BLM-administered lands.)	
180.	*Special Status Terrestrial Wildlife – Kit Fox*			
181.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-36/SSR-43: *Wildlife BLM Sensitive Species (Active Kit Fox Dens).* Surface occupancy or use may be restricted and SSR restrictions applied within habitat for the following BLM sensitive wildlife species: within 0.25-mile of active kit fox dens. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. The operator may be required to submit a plan of	Allowable Use: **STIPULATION** TL-26: *Active Kit Fox Dens.* Prohibit surface use and surface-disturbing and disruptive activities within 400 feet of active kit fox dens nesting and feeding habitat areas from February 15 to August 30 (Wilson and Ruff 1999). (Refer to Appendix B; Figure 2-26, Appendix A.)	Allowable Use: **STIPULATION** CSU-37/ SSR-44: *Wildlife BLM Sensitive Species (Active Kit Fox Dens).* Surface occupancy or use may be restricted and SSR restrictions applied within habitat for the following BLM sensitive wildlife species: within 200 meters (656 feet) of active kit fox dens. Special design, construction, and implementation measures, including relocation of

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		development that reduces or eliminates threats to BLM identified sensitive species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)		operations by more than 200 meters (656 feet), may be required. The operator may be required to submit a plan of development that reduces or eliminates threats to BLM identified sensitive species by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, and utility installation). (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) **STIPULATION** TL-27: *Active Kit Fox Dens.* Prohibit surface use and surface-disturbing and disruptive activities within 0.25-mile of active dens from February 1 to May 1. (Refer to Appendix B; Figure 2-27, Appendix A.)
182.	*Special Status Terrestrial Wildlife – Bats*			
183.	**Action:** Maintain the Cory Lode Mine (17.7 acres) as withdrawn from locatable mineral entry to protect	**Action:** Maintain the Cory Lode Mine (17.7 acres) as withdrawn from locatable mineral entry to protect sensitive bats. Recommend to the Secretary of	**Action:** Same as Alternative A.	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	sensitive bats.	the Interior for withdrawal from locatable mineral entry for sensitive bat species' significant maternity roost or hibernaculum.		
184.	**Action:** No similar action in current RMPs.	**Action:** In the event of a disease outbreak such as White-nose Syndrome, caves and other structures utilized by bats will be closed to public access, except for permitted scientific research. Permits for scientific research access to these areas will follow current quarantine and sterilization procedures.	**Action:** No similar action.	**Action:** In the event of a disease outbreak such as White-nose Syndrome, caves and other structures utilized by bats will be closed to public access, except for permitted scientific research or permitted recreational activities. Permits for scientific research or recreational access to these areas will follow current quarantine and sterilization procedures.
185.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-43/NGD-19: *Wildlife Bat: Bat Roost Sites and Winter Hibernacula*. Prohibit surface occupancy and use and apply NGD restrictions within a 402-meter (0.25-mile) radius of the entrance of maternity roosts or hibernacula of federally listed, BLM sensitive, and Colorado State Species of Concern bat species, as mapped in the BLM's GIS database or other maps provided	Allowable Use: **STIPULATION** CSU-38/ SSR-45: *Wildlife Bat: Bat Roost Sites and Winter Hibernacula.* Surface occupancy or use may be restricted and SSR restrictions applied within 0.25-mile radius of the entrance of maternity roosts or hibernacula of federally listed, BLM sensitive, and Colorado State Species of	Allowable Use: **STIPULATION** NSO-44/ SSR-46: *Wildlife Bat: Bat Roost Sites and Winter Hibernacula (Federally Listed and BLM Sensitive Species)*. Prohibit surface occupancy and use and apply SSR restrictions within a 402-meter (0.25-mile) radius of the entrance of maternity roosts or hibernacula of federally listed and BLM

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Concern bat species, as mapped in the BLM's GIS database or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	sensitive bat species, as mapped in the BLM's GIS database or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.) **STIPULATION** CSU-39/ SSR-47: *Wildlife Bat: Bat Roost Sites and Winter Hibernacula (Colorado State Species of Concern).* Surface occupancy or use may be restricted and SSR restrictions applied within 0.25-mile radius of the entrance of maternity roosts or hibernacula of Colorado State Species of Concern bat species, as mapped in the BLM's GIS database or other maps provided by local, state, federal, or tribal agencies that are analyzed and accepted by the BLM. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
186.	*Special Status Terrestrial Wildlife – Waterfowl and Shorebirds*			
187.	Allowable Use: **STIPULATION** NSO-CO-7 (BLM 1991a): *Waterfowl and Shorebird.* Prohibit surface occupancy and use on significant production areas (major areas are Waterfowl Habitat Management Areas and rookeries; refer to Appendix B; Figure 2-19, Appendix A.) Allowable Use: **STIPULATION** TL-CO-17 (BLM 1991a): *White Pelican*. Prohibit use within white pelican nesting and feeding habitat areas from March 16 to September 30. (Refer to Appendix B; Figure 2-24, Appendix A.) **STIPULATION** TL-UB-6 (BLM 1989a): *Waterfowl Habitat.* Prohibit development in waterfowl habitats from March 15 to June 30. (Refer to Appendix B; Figure 2-24, Appendix A.)	Allowable Use: **NO LEASING/ STIPULATION** NL-2/NGD-3: *Hydrology River.* Close to fluid mineral leasing and geophysical exploration and prohibit surface-disturbing activities within 402 meters (1,320 feet) (0.25-mile) the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever is greatest) on the following major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: **STIPULATION** CSU-10/ SSR-10: *Hydrology River.* Surface occupancy or use may be restricted and SSR restrictions applied within 402 meters (1,320 feet) (0.25-mile) of the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever area is greatest) on the following major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-9/ SSR-11: *Hydrology River.* Prohibit surface occupancy and use and apply SSR restrictions within 400 meters (1,312 feet) of the ordinary high-water mark (bank-full stage) or within 100 meters (328 feet) of the 100-year floodplain (whichever area is greatest) on the following major rivers: Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
188.	**WILD HORSES**			
189.	**GOAL:** Manage the Naturita Ridge Herd Area to maintain an ecological balance of resources and uses.			
190.	**Objective:** Manage a single wild horse herd on the Spring Creek Basin area, and totally remove all wild horses from the Naturita Ridge herd area.	**Objective:** Continue herd area designation for Naturita Ridge and maintain the closure to wild horses.		
191.	**Action:** Remove all wild horses from the Naturita Ridge Wild Horse Area. This action has been accomplished.	**Action:** Do not reintroduce wild horses to the Naturita Ridge Wild Horse Area.		
192.	**WILDLAND FIRE ECOLOGY AND MANAGEMENT**			
193.	**GOAL:** Manage wildland fire and fuels with the protection of human life as the highest priority while also protecting social and economic values, achieving resource management objectives, and enhancing natural ecosystem processes and ecological sustainability.			
194.	**Objective:** Collaborate with other federal agencies; state, county, and city governments; and fire protection districts regarding prevention, mitigation, and fire-suppression activities.			
195.	**Action:** Maintain an FMP that supports interagency fire management across the planning area (including the BLM, Forest Service, US DOI National Park Service, and Colorado State Forest Service).			
196.	**Objective:** Utilize fire-protection and fuels-management activities to prevent or reduce negative impacts on social and resource values, including human life, private property and improvements, power transmission lines, communication sites, developed recreation sites, cultural resources, special status species habitat, areas with mineral and energy development, renewable energy projects, municipal watersheds, public water supplies, and, to the extent practical, air quality.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
197.	**Action:** Respond to and suppress fires or portions of fires that are threatening social, economic, or resource values.			
198.	**Action:** Modify fuel complexes to meet the objective using mechanical treatment, prescribed fire, seeding, and herbicide to reduce fire occurrence, behavior, and resistance to control.	**Action:** Modify fuel complexes to meet the objective, emphasizing the use of prescribed fire as an ecological process over the use of mechanical treatments and other methods.	**Action:** Modify fuel complexes to meet the objective, emphasizing the use of mechanical treatments over the use of prescribed fire and other methods.	**Action:** Modify fuel complexes to meet the objective using mechanical treatment, prescribed fire, seeding, and herbicide in the most ecologically appropriate manner to reduce fire occurrence, behavior, and resistance to control.
199.	**Objective:** Manage fire and fuels/vegetation to achieve specific resource management objectives, which include: • Restore and enhance wildlife habitat. • Improve vegetation condition for stand health, forage production, and watershed enhancement. • Maintain and restore woodland and forest productivity. • Maintain appropriate vegetation/age class mosaics and fuel complexes across the landscape. • Work to restore Fire Regime Condition Classes 2 and 3 towards Class 1, and maintain areas of Class 1, consistent with fire and biological objectives.			
200.	**Action:** Design fuels/vegetation projects to meet multiple interdisciplinary objectives.	**Action:** Design habitat, vegetation, and fuels projects to meet multiple interdisciplinary objectives, with an emphasis on natural processes and intact landscapes.	**Action:** Design habitat, vegetation, and fuels projects to meet multiple interdisciplinary objectives, with an emphasis on supporting resource uses.	**Action:** Design habitat, vegetation, and fuels projects to meet multiple interdisciplinary objectives.
201.	**Action:** Use mechanical, biological, or herbicide treatments when prescribed and	**Action:** Use prescribed and managed fire to achieve resource objectives.	**Action:** Emphasize minimal mechanical, biological, and herbicide treatments and managed fire	**Action:** Use mechanical treatment, prescribed fire, seeding, and herbicide in the most

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	managed fire cannot be used to safely achieve desired objectives or where the fuels complex needs to be modified before introducing fire, to achieve resource objectives.		to achieve resource objectives.	ecologically appropriate manner to achieve resource objectives.
202.	**Action:** Use managed fire, except in areas with high social values (e.g., wildland urban interface, power line corridors, developed recreation sites, and communication sites) as a natural process and to meet resource objectives using an ignition-by-ignition decision process.	**Action:** Use managed fire, except in ancient forests, as a natural process and to meet resource objectives using an ignition-by-ignition decision process.	**Action:** Use managed fire only in more remote locations to meet resource objectives using an ignition-by-ignition decision process. Do not use managed fire in areas with high social values (e.g., wildland urban interface, energy corridors, developed recreation sites, and communication sites) or in areas with management concerns (e.g., occupied sage-grouse habitat, big game severe winter range/winter concentration areas).	**Action:** Use managed fire throughout the planning area, except as precluded by other decisions in the RMP, as a natural process and to meet resource objectives using an ignition-by-ignition decision process.
203.	**Objective:** No similar objective in current RMPs.	**Objective:** In all fire-management activities, utilize appropriate strategies and tactics commensurate with values at risk.		
204.	**Action:** No similar action in current RMPs.	**Action:** Use minimum impact suppression tactics to minimize the construction of mechanical control line so that	**Action:** Allow for unrestricted fire suppression tactics when a fire threatens an area with high	**Action:** Use minimum-impact suppression tactics to minimize the construction of

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		resource conditions are not degraded, particularly relative to soils, watersheds, ACECs, WSAs, NGD areas, and exotic species.	social or economic values.	mechanical control line so that resource conditions are not degraded, particularly relative to soils, watersheds, ACECs, NGD areas, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, areas with ancient or rare vegetation, and exotic or noxious species.
205.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage lands affected by wildland fire to maintain successional pathways capable of achieving the climax vegetation community.		**Objective:** Revegetate or manage lands affected by wildland fire to maintain successional pathways capable of achieving the climax vegetation community.
206.	**Action:** No similar action in current RMPs.	**Action:** Implement Emergency Stabilization and Rehabilitation techniques on wildfires, or portions of wildfires, in areas that are not meeting BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) vegetation and habitat objectives, or areas where human life or property are at risk from post-fire impacts.	**Action:** Implement Emergency Stabilization and Rehabilitation techniques on wildfires or portions of wildfires where human life or property is at risk from post-fire impacts.	**Action:** Implement Emergency Stabilization and Rehabilitation techniques on wildfires, or portions of wildfires, as necessary to meet BLM Colorado Public Land Health Standards (BLM 1997; Appendix C), vegetation and habitat objectives, or where human life or property are at risk from post-fire impacts.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
207.	**CULTURAL RESOURCES**			
208.	**GOAL:** Identify, preserve, and protect significant cultural resources to ensure that they are available for appropriate purposes by present and future generations (i.e., for research, education, and preservation of cultural heritage).			
209.	**Objective:** Manage cultural resources for protection, preservation, investigation, and public use (i.e., development and interpretation), where appropriate (BLM 1985).	**Objective:** Preserve the nature and value of cultural resources, focusing on high-priority sites.		
210.	**Action:** No similar action in current RMPs.	**Action:** Allocate cultural resources currently recorded, or projected to occur on the basis of existing data synthesis, to use allocations according to their nature and relative preservation value (BLM Manual 8110.42). Cultural Use Allocations Include:		

Use Allocation	Management Action	Desired Outcome
a. Scientific use	Permit appropriate research including data recovery.	Preserved until research or data recovery potential is realized
b. Conservation for future use	Propose protective measures/designation	Preserved until conditions for use are met
c. Traditional use	Consult with tribes, determine limitations	Long-term preservation
d. Public use	Determine permitted use	Long-term preservation, on-site interpretation
e. Experimental use	Determine nature of experiment	Protected until used
f. Discharge from management	Remove protective measures	No use after recordation; not preserved

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
211.	**Action:** No similar action in current RMPs.	**Action:** Assign use category allocations to all current and newly discovered cultural resource sites and/or areas upon completion of site evaluation, and apply appropriate management actions to achieve the desired outcome.		
212.	**Action:** No similar action in current RMPs.	**Action:** Use category allocations may be revised in response to changing site conditions or as additional data and information are obtained. Criteria allowing for revising allocation are 1) environmental change or human-caused impacts that alter the significance or scientific potential; 2) changes brought about by mitigation and/or data recovery; 3) new discovery that adds to the site's potential and changes its eligibility for listing on the National Register of Historic Places (NRHP); 4) new information or techniques that reveal a new scientific value that was not previously recognized; and 5) new information shared through Native American consultation.		
213.	**Action:** No similar action in current RMPs.	**Action:** Prioritize Scientific Use sites and/or areas and Conservation Use sites for listing on the National Register of Historic Places and develop a cultural resource management plan for Scientific Use sites that outlines specific management objectives and actions for protection. Scientific use sites include stratified open occupations and rock shelters, site complexes, and sites within landscape-based prehistoric and historic use areas.		
214.	**Action:** No similar action in current RMPs.	**Action:** Prioritize Conservation Use sites for listing on the National Register of Historic Places, and within two years from the listing develop a cultural resource management plan for Conservation Use sites that outlines specific management objectives and actions for protection. Conservation use sites include rock art sites, prehistoric structures, and historic buildings and/or structures, such as the Hanging Flume, Paradox Rock art, historic Ute wickiups, and important historic mining operations.		
215.	**Action:** No similar action in current RMPs.	**Action:** Set aside cultural resource sites and/or areas (Traditional Use category) for long-term preservation because of their cultural and religious value to Native American Tribes. Sites/areas are identified as traditional cultural properties and sacred sites in consultation with Native American Tribes.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
216.	Allowable Use: No similar allowable use in current RMP.	Allowable Use: **STIPULATION** NSO-45/NGD-20: *Allocation to Traditional Use*. Prohibit surface occupancy and use and apply NGD restrictions within 200 meters (656 feet) around eligible or potentially eligible sites allocated to Traditional Use. (Refer to Appendix B.)	Allowable Use: **STIPULATION** CSU-40/ SSR-48: *Allocation to Traditional Use*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within 200 meters (656 feet) around eligible or potentially eligible sites allocated to Traditional Use. In addition, consider visual impacts that projects may have on sites allocated to this use, and apply appropriate mitigation, which may include redesign. (Refer to Appendix B.)	Allowable Use: **STIPULATION** NSO-46/ SSR-49: *Allocation to Traditional Use*. Prohibit surface occupancy and use and apply SSR restrictions within 200 meters (656 feet) around eligible or potentially eligible sites allocated to Traditional Use. In addition, consider visual impacts that projects may have on sites allocated to this use, and apply appropriate mitigation, which may include redesign. (Refer to Appendix B.)
217.	**Action:** No similar action in current RMPs.	**Action:** Assign historical sites in the Uravan Mining Belt (e.g., the Wild Steer complex, Long Park, Monogram Mesa, and the Uravan area), historical buildings that may be suitable for adaptive use, historical roads and trails (e.g., Old Spanish National Historic Trail, Tabeguache Trail), The Hanging Flume (NRHP) and select rock art sites (e.g., the Paradox Rock art Complex, Dolores Canyon, Uncompahgre Plateau) to Public Use for environmental and heritage education.		
218.	**Action:** No similar action in current RMPs	**Action:** Develop a cultural resource management plan that develops site-specific management actions for all Public Use sites. In the plan, outline specific management objectives and actions for Heritage Tourism including retrieval of scientific information, hardening for public use, interpretation and long-term protection.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
219.	**Action:** No similar action in current RMPs.	**Action:** Manage and protect cultural resources allocated to Public Use, including traditional cultural properties with a secondary allocation to Public Use by implementing the following actions, including but not limited to: • Developing heritage tourism at sites designated to Public Use using BMPs • Interpreting sites • Organizing and conducting ongoing educational programs for tribal groups, the public, school groups, vocational archaeology groups, project proponents, permittees, contractors, and others about cultural resource ethics, and encouraging their assistance in reporting new discoveries and vandalism incidents	**Action:** No similar action.	**Action:** Same as alternative B.
220.	**Action:** No similar action in current RMPs.	**Action:** Within two years of signing the Record of Decision, develop a cultural resource management plan for allowable use on all Experimental Use sites to outline research objectives.		
221.	**Action:** No similar action in current RMPs.	**Action:** Develop and annually update a list of sites to allocate to the Discharge Use category; reevaluate as needed and compile supporting documentation. Submit for consultation with the State Historic Preservation Office.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
222.	**GOAL:** Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration or potential conflict with other resource uses (FLPMA Sec. 103(c); National Historic Preservation Act Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use will comply with Section 106 of the National Historic Preservation Act.			
223.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage individual cultural resources in accordance with the use allocation finding for each cultural and historic property.		
224.	**Action:** Emphasize management and develop cultural management plans on the following cultural sites/areas (BLM 1985): • Dolores Cave • Hamilton Mesa • Hanging Flume • Indian Henry's Cabin • Tabeguache Canyon • Tabeguache Pueblo	**Action:** Evaluate all cultural resources for use allocation and desired outcome (scientific use, conservation for future use, traditional use, public use, experimental use, or discharged from management). Prioritize the following areas for inventory and evaluation: • Roc Creek (Anasazi rock art) • Uravan historic mining district • Paradox Valley • Dolores River Canyon • Uncompahgre Plateau • Tabeguache/Dolores Canyons • Hanging Flume	**Action:** Evaluate all cultural resources for use allocation and desired outcome (scientific use, conservation for future use, traditional use, public use, experimental use, or discharged from management).	**Action:** Same as Alternative B.
225.	**Action:** In recreation emphasis areas, develop and protect suitable cultural resource properties for public enjoyment through such practices as interpretive signing and stabilization (BLM 1985).	**Action:** Develop and protect suitable cultural resource properties for public enjoyment through such practices as interpretive signing and stabilization. Priority areas include the Hanging Flume, Paradox Valley Rock Art Complex, and Roc Creek rock art.	**Action:** No similar action. (Do not emphasize developing cultural resource properties for public enjoyment.)	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
226.	**Action:** Protect and interpret unique and significant values in the Dolores River Canyon WSA (BLM 1985).	**Action:** Identify, inventory, and evaluate prioritized individual sites and areas within the Dolores River Canyon WSA for nomination to the NRHP.	**Action:** Identify, inventory, and evaluate known sites within the Dolores River Canyon WSA for eligibility for listing on the NRHP.	**Action:** Identify, inventory, and evaluate individual sites within the Dolores River Canyon WSA for interpretation and public enjoyment.
227.	**Action:** No similar action in current RMPs.	**Action:** Identify potential trails to link individual sites and develop an interpretive program.		
228.	**Action:** In Wilderness Areas, allow the use of cultural resource properties only for religious or research purposes, or for stabilization of "at risk" properties, and only when such use will not degrade wilderness values (BLM 1985).	**Action:** Same as Alternative A.	**Action:** In Wilderness Areas, allow the use of cultural resource properties only for religious purposes and only when such use will not degrade wilderness values.	**Action:** Same as Alternative A.
229.	Allowable Use: **STIPULATION** NSO-SJ-1 (BLM 1991a): *Scenic, Natural, and Cultural Values and Resources.* Prohibit surface occupancy within the following areas: • Tabeguache Cave II and Tabeguache Canyon • Tabeguache Pueblo • Dolores Cave	Allowable Use: **STIPULATION** NSO-47/NGD-21: *Tabeguache Caves/Tabeguache Pueblos Area and Tabeguache Canyon.* Prohibit surface occupancy and use and apply NGD restrictions in the Tabeguache Pueblos area and Tabeguache Canyon. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar allowable use. (There would not be any stipulations.)	Allowable Use: **STIPULATION** CSU-41/ SSR-50: *Tabeguache Pueblos Area and Tabeguache Canyon.* Surface occupancy or use may be restricted or prohibited and SSR restrictions applied in the Tabeguache Pueblos area and Tabeguache Canyon. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	(Refer to Appendix B; Figure 2-19, Appendix A.)			
230.	**Action:** No similar action in current RMPs.	**Action:** Manage the Tabeguache Caves/Tabeguache Pueblos Area and Tabeguache Canyon as ROW exclusion.	**Action:** No similar action. (ROWs would be allowed without avoidance or exclusion restrictions.)	**Action:** Manage the Tabeguache Caves/Tabeguache Pueblos Area and Tabeguache Canyon as ROW avoidance.
231.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-48/NGD-22: *Cultural*. Prohibit surface occupancy and use and apply NGD restrictions within 200 meters (656 feet) of eligible cultural properties, traditional cultural properties listed National or State Registers of Historic Places (sites or districts), outstanding cultural resources to be nominated to the National or State Registers of Historic Places, interpreted and/or public use sites, and experimental-use sites. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: **STIPULATION** CSU-42/ SSR-51: *Sites Listed on the National or State Register of Historic Places*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied within 100 meters (328 feet) of sites listed on the National or State Registers of Historic Places. (Refer to Appendix B; Figures 2-22 and 2-30, Appendix A.)	Allowable Use: **STIPULATION** NSO-49/ SSR-52: *Cultural*. Prohibit surface occupancy and use and apply SSR restrictions within 100 meters (328 feet) of known eligible cultural resources, traditional cultural properties, listed National Registers of Historic Places sites/districts, outstanding cultural resources to be nominated to the National Registers of Historic Places, interpreted and/or public use sites, and experimental-use sites (BLM Manual 8110.42 [A-E]). (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
232.	Allowable Use: No similar allowable use is stated in current RMPs.	Allowable Use: **STIPULATION** CSU-43/SSR-53: *Cultural*. Surface occupancy or use may	Allowable Use: No similar allowable use. (There would not be any	Allowable Use: Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		be restricted and SSR restrictions applied due to historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. The BLM will not approve any ground-disturbing activities that may affect any such properties or resources until it completes its obligations (e.g., State Historic Preservation Office and tribal consultation) under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.	stipulations.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
233.	**Action:** No similar action in current RMPs.	**Action:** Manage sites listed on or eligible for listing on the NRHP as ROW avoidance.		
234.	**Action:** No similar action in current RMPs.	**Action:** Manage 31,870 acres in the area of the Lower Uncompahgre Plateau between the Dry Creek Basin and Roubideau Creek as a National Register District to protect unique cultural resource values. Management actions are as follows: • Nominate the lower Uncompahgre National Register District based on high site densities and rare or significant site types. • Manage for enhanced protection of localities of high archaeological site densities near Dry Creek and Coalbank Canyon. • Manage for the enhanced protection of the Formative Era and protohistoric Ute occupations in Coalbank Canyon. • Manage for the enhanced protection of historic Ute occupations and sacred sites. • Manage for the enhanced protection of numerous rock art panels in the region including Dry Creek Overlook, Roatcap Gulch, Big	**Action:** Manage 31,870 acres in the area of the Lower Uncompahgre Plateau, between the Dry Creek Basin and Roubideau Creek, as an area of archaeological significance. Management actions are as follows: • Nominate individual sites in the area to the NRHP as required for additional status based on site significance and eligibility, • Manage for the protection of the Formative Era and protohistoric Ute occupations in Coalbank Canyon. • Emphasize the use of alternative mitigation for development, including off-site mitigation and site avoidance. • Manage for the protection of historic Ute occupations and sacred sites.	**Action:** Manage 31,870 acres in the area of the Lower Uncompahgre Plateau, between the Dry Creek Basin and Roubideau Creek, as an area of archaeological significance. Management actions are as follows: • Nominate individual sites in the area to the NRHP as required for additional status based on site significance and eligibility. • Manage for the protection of the Formative Era and protohistoric Ute occupations in Coalbank Canyon. • Manage for the protection of historic Ute occupations and sacred sites. • Manage for the protection of numerous rock art panels in the region, including Dry Creek Overlook, Roatcap Gulch, Big Sandy, and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
		Sandy, and Cushman Creek. • Manage as VRM Class III • Conduct inventories for cultural properties and establish research and monitoring studies. • Allowable Use: **STIPULATION** NSO-50: *National Register District*. Prohibit surface occupancy and use in National Register Districts. (Refer to Appendix B; Figure 2-20, Appendix A.)	• Manage for the protection of numerous rock art panels in the region, including Dry Creek Overlook, Roatcap Gulch, Big Sandy, and Cushman Creek.	Cushman Creek. • Allowable Use: **STIPULATION** CSU-44/ SSR-54: *Area of Archaeological Significance*. Surface occupancy or use may be restricted or prohibited and SSR restrictions applied to emphasize site avoidance and project redesign during development. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
235.	**Action:** No similar action in current RMPs.	**Action:** Develop a cultural resource management plan to guide research and long term protection of cultural properties associated with the Paradox Rock Art Complex, Uravan Mineral Belt, Dolores Canyon, the Uncompahgre Plateau and other areas as determined by new information, research strategies and resource protection needs.	**Action:** No similar action. (A cultural resource management plan for these properties would not be required.)	**Action:** Same as Alternative B.
236.	**Action:** No similar action in current RMPs.	**Action:** Nominate National Register Districts. Consider individual sites within each district for nomination to the State and/or National Registers of Historic	**Action:** Evaluate individual sites for eligibility for National or State Registers of Historic Places nominations. Do not consider	**Action:** Nominate individual sites to the National or State Registers of Historic Places. Individual sites with the

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Places. Potential National Register Districts are as follows: • Uravan Uranium Mining District • Paradox Valley Rock Art District • Tabeguache Pueblos District • Dolores River Rock Art District	individual sites for nomination to the NRHP unless such sites need additional protection that may be afforded by such listing.	potential for nomination are as follows: • Ute Wickiup Project • Uravan Uranium Mining District • Squint Moore Complex • Harris site on the Uncompahgre Plateau • Paradox Valley Rock Art Complex Also nominate other sites that meet the NRHP criteria.
237.	**Action:** No similar action in current RMPs.	**Action:** No similar action (refer to the *Areas of Critical Environmental Concern* section, Paradox Rock Art ACEC).	**Action:** Manage 1,080 acres in the Paradox Rock Art Complex area as a National Register District to protect unique cultural resource values. Management actions are as follows: • Manage for protection of the numerous prehistoric petroglyphs and pictographs in the area. • Close to motorized and mechanized travel above the level of the Paradox Valley bottom; limit motorized and mechanized travel to	**Action:** Manage 1,080 acres in the Paradox Rock Art Complex area as a National Register District to protect unique cultural resource values (refer to the *Areas of Critical Environmental Concern* section, Paradox Rock Art ACEC). • Allowable Use: **STIPULATION** NSO-50: *National Register District.* Prohibit surface occupancy and use in National Register Districts. (Refer to Appendix B; Figure 2-23, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			designated routes in the Paradox Valley bottom. • Develop a system of public access trails to the various rock art panels. • Develop and implement an interpretive plan. • Conduct a complete inventory for cultural properties. • Allowable Use: **STIPULATION** NSO-50: *National Register District.* Prohibit surface occupancy and use in National Register Districts. (Refer to Appendix B; Figure 2-22, Appendix A.)	
238.	**Action:** Attach the following standard stipulations to any BLM-issued permit in which there may be ground-disturbing activities or the potential for the inadvertent discovery or effects on any NRHP or otherwise eligible historic or archaeological cultural property: • If historic or archaeological materials are uncovered during permitted activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials and must immediately contact the BLM Authorized Officer. Within five working days, the BLM Authorized Officer will inform the operator as to whether the materials appear eligible for the NRHP and what mitigation measures the operator will likely have to undertake before the construction may proceed. • In accordance with 43 CFR 10.4(g), the holder of the authorization must notify the BLM Authorized Officer, by telephone, with written confirmation, immediately after the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, in accordance with 43 CFR 10.4(c) and (d), the holder of the authorization must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the BLM Authorized Officer. (Refer to Appendix B.)			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
239.	**PALEONTOLOGICAL RESOURCES**			
240.	**GOAL:** Identify, protect, and manage paleontological resources for the preservation, interpretation, and scientific uses by present and future generations.			
241.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage paleontological resources for their scientific, educational, and recreational values.		
242.	**Action:** Manage paleontological resources according to their Potential Fossil Yield Classification (Paleontological Resources Preservation Act of 2009).	**Action:** Require that land use authorizations consider actions on public lands according to their Potential Fossil Yield Classification.		
243.	**Action:** Provide protective management of the unique fossils in the Placerville area through the use of stipulations on a case-by-case basis in environmental documents (BLM 1985).	**Action:** Develop a paleontological site-management plan for known localities, including: • Potter Creek • San Miguel Canyon • Placerville Jurassic Fish Locality • Dolores River Canyon • Atkinson Mesa/Mesa Creek area	**Action:** No similar action. (Paleontological site management plans would not be developed.)	**Action:** Same as Alternative B.
244.	**Action:** Inventory paleontological resources and develop appropriate protective measures if necessary; develop protective measures as this resource is	**Action:** In Potential Fossil Yield Classification Class 2, 3, 4, and 5 areas, conduct paleontological inventories to identify and document significant paleontological resources and potential threats.	**Action:** In Potential Fossil Yield Classification Class 4 and 5 areas, conduct paleontological inventories to identify and document significant paleontological resources and potential threats.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	discovered. As information is obtained, identify specific management (BLM 1989a).			
245.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-45: *Paleontological*. Surface occupancy or use may be restricted due to paleontological resources. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. An inventory of paleontological resources may be required before construction and drilling may commence. The Authorized Officer may require that a qualified paleontologist be present to monitor operations during surface-disturbing activities.	Allowable Use: No similar allowable use. (There would not be any stipulations.)	Allowable Use: Same as Alternative B.
246.	**Action:** No similar action in current RMPs.	**Action:** Where project development threatens significant paleontological resources, require proponents to avoid by project redesign or to conduct scientific data recovery excavation.		
247.	Allowable Use: **LEASE NOTICE** LN-CO-29 (BLM 1991a): *Paleontological Areas*. Before authorizing surface-disturbing activities in Class I and II Paleontological Areas	**Action:** Require an accredited paleontologist approved by the BLM Authorized Officer to perform an inventory of areas of surface-disturbing activities in Potential Fossil Yield Classification Class 4 and 5 (previously known as Class I and II) paleontological areas, in accordance with BLM Instruction Memorandum No. 2008-009: Potential Fossil Yield Classification System for Paleontological Resources on Public Lands (BLM 2007b). (Refer to Appendix B.)		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	[now known as PFYC Class 4 and 5], an inventory will be performed by an accredited paleontologist approved by the BLM Authorized Officer. (Refer to Appendix B.)			
248.	**VISUAL RESOURCES**			
249.	**GOAL:** Maintain the scenic quality and natural aesthetics of river canyons, open space landscapes, cultural landscapes, and other areas with high-quality visual resources that are considered important as social, economic, and environmental benefits.			
250.	**Objective:** Manage public lands under visual resource management classifications and guidelines (BLM 1989a) to protect and preserve scenic values, enhance viewing opportunities, and increase variety, where appropriate.	**Objective:** Manage visual resources for overall multiple use in accordance with VRM classifications.		
251.	**Action:** Adopt the VRM classes as follows (Figure 2-5, Appendix A). Modify, relocate, mitigate, or deny proposed projects that conflict with the objectives of these classes. • BLM surface: ○ VRM Class I = 44,220 acres	**Action:** **Alternative B:** Designate VRM classes as follows (Figure 2-6, Appendix A): • BLM surface: ○ VRM Class I = 53,870 acres ○ VRM Class II = 176,010 acres ○ VRM Class III = 427,580 acres ○ VRM Class IV = 18,340 acres • Recommend the following VRM classes for private or state surface/	**Action:** Designate VRM classes as follows (Figure 2-8, Appendix A): • BLM surface: ○ VRM Class I = 44,220 acres ○ VRM Class II = 31,260 acres ○ VRM Class III = 431,330 acres	**Action:** Designate VRM classes as follows (Figure 2-9, Appendix A): • BLM surface: ○ VRM Class I = 46,440 acres ○ VRM Class II = 112,540 acres ○ VRM Class III = 398,410 acres

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	○ VRM Class II = 21,930 acres ○ VRM Class III = 280,520 acres ○ VRM Class IV = 9,260 acres ○ Undesignated = 319,770 acres • Private or State surface/ federal mineral estate: ○ VRM Class I = 20 acres ○ VRM Class II = 10 acres ○ VRM Class III = 243,410 acres ○ VRM Class IV = 420 acres ○ Undesignated = 51,560 acres	federal mineral estate: ○ VRM Class I = 100 acres ○ VRM Class II = 135,030 acres ○ VRM Class III = 139,390 acres ○ VRM Class IV = 13,050 acres ○ Undesignated = 7,850 acres **Alternative B.1** (North Fork area only): Designate VRM classes as follows (Figure 2-7, Appendix A): • BLM surface: ○ VRM Class I = 53,860 acres ○ VRM Class II = 181,650 acres ○ VRM Class III = 421,290 acres ○ VRM Class IV = 18,990 acres • Recommend the following VRM classes for private or state surface/ federal mineral estate: ○ VRM Class I = 100 acres ○ VRM Class II = 142,710 acres ○ VRM Class III = 131,720 acres ○ VRM Class IV = 13,050 acres ○ Undesignated = 7,850 acres	○ VRM Class IV = 168,990 acres • Recommend the following VRM classes for private or State surface/ federal mineral estate: ○ VRM Class I = 20 acres ○ VRM Class II = 69,040 acres ○ VRM Class III = 196,120 acres ○ VRM Class IV = 22,230 acres ○ Undesignated = 8,010 acres	○ VRM Class IV = 118,410 acres • Recommend the following VRM classes for private or State surface/ federal mineral estate: ○ VRM Class I = 20 acres ○ VRM Class II = 94,250 acres ○ VRM Class III = 173,300 acres ○ VRM Class IV = 20,000 acres ○ Undesignated = 7,850 acres
252.	**Action:** Manage 44,220 acres as VRM Class I (Figure 2-5, Appendix A): • ACECs ○ Adobe Badlands	**Action:** Manage 53,870 acres as VRM Class I (Figure 2-6, Appendix A): • Tabeguache Area • WSAs • Suitable wild and scenic river (WSR)	**Action:** Manage 44,220 acres as VRM Class I (Figure 2-8, Appendix A): • Tabeguache Area • WSAs	**Action:** Manage 46,440 acres as VRM Class I (Figure 2-9, Appendix A): • Same as Alternative C, plus ○ Suitable WSR segments

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	○ Needle Rock • Tabeguache Area • WSAs	segments classified as "wild" (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]).			classified as "wild" with a scenic ORV or within a WSA or the Tabeguache Area – Roubideau Creek Segment 1 – San Miguel River Segment 2 – Tabeguache Creek Segment 1 – Dolores River Segment 1a – La Sal Creek Segment 3
253.	**Action:** Manage 21,930 acres as VRM Class II to protect scenic qualities (Figure 2-5, Appendix A): • San Miguel River ACEC, except for the forest management areas identified in the San Juan/San Miguel RMP (BLM 1993a, 1985)	**Alternative B:** **Action:** Manage 176,010 acres as VRM Class II, including the following (Figure 2-6, Appendix A): • Lands managed to protect wilderness characteristics • SRMAs ○ Burn Canyon RMZs 1 and 3 ○ Dolores River Canyon	**Alternative B.1** (North Fork area only): **Action:** Manage 181,650 acres as VRM Class II, including the following (Figure 2-7, Appendix B): • Face of Jumbo Mountain • Youngs Peak • "H" Hill • Near flanks of the West Elks • Needle Rock	**Action:** Manage 31,260 acres as VRM Class II, including the following (Figure 2-8, Appendix A): • ACECs ○ Needle Rock ○ Adobe Badlands	**Action:** Manage 112,540 acres as VRM Class II, including the following (Figure 2-9, Appendix A): • Lands managed to protect wilderness characteristics • SRMAs ○ Dolores River Canyon RMZs 1 and 2 ○ Roubideau RMZ 1 ○ San Miguel River RMZ 3 ○ Spring Creek RMZ 2 • ACECs ○ Same as Alternative C, plus – Dolores River Slickrock Canyon

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		○ Dry Creek RMZ 2 ○ Paradox Valley RMZs 1 and 4 ○ Roubideau RMZs 1, 2, and 3 ○ San Miguel River RMZs 2 and 3 ○ Spring Creek RMZ 2 • ACECs ○ Needle Rock ○ Roubideau-Potter-Monitor ○ Dolores Slickrock Canyon ○ La Sal Creek ○ Coyote Wash ○ Paradox Rock Art ○ Portion of Tabeguache Pueblo and Tabeguache	ACEC • Within 1.0 mile of: ○ West Elk Scenic Byway (Colorado Highways 92 and 133, and Gunnison County Rd 12) ○ 3100 Road ○ North Road ○ Crawford Road ○ Back River Road • Lands visible from important vistas and travel corridors		– Paradox Rock Art – Biological Soil Crust • Suitable WSR segments classified as wild without a scenic ORV and not within a WSA or the Tabeguache Area ○ Monitor Creek ○ Potter Creek ○ Saltado Creek • Suitable WSR segments classified as "scenic" and suitable WSR segments classified as "recreational" with a scenic ORV (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) • Lands within 0.5-mile of National Historic Trails, except for the Old Spanish National Historic Trail • Lands within 0.5-mile of the following National and BLM Byways ○ Grand Mesa Scenic Byway ○ Portion of West Elk Scenic Byway from Northeast UFO boundary to Gunnison County Road

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Caves (5,310 acres within Tabeguache Area) • Suitable WSR segments classified as "scenic" (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) • Lands within 0.5-mile of National Historic Trails • Lands within 0.5-mile of National and BLM Byways		12
254.	**Action:** Manage 280,520 acres as VRM Class III to protect its scenic qualities while permitting some intrusion, including (Figure 2-5, Appendix A) the San Miguel	**Action:** Manage 427,580 acres as VRM Class III*, including, but not limited to, the following (Figure 2-6, Appendix A): • Area of the Lower Uncompahgre Plateau between the Dry Creek Basin and Roubideau Creek	**Action:** Manage 431,330 acres as VRM Class III, including, but not limited to, the following (Figure 2-8, Appendix A): • ERMAs ○ Burn Canyon	**Action:** Manage 398,410 acres as VRM Class III, including, but not limited to, the following (Figure 2-9, Appendix A): • ERMAs ○ Burn Canyon

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	River SRMA (BLM 1993a).	• SRMAs ○ Burn Canyon RMZ 2 ○ Dry Creek RMZs 1, 3, and 4 ○ Jumbo Mountain ○ Kinikin Hills ○ North Delta ○ Paradox Valley RMZs 2 and 3 ○ Ridgway Trails ○ Roubideau RMZ 4 ○ San Miguel River RMZs 1 and 4 ○ Spring Creek RMZs 1 and 3 • ACECs ○ Salt Desert Shrub Ecosystem ○ Fairview South (CNHP Expansion) ○ Lower Uncompahgre Plateau ○ San Miguel Gunnison Sage-Grouse ○ San Miguel River Expansion ○ Sims-Cerro Gunnison Sage-Grouse ○ East Paradox ○ Portion of Tabeguache Pueblo and Tabeguache Caves (21,100 acres outside of Tabeguache Area) ○ West Paradox • Suitable WSR segments classified as "recreational" (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) • Shinn Park	○ Paradox Valley ○ Ridgway Trails ○ Roubideau • San Miguel River ACEC • Lands within 0.5-mile of National Historic Trails • Lands within 0.25-mile of National and BLM Byways	○ Kinikin Hills • SRMAs ○ Dry Creek ○ Jumbo Mountain ○ Ridgway Trails ○ Roubideau RMZs 2-4 ○ San Miguel River RMZs 1, 2 and 4 ○ Spring Creek RMZs 1 and 3 • ACECs ○ Fairview South (BLM Expansion) ○ Roubideau Corridors ○ San Miguel River • North of County Road 12 outside of West Elk Scenic Highway buffer • Oak Ridge • McDonald Creek area • Young's Peak • Smith Fork (40s) • Billy Creek area • Wray Mesa • Lion Creek • Lands within 0.5-mile of the Old Spanish National Historic Trail • Lands within 0.50-mile of the following National and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		• Hamilton Mesa area • Naturita-Nucla Complex **Under Alternative B.1, 421,290 acres would be managed as VRM Class III as portions of some of the above areas would be managed as VRM Class II.*			BLM Byways ○ Portion of the West Elk Scenic Byway west of Gunnison County Road 12 ○ San Juan Skyway ○ Unaweep/Tabeguache Byway
255.	**Action:** Manage 9,260 acres as VRM Class IV to allow substantial change, as follows (Figure 2-5, Appendix A): • North Delta OHV area (BLM 1989a) • Forest management areas within the San Miguel River ACEC (BLM 1993a, 1985)	**Action:** Manage 18,340 acres as VRM Class IV, as follows (Figure 2-6, Appendix A): • All other areas not identified as VRM Class I, II, or III		**Action:** Manage 168,990 acres as VRM Class IV, as follows (Figure 2-8, Appendix A): • North Delta Open OHV area • Fairview South ACEC • All other areas not identified as VRM Class I, II, or III	**Action:** Manage 118,410 acres as VRM Class IV, as follows (Figure 2-9, Appendix A): • North Delta ERMA • All other areas not identified as VRM Class I, II, or III
256.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-51/NGD-23: *Visual Class I*. Prohibit surface occupancy and use and apply NGD restrictions in VRM Class I areas. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)		Allowable Use: No similar allowable use. (There would be no stipulations for VRM Class I areas.)	
257.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: **STIPULATION** CSU-46/SSR-55:	**Alternative B.1** (North Fork area only): Apply the	Allowable Use: No similar allowable use. (There would be no stipulations for VRM Class II or Class III areas.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		Visual: VRM Class II and III. Surface occupancy or use may be restricted and SSR restrictions applied in VRM Class II and III areas. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	following restrictions to VRM Class II areas: Allowable Use: **NO LEASING** NL-11: *Prominent Landmarks.* Close to oil and gas leasing and geophysical exploration the following prominent landmarks: face of Jumbo Mountain, Youngs Peak, "H" Hill, Saddle Mountain, near flanks of the West Elks, and Needle Rock ACEC. Allowable Use: **STIPULATION** NSO-52: *Travel and Scenic Corridors*. Prohibit		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
			surface occupancy within 1.0 mile of: West Elk Scenic Byway (Colorado Highways 92 and 133, and Gunnison County Rd 12) • 3100 Road • North Road • Crawford Road • Back River Road Allowable Use: **STIPULATION** CSU-47: *Vistas*. Apply CSU restrictions to BLM-administered and split-estate lands visible from important vistas and travel corridors: • Jumbo Mountain • Youngs Peak • "H" Hill • Flanks of the West Elks		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
			• Needle Rock ACEC • Beyond 1.0 mile of: ○ West Elk Scenic Byway (Colorado Highways 92 and 133, and Gunnison County Road 12) ○ 3100 Road ○ North Road ○ Crawford Road ○ Back River Road (Refer to Appendix B; Figure 2-21, Appendix A.)		
258.	**Objective:** No similar objective in current RMPs.	**Objective:** Maintain dark night sky conditions in areas that are generally unaffected by man-made light sources.			
259.	**Action:** No similar action in current RMPs.	**Action:** Prohibit permanent artificial outdoor lighting in VRM Class I and II areas.		**Action:** Prohibit permanent artificial outdoor lighting in VRM Class I areas.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
260.	**Action:** No similar action in current RMPs.	**Action:** Require that permanent and temporary artificial outdoor lighting be shielded and downward-facing ("full cut-off" fixtures) to minimize impacts on naturally dark night skies. An exception, with mitigation, may be granted for temporary lighting if the requirement will create a hazard.	**Action:** No similar action. (There would not be a requirement that artificial outdoor lighting be shielded and downward-facing.)	**Action:** Same as Alternative B.
261.	**Action:** No similar action in current RMPs.	**Action:** Require that permanent artificial outdoor lighting be turned off when it is not needed.		
262.	**LANDS WITH WILDERNESS CHARACTERISTICS**			
263.	**GOAL:** No similar goal in current RMPs.	**GOAL:** Manage lands with wilderness characteristics that are identified for protection to maintain those characteristics.		
264.	**Objective:** No similar objective in current RMPs.	**Objective:** Identify lands with wilderness characteristics. Manage lands possessing wilderness characteristics to maintain those characteristics. Manage activities to maintain each area's roadless size, natural quality, opportunities for solitude and primitive recreation, and supplemental values where present.	**Objective:** Identify lands with wilderness characteristics but do not manage those characteristics.	**Objective:** Identify lands with wilderness characteristics. In specific areas, manage activities to maintain the natural quality of the area and to maintain opportunities for solitude and primitive recreation where they occur in these areas.
265.	**Action:** No similar action in current RMPs.	**Action:** Manage 42,150 acres in the following areas with wilderness characteristics (Figure 2-10, Appendix A):	**Action:** No similar action. (Areas with wilderness characteristics would not be managed to	**Action:** Manage 18,320 acres in the following areas with wilderness characteristics

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Adobe Badlands WSA Adjacent (6,180acres) • Camel Back WSA Adjacent (6,950 acres) • Dolores River Canyon WSA Adjacent (550 acres) • Dry Creek Basin (7,030 acres) • Lower Tabeguache/Campbell Creek (11,060 acres) • Roc Creek (5,480 acres) • Shavano Creek (4,900 acres) Refer to Appendix F, Summary of Uncompahgre Planning Area Wilderness Characteristics Inventory: 2011 Update.	maintain those characteristics.)	(Figure 2-10, Appendix A): • Camel Back WSA Adjacent (6,950 acres) • Dry Creek Basin (7,030 acres) • Roc Creek (4,340 acres). Refer to Appendix F, Summary of Uncompahgre Planning Area Wilderness Characteristics Inventory: 2011 Update
266.	**Action:** No similar action in current RMPs.	**Action:** Apply the following management to lands managed to protect wilderness characteristics: • VRM Class II • ROW exclusion • Exclusion area for wind, solar and hydropower projects • Closed to motorized and mechanized travel • Prohibit new or expanded range improvements • Prohibit target shooting *(see Recreation section for more*	**Action:** No similar action. (Areas with wilderness characteristics would not be managed to protect those characteristics.)	**Action:** Apply the following management to lands managed to protect wilderness characteristics: • VRM Class II • ROW avoidance • Exclusion area for wind, solar and hydropower projects • Limit motorized and mechanized travel to designated routes • Allow route maintenance

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		information) • Closed to wood product sales or harvest • Allowable Use: Close to mineral materials disposal • Allowable Use: Close to nonenergy solid mineral leasing • Allowable Use: Close to coal leasing • Recommend to the Secretary of the Interior withdrawal from locatable mineral entry • Prohibit road maintenance • Issue no SRPs for competitive events		and improvements in a manner consistent with the long-term preservation of wilderness characteristics • Permit new range improvement projects to support land health objectives only if it can be shown that they will protect or enhance wilderness characteristics • Allow maintenance of existing range improvement facilities in a manner consistent with the long-term preservation of wilderness characteristics • Closed to wood product sales or harvest • Allowable Use: Close to mineral materials disposal • Allowable Use: Close to nonenergy solid mineral leasing • Allowable Use: Close to coal leasing • Require a mine plan for locatable mineral development

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
267.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **NO LEASING** NL-12/NGD-24: *Lands with Wilderness Characteristics.* Close to fluid mineral leasing and geophysical exploration and prohibit surface-disturbing activities on lands identified to be managed to protect inventoried wilderness characteristics. (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A.)	Allowable Use: No similar action. (Areas with wilderness characteristics would not be managed to maintain those characteristics.)	Allowable Use: **STIPULATION** NSO-53/ SSR-56: *Lands with Wilderness Characteristics.* Prohibit surface occupancy and use and apply SSR restrictions to lands identified to be managed to protect inventoried wilderness characteristics. (Refer to Appendix B; Figures 2-23 and 2-31, Appendix A.)
268.	**Action:** No similar action in current RMPs.	**Action:** Inventory acquired lands for wilderness characteristics. • If acquired lands are found to possess wilderness characteristics, manage those lands for wilderness characteristics. • Consider adjacent other federal lands to determine whether the acquired lands if combined with the other federal lands constitute a piece that possesses wilderness characteristics. If so, then manage those lands for wilderness characteristics.	**Action:** Inventory acquired lands for wilderness characteristics to maintain a current inventory only.	**Action:** Inventory acquired lands for wilderness characteristics. • If acquired lands are found to possess wilderness characteristics, determine whether to manage wilderness characteristics on a case-by-case basis consistent with BLM manuals 6310 and 6320. • Consider adjacent other federal lands to determine whether the acquired lands if combined with the other federal lands constitute a piece that possesses wilderness characteristics. If so, then determine whether

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				to manage for wilderness characteristics on a case-by-case basis consistent with BLM manuals 6310 and 6320.
269.	**Resource Uses**			
270.	**FORESTRY AND WOODLAND PRODUCTS**			
271.	**GOAL:** Provide forest and woodland products on a sustainable basis to meet local needs.			
272.	**Objective:** Manage suitable commercial forest lands and pinyon-juniper woodlands for sustained yield production within the allowable cut restrictions determined by the Timber Production Capabilities Classification inventory (BLM 1989a).	**Objective:** Manage forests and woodlands within the historic range of natural variability while ensuring ecological diversity, maintaining successional processes, maintaining sustainability (including the desired mix of structural stages and landscape/watershed functions), and providing for native plant and wildlife habitats.		
273.	**Action:** Make public land within forest management areas available for a full range of forest management activities. Generally require major forest activity plans before allowing those activities in such areas. Pending completion of the activity plan, evaluate timber and	**Action:** No similar action; this is addressed by other individual actions and the objective.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	woodland stand treatments by an environmental assessment and implement on a case-by-case basis. Make forested areas within other emphasis areas available for a full range of forest management activities; modify plans to be compatible with the management emphasis areas. Permit firewood harvesting on most accessible forest land available for harvesting forest products (BLM 1985). On 40,500 acres (management unit 3), prepare Forest Management Plans and, if needed, establish plantations to increase forest product availability (BLM 1989a).			
274.	**Action:** No similar action in current RMPs.	**Action:** Designate 675,800 acres of forest management units (Figures 2-72 [Alternative B], 2-73 [Alternative C], and 2-74 [Alternative D], Appendix A): • North Fork (132,300 acres) • Paradox (175,880 acres) • San Miguel (189,030 acres) • Storm King (41,700 acres) • Uncompahgre Plateau (136,890 acres)		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
275.	**Action:** Manage approximately 6,700 acres (emphasis area J) to provide woodland products (such as firewood, posts, poles). Provide an estimated allowable harvest of 6.4 MMBF (12,800 cords) per decade (Figure 2-71, Appendix A; BLM 1985). **Action:** Manage lands suitable for timber production. Invest necessary funds to provide for intensive management of the forest resource. Provide firewood, Christmas trees, and other wood products (BLM 1985).	**Action:** Manage approximately 279,125 acres to provide minor (noncommercial timber) wood products (such as firewood, posts, poles). Provide an estimated allowable harvest of 6.4 MMBF (12,800 cords) per decade (Figure 2-72, Appendix A).	**Action:** Manage approximately 631,270 acres to provide minor (noncommercial timber) wood products (such as firewood, posts, poles). Provide an estimated allowable harvest of 9.6 MMBF (19,200 cords) per decade (Figure 2-73, Appendix A).	**Action:** Manage approximately 394,530 acres to provide minor (noncommercial timber) wood products (such as firewood, posts, poles). Provide an estimated allowable harvest of 6.4 MMBF (12,800 cords) per decade (Figure 2-74, Appendix A).
276.	**Action:** Intensively manage 40,500 acres (management unit 3) for woodland product harvest within sustained yield production limits to increase available woodland products (BLM 1989a).	**Action:** Allow harvest of minor (noncommercial timber) forest and woodland products in the following forest management units (units are shown on Figures 2-72 [Alternative B], 2-73 [Alternative C], and 2-74 [Alternative D], Appendix A): • Pinyon-juniper ○ North Fork ○ Paradox ○ San Miguel ○ Storm King ○ Uncompahgre Plateau		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Ponderosa pine ○ Paradox ○ Uncompahgre Plateau • Aspen ○ Storm King • Spruce and subalpine fir ○ Storm King • Douglas fir ○ San Miguel ○ Storm King		
277.	**Action:** No similar action in current RMPs. (The commercial harvest of all vegetation types is currently allowed.)	**Action:** Allow commercial timber harvest of pinyon-juniper only; permit such harvest in all forest management units. Exception: Commercial harvest activities may be used for other forest cover types to improve forest health, to restore ecology, or to meet identified resource objectives.	**Action:** Same as Alternative A.	**Action:** Same as Alternative B, where consistent with land health and vegetation mosaic objectives.
278.	**Action:** Prohibit forest product disposal (i.e., wood product sales and/or harvest) in the following areas (110,160 acres; Figure 2-71, Appendix A): • Tabeguache Area • WSAs (BLM 1985) • San Miguel River ACEC/SRMA: 20,166 acres	**Action:** Close the following areas (397,160 acres) to wood product sales and/or harvest (unless there is an exception shown below; Figure 2-72, Appendix A): • Tabeguache Area • WSAs • ACECs (refer to the *Areas of Critical Environmental Concern* section for specific restrictions and allowed	**Action:** Close the following areas (44,530 acres) to wood product sales and/or harvest (Figure 2-73, Appendix A): • Tabeguache Area • WSAs • Fairview South ACEC Exception: Allow wood product sales and/or harvest	**Action:** Close the following areas (281,390 acres) to wood product sales and/or harvest (unless there is an exception shown below; Figure 2-74, Appendix A): • ACECs (refer to the *Areas of Critical Environmental Concern* section for specific restrictions and allowed

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	of the ACEC and 298 acres of the San Miguel SRMA (BLM 1993a) • Dolores River SRMA (BLM 1985) • Perennial and intermittent streams in the Uncompahgre Basin Resource Area (BLM 1989a) • Needle Rock ACEC/ Outstanding Natural Area (BLM 1989a) • The reserved federal timber (123 acres) on 168 acres of land deeded to Ouray County (BLM 1989a)	wood product use or harvest) ○ Fairview South (CNHP Expansion) ○ Needle Rock ○ San Miguel River Expansion ○ Dolores Slickrock Canyon ○ Roubideau-Potter-Monitor • Steep slopes (greater than 30 percent) • VRM Class I areas • Lands managed to protect wilderness characteristics • Ecological emphasis areas • Ancient woodlands and forest • Exemplary, ancient, and rare vegetation • Riparian areas • Threatened and endangered species' habitat • The reserved federal timber on land deeded to Ouray County • SRMAs (refer to Appendix J, [Description of Recreation Management Areas] for specific restrictions and allowed wood product use or harvest) ○ Burn Canyon RMZ 1 ○ Dolores River Canyon ○ Dry Creek RMZs 1, 2, and 4 ○ Jumbo Mountain RMZ 1 ○ Kinikin Hills RMZs 1 and 2	to enhance resource values for which a given unit is designated to improve forest and land health conditions or to achieve vegetation mosaic objectives.	wood product use or harvest) ○ Fairview South (BLM Expansion) ○ Needle Rock ○ San Miguel River ○ Dolores River Slickrock Canyon ○ Roubideau Corridors • Steep slopes (greater than 40 percent) • VRM Class I areas • Lands managed to protect wilderness characteristics • Riparian areas • The reserved federal timber (123 acres) on 168 acres of land deeded to Ouray County • Ecological emphasis areas (prohibit commercial sales and harvest only) • Ancient woodlands and forest • Exemplary, ancient, and rare vegetation • SRMAs (refer to Appendix J, [Description of Recreation Management Areas] for specific restrictions and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		○ North Delta ○ Paradox Valley RMZs 1 and 2 ○ Ridgway Trails RMZ 1 ○ Roubideau ○ San Miguel River ○ Spring Creek Exception: Allow wood product sales and/or harvest to enhance resource values for which a given unit is designated, to improve forest and land health conditions, or to achieve vegetation mosaic objectives.		allowed wood product use or harvest): ○ Dolores River Canyon ○ Dry Creek RMZs 1, 2, and 4 ○ Jumbo Mountain RMZs 1 and 2 ○ Ridgway Trails RMZ 1 ○ Roubideau RMZs 1 and 2 ○ San Miguel River ○ Spring Creek • Tabeguache Area • WSAs • NGD areas (except for private firewood permits) Exception: Allow wood product sales and/or harvest to enhance resource values for which a given unit is designated, to improve forest and land health conditions, or to achieve vegetation mosaic objectives.
279.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: Prohibit commercial and personal use firewood, post, and pole harvest during the following periods: • Crucial winter range ○ Elk and mule deer: December 1 to	Allowable Use: Prohibit commercial and personal use firewood, post, and pole harvest during the following periods: • Crucial winter range	Allowable Use: Prohibit personal use firewood, post, and pole harvest from December 31 to April 30

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		April 30 ○ Moose: November 15 to May 30 • Big game reproduction areas ○ Elk and mule deer: May 15 to June 30 ○ Pronghorn antelope: May 1 to July 15 ○ Desert bighorn sheep: March 15 to June 15 for lambing range ○ Desert bighorn sheep: August 1 to September 30 for rutting grounds ○ Rocky Mountain bighorn sheep: May 1 to July 15 for lambing range ○ Rocky Mountain bighorn sheep: October 15 to December 15 for rutting grounds ○ Moose: May 15 to July 15 ○ Migratory bird breeding habitat: May 1 to July 31 ○ When soils are saturated	○ Elk and mule deer: January 1 to March 31 • Big game reproduction areas ○ Elk and mule deer: May 15 to June 15	Subject commercial activities to spatial TLs, as described in Appendix B.
280.	**Action:** No similar action in current RMPs.	**Action:** Make byproducts from forest management activities available for biomass use or for insect and disease control.	**Action:** In appropriate forest cover types, allow biomass production where compatible with other uses.	**Action:** In appropriate forest cover types, allow biomass production and use where compatible with vegetation mosaics and other resource uses. Make byproducts from forest management activities available for biomass use or for insect and disease control.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
281.	**Action:** Provide reasonable opportunity to salvage forest products before and after range and wildlife habitat improvement treatments (BLM 1985).	**Action:** Encourage, where feasible, the harvest of woodland products in areas of proposed or existing vegetative treatments to lessen the need for additional treatment or land disturbance and in areas that need restoration for ecological benefits.		
282.	**Action:** In livestock management emphasis areas (228,240 acres), manage woodland products and timber to enhance range resources and for insect and disease control (BLM 1985). **Action:** Plan wood product sales in wildlife areas (23,100 acres) to improve big game forage and other wildlife needs (BLM 1985). **Action:** Manage forest lands to enhance wildlife resources. Plan wood product sales in wildlife areas to improve big game forage and other wildlife needs (BLM 1985).	**Action:** Manage forest and woodlands where compatible to achieve other resource objectives.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
283.	**Action:** In livestock management emphasis areas (228,240 acres), manage timber species at a stocking level that maintains moderate to high herbage production. Use woodland products to the maximum extent practicable through commercial sales under the principle of sustained yield. Manage aspen forest types to perpetuate aspen, using even-aged silviculture. Limit clear-cuts in aspen to a maximum of 40 acres or the size of an aspen clone, whichever is smaller (BLM 1985).	**Action:** No similar action; this is addressed by other actions and objectives.		
284.	**Action:** On 121,710 acres (management unit 1), manage woodland harvest areas for increased forage production and to be compatible with allotment management plans and wildlife habitat management objectives (BLM 1989a).	**Action:** No similar action; this is addressed by other actions and objectives.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
285.	**Action:** Incorporate nonconflicting wildlife habitat management objectives, projects, and mitigating measures into new and existing forest management plans (area identified as a productive pinyon-juniper woodland important to wildlife and livestock; management units 1 and 3; BLM 1989a).	**Action:** No similar action; this is addressed by other actions and objectives.		
286.	**Action:** Coordinate forestry and woodland products management on a case-by-case basis to ensure aquatic resources are protected and, in some cases, improved (BLM 1985).	**Action:** No similar action; this is addressed by the objective.		
287.	**Action:** Manage lands suitable for timber and woodland production to enhance recreational opportunities and to maintain healthy stand conditions (BLM 1985).	**Action:** No similar action; this is addressed by other actions and objectives.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
288.	**Action:** Manage forest products and woodlands to meet goals and objectives of the soil and water program for specific areas (BLM 1985).	**Action:** No similar action; this is addressed by other actions and objectives.		
289.	**Action:** Allow for the sale or disposal of forest products or timber that could be lost in mineral development or that is needed for managing the resource. Meet demand without degradation or conflict (BLM 1985).	**Action:** Before removing any commercial or noncommercial woodland products as a result of permitted activities (e.g., mining, oil and gas production, sodium mining, and ROW), appraise and require the proponent to purchase the woodland products. The BLM could waive this requirement if the quantity of woodland product is of a small enough quantity to make the requirement unfeasible.	**Action:** Same as Alternative A.	**Action:** Same as Alternative B.
290.	**Action:** Allow removal of forest products only when compatible with cultural, wildlife, or recreation values or when done to improve safety (BLM 1985).	**Action:** No similar action; this action is not needed (future projects need to be compatible with the RMP).		
291.	**Action:** Manage timber and woodland species on all available and capable lands with a combination of even-	**Action:** No similar action (patch size, structure, and vegetation treatments are identified in other actions).		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	and uneven-age systems. Manage aspen under an even-age system. Limit open patch cuts to 20 acres or less in commercial forest types and 40 acres in woodland types. Regenerate all patch cuts, shelter wood, and selection harvest cuts, naturally or artificially, within 15 years. Continue managing all operable woodland and commercial saw timber in other emphasis areas (BLM 1985).			
292.	**Action:** When carrying out projects using Healthy Forest Restoration Act authority, fully maintain or contribute toward the restoration of the structure and composition of old-growth stands according to the pre-fire suppression old-growth conditions characteristic of the forest type, taking into account the contribution of the stand to landscape fire adaptation and watershed health and retaining the large trees contributing to old-growth structure.			
293.	**LIVESTOCK GRAZING**			
294.	**GOAL:** Provide adequate forage for livestock while attaining healthy rangelands, in accordance with land health standards and in balance with other resources and uses, and to support local agricultural communities.			
295.	**Objective:** Manage to increase forage on livestock production on a sustained yield basis. Emphasis is upon increasing forage, red meat, and animal	**Objective:** While meeting the BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C), seek appropriate opportunities to	**Objective:** While meeting the BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C), seek	**Objective:** While meeting the BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997;

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	fiber production, and improving forage composition and watershed conditions. Make significant investments in livestock improvements, which will be multiple-use oriented (e.g., wildlife and watershed). Minimize investments for other resources but continue resource management activities compatible with livestock production (BLM 1985). Make suitable public lands available for livestock grazing use (BLM 1989a).	increase, decrease, or maintain grazing permitted use (AUMs) based on long-term studies and land health conditions. Place emphasis on decreasing grazing permitted use.	appropriate opportunities to increase, decrease, or maintain grazing permitted use (AUMs) based on long-term studies and land health conditions. Place emphasis on increasing grazing permitted use.	Appendix C), seek appropriate opportunities to increase, decrease, or maintain grazing permitted use (AUMs) based on long-term studies and land health conditions.
296.	**Action:** Make 658,540 acres available for livestock grazing (Figure 2-11, Appendix A). Provide 38,364 AUMs of livestock forage commensurate with BLM Colorado Public Land Health Standards (BLM 1997; Appendix C). Refer to Appendix E, Livestock Grazing Allotments and Allotment Levels.	**Action:** Make 510,070 acres available for livestock grazing (Figure 2-12, Appendix A). Provide 29,862 AUMs of livestock forage commensurate with BLM Colorado Public Land Health Standards (BLM 1997; Appendix C). Periodically evaluate acres available and active grazing permitted use (e.g., AUMs, periods of use, and class of livestock) and adjust as needed based on monitoring and land health	**Action:** Make 647,900 acres available for livestock grazing (Figure 2-13, Appendix A). Provide 37,926 AUMs of livestock forage commensurate with BLM Colorado Public Land Health Standards (BLM 1997; Appendix C). Periodically evaluate acres available and active grazing permitted use (e.g., AUMs, periods of use,	**Action:** Make 611,560 acres available for livestock grazing (Figure 2-14, Appendix A). Provide 36,424 AUMs of livestock forage commensurate with BLM Colorado Public Land Health Standards (BLM 1997; Appendix C). Periodically evaluate acres available and active grazing permitted use (e.g., AUMs, periods of use,

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	Complete a detailed monitoring and evaluation plan. When undesirable and unintended changes in resource values are discovered and the causes are determined, take corrective actions (BLM 1985).	conditions. Refer to Appendix E, Livestock Grazing Allotments and Allotment Levels.	and class of livestock) and adjust as needed based on monitoring and land health conditions. Refer to Appendix E, Livestock Grazing Allotments and Allotment Levels.	and class of livestock) and adjust as needed based on monitoring and land health conditions. Refer to Appendix E, Livestock Grazing Allotments and Allotment Levels.
297.	**Action:** Make 17,260 acres of allotments, portions of allotments, and areas unavailable for livestock grazing. Refer to Appendix E, Livestock Grazing Allotments and Allotment Levels.	**Action:** Make 165,730 acres unavailable for livestock grazing, which includes allotments, portions of allotments, and unallotted land. The purpose includes steep slopes, conflict with BLM recreation sites, precipitation zone (16 inches) below which salts and carbonates are present in the Mancos shale soil profile, or avoidance of sensitive resources, such as those described in the *Areas of Critical Environmental Concern* section. Refer to Appendix E, Livestock Grazing Allotments.	**Action:** Make 27,900 acres unavailable for livestock grazing, which includes allotments, portions of allotments, and unallotted land. The purpose includes suitability of grazing and private land conflict. Refer to Appendix E, Livestock Grazing Allotments.	**Action:** Make 64,240 acres unavailable for livestock grazing, which includes allotments, portions of allotments, and unallotted land. The purpose includes steep slopes, conflict with BLM recreation sites, or avoidance of sensitive resources, such as those described in the *Areas of Critical Environmental Concern* section. Refer to Appendix E, Livestock Grazing Allotments.
298.	**Action:** Keep closed portions (2,680 acres) of the Camel Back pasture in the Winter-Monitor allotment.		**Action:** Make approximately 2,680 acres available for cattle grazing by reactivating the previously closed Camel Back	**Action:** Make approximately 2,680 acres available for livestock trailing by reactivating the previously closed Camel Back

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			pasture in the Winter-Monitor allotment. Provide 75 additional AUMs of grazing permitted use.	pasture in the Winter-Monitor allotment. This availability is for trailing only. Provide no additional AUMs of grazing permitted use. Trailing in the entire canyon is limited by time and is managed within the riparian objective and the BLM Colorado Guidelines for Livestock Grazing Management (BLM 1997; Appendix C).
299.	**Action:** On 3,720 acres (management unit 9), limit trailing use as much as possible and confine it to established roads; prohibit trailing livestock from bedding in riparian zones unless absolutely necessary (BLM 1989a).	**Action:** Limit livestock trailing use to established roads and trails to the extent possible. Prohibit trailing livestock from overnighting or bedding in sensitive areas, such as riparian zones and occupied federally listed plant habitat.	**Action:** Limit livestock trailing use to established roads and trails to the extent possible. Permit trailing livestock to overnight or bed in sensitive areas, such as riparian zones and in occupied federally listed plant habitat, only with prior approval from the BLM.	**Action:** Limit livestock trailing use to established roads and trails to the extent possible. Permit trailing livestock to overnight or bed in riparian zones in areas identified by and only with prior approval from the BLM.
300.	**Action:** No similar action in the current RMP.	**Action:** Exclude livestock grazing for a minimum of three years on disturbed areas (e.g., a fire, reclamation of disturbed lands, seedings, and surface-disturbing vegetation treatments).	**Action:** Exclude livestock grazing on disturbed areas (e.g., fire, reclamation of disturbed lands, seedings, and surface-disturbing vegetation treatments) to the extent needed to comply with BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
301.	**Action:** No similar action in current RMPs.	**Action:** Periodically evaluate allotments or portions of allotments to identify grazing issues. Base potential closure to livestock grazing and/or reduction in permitted use on the following criteria, when management is insufficient to remedy the problem: • Areas identified as BLM disposal tracts • Small percentage (less than 10 percent) of BLM-administered lands in allotment • Areas unsuitable for livestock grazing (such as steep slopes) • Major impact on wildlife or threatened and endangered species (such as competition for forage, winter range, sage-grouse habitat), or sensitive fish habitat, as determined by data analysis • Public health and safety • High-intensity recreation areas/facilities • Resource objectives for municipal watersheds • Conflicts with adjoining private land development • Impacts on cultural resource	**Action:** No similar action. (Closure to livestock grazing and/or reduction in permitted use would not occur, unless identified in other actions.)	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Areas with high soil selenium concentrations		
302.	**Action:** Most often make livestock use adjustments by changing one or more of the following: the kind or class of livestock grazing the allotment, the season of use, the stocking rate, or the grazing pattern. Make most livestock use adjustments in the "I" allotments, but also make use adjustments for allotments in the C and M categories (BLM 1985). On 39,790 acres (emphasis areas B, E, F, and K), reduce number of livestock and change season-of-use where needed to accomplish the following: • Provide sufficient forage for wildlife and to protect aquatic/riparian resources, especially on big game winter and spring ranges.	**Action:** Adjust grazing management (e.g., AUMs, periods of use, allotments, class of livestock, and distribution) using an interdisciplinary process when the following data indicate that change is needed: • Utilization levels or patterns of use in uplands and riparian areas and/or apparent trend data • Long-term trend data • Land Health Assessment data • Other pertinent information, including that obtained from consultation with permittees, interested publics, and other agencies		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	• Minimize impacts on mineral operations and revegetation efforts or to minimize erosion from site. • Achieve soil and water program objective. • Protect cultural resources (BLM 1985).			
303.	**Action:** Develop 71 allotment management plans (332,340 acres; BLM 1985). • Update existing allotment management plans as needed, and develop new allotment management plans (BLM 1989a). *Note: The UFO has gradually moved away from completing formal allotment management plans since the current RMPs were written. Allotment management actions are currently identified as "Terms and Conditions" on grazing permits and are the product of regular resource condition monitoring, Landscape Health*	**Action:** Implement allotment management actions through "terms and conditions" on grazing permits, resource activity plans (such as joint management area plans, coordinated resource management plans, wildlife habitat management plans), and guidance from existing or new allotment management plans. Base actions on resource monitoring, Land Health Assessments, and the BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C).		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Assessments, and the BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C).			
304.	**Action:** Base development of grazing systems on the following factors: allotment-specific management actions; resource characteristics, including vegetation's potential and water availability; general management actions; operator's needs; and implementation costs (BLM 1985). Use improved management systems, such as rest-rotation and deferred-rotation, if appropriate. Invest in range improvements necessary to implement management systems (BLM 1985).	**Action:** When developing grazing management strategies, place greater emphasis on improving rangeland health. Include other considerations, such as water availability, vegetation potential, topography and elevation, and implementation costs.	**Action:** When developing grazing management strategies, place greater emphasis on increasing available forage (AUMs) for domestic livestock and, where appropriate, increasing stocking rates, while maintaining land health standards. Include other considerations, such as water availability, vegetation potential, topography and elevation, operators' needs and capability, and implementation costs.	**Action:** When developing grazing management strategies, place greater emphasis on improving rangeland health and forage quality. Include other considerations, such as water availability, vegetation potential, topography and elevation, operators' needs and capability, and implementation costs or mitigation of resource conflicts.
305.	**Action:** On 121,710 acres (management unit 1),	**Action:** Do not allocate additional forage to livestock.	**Action:** Allocate increases in forage (AUMs) availability to	**Action:** Allocate increases in forage (AUMs) where applicable and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	develop land treatment projects designed to improve livestock forage. As additional forage becomes available, give allocation priority to livestock (BLM 1989a). On 121,710 acres (management unit 1), give wildlife first priority for all additional forage made available as a result of rangeland improvement projects designed to improve wildlife habitat funded by non-BLM sources (BLM 1989a). On 92,180 acres (management units 2 and 3), divide additional forage equally between livestock grazing and wildlife to provide forage for both resources (BLM 1989a).		livestock. These increases could come from, but are not limited to, wildland fire rehabilitation areas, prescribed burn areas, and vegetation treatment areas.	feasible to livestock, wildlife, land health, or a combination of these. Consider sustainability, multiple use management objectives, and other pertinent information. These increases could come from, but are not limited to, wildland fire rehabilitation areas, prescribed burn areas, and vegetation treatment areas.
306.	**Action:** Follow the general procedures in implementing typical range improvements,	**Action:** Prohibit new range improvement projects. Maintain existing range improvements to avoid major	**Action:** Construct, modify, or remove range improvement projects and land treatments as appropriate to support livestock grazing management and other resource objectives.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	in accordance with the San Juan/San Miguel Planning Area Draft RMP (BLM 1985), Appendix Nine – F. Base the extent, location, and timing of such actions on the allotment-specific management objectives adopted through the allotment management plan process, interdisciplinary development and review of proposed actions, contributions from operators and others, and BLM funding capability (BLM 1985). Develop new livestock facilities and land treatment projects if needed to achieve allotment management plan objectives (BLM 1989a).	ecological damage.		
307.	**Action:** No similar action in current RMPs.	**Action:** Allow for establishment of forage reserves on vacated or relinquished allotments to provide for increased management options.	**Action:** Evaluate combining vacated or relinquished allotments with active allotments where feasible to provide for increased management options.	**Action:** To provide for increased management options, allow for establishment of forage reserves on vacated or relinquished allotments and evaluate combining vacated or

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				relinquished allotments with active allotments, as guided by BLM Colorado Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 1997; Appendix C).
308.	**Action:** To improve the condition of riparian zones, establish management practices and principles in activity plans. Use as general guidance for improvement the utilization of 35 percent by weight of key forage species; this may vary depending on the individual riparian system (BLM 1989a).	**Action:** No similar action; this is addressed by other actions.		
309.	**Action:** Develop multiple use management actions for each allotment in the "I" category. Tailor future management actions, including developing allotment management plans, to meet these objectives after consulting with livestock operators (BLM 1985).	**Action:** No similar action; this is addressed by other actions.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
310.	**Action:** On 12,560 acres (emphasis area C), use "rustic" range improvements near developed recreation areas (BLM 1985).	**Action:** No similar action. (Range improvements that are rustic in nature would not be required.)		
311.	**Action:** Manage 13,950 acres (emphasis area D) for improved range condition (BLM 1985).	**Action:** No similar action; this is addressed by other actions.		
312.	**Action:** In the San Miguel River SRMA, manage livestock to protect riparian system values and to prevent degradation of recreation values. With the exception of prescribed fire, do not use vegetation treatments to improve forage production. Prohibit range management improvements that negatively affect riparian system or scenic values. Where range improvements are near visitor concentration areas, design the improvements to enhance the recreation experience (BLM 1993a).	**Action:** No similar action; this is addressed by other actions.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
313.	**Action:** Prohibit construction of facilities, such as livestock control fences, that create safety hazards or impede free vehicle use (BLM 1989a).	**Action:** No similar action. (Facilities and improvements would have environmental analysis completed before approval.)		
314.	**Action:** On 6,360 acres (management unit 15), prohibit new livestock improvement projects or maintenance of existing projects to protect scenic values (BLM 1989a).	**Action:** No similar action; improvements would be designed according to the VRM class for the area.		
315.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage grazing allotments to protect and mitigate effects of domestic sheep grazing on desert and Rocky Mountain bighorn sheep populations and disease transmission.	**Objective:** Manage grazing allotments to minimize contact and mitigate effects of domestic sheep grazing on desert and Rocky Mountain bighorn sheep populations and disease transmission.	
316.	**Action:** No similar action in current RMPs.	**Action:** Until current science can mitigate risk associated with disease transmission, cancel current and deny proposed domestic goat or sheep grazing and trailing permits within a 9-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	**Action:** Until current science can mitigate risk associated with disease transmission, exclude domestic goat grazing within a 5-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	**Action:** Until current science can mitigate risk associated with disease transmission: • Exclude domestic goat grazing in occupied and suitable desert and Rocky Mountain bighorn sheep habitat.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			Manage to minimize contact between domestic sheep and desert and Rocky Mountain bighorn sheep within the 3-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	• Manage domestic sheep grazing to minimize contact between domestic sheep and desert and Rocky Mountain bighorn sheep, in accordance with the completed Probability of Interaction Assessment. (Refer to **Appendix K** for the Bighorn/Domestic Sheep Risk of Association Modeling, management criteria, and maps.) The Bighorn/Domestic Sheep Risk of Association Modeling (**Appendix K**) is the preliminary assessment for RMP analysis. At permit renewal, these assessments will be reviewed with more detailed on-the-ground data to assess the probability of interaction for each individual allotment; results will direct management for permit renewal.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
317.	**Action:** No similar action in current RMPs, although partially addressed.	**Action:** Until current science can mitigate the risk of disease transmission to bighorn sheep, prohibit conversion of cattle grazing allotments to domestic sheep/goat grazing within a 9-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	**Action:** Until current science can mitigate the risk of disease transmission to bighorn sheep, prohibit conversion of cattle grazing allotments to domestic sheep/goat grazing within a 3-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	**Action:** Until current science can mitigate the risk of disease transmission to bighorn sheep, prohibit conversion of cattle grazing allotments to domestic sheep/goat grazing where Probability of Interaction Assessment depicts allotments are high probability for disease transmission. The Domestic/Bighorn Sheep Probability of Interaction Assessment is the preliminary assessment for RMP analysis. At permit renewal, these assessments will be reviewed with more detailed on-the-ground data to assess the probability of interaction for each individual allotment; results will direct management for permit renewal.
318.	**Action:** No similar action in current RMPs, although partially addressed.	**Action:** Prohibit domestic sheep and goat trailing permits within a 9-mile buffer of occupied desert and Rocky Mountain bighorn sheep habitat.	**Action:** Manage domestic sheep and goat trailing to minimize contact between domestic sheep/goats and desert and Rocky Mountain bighorn sheep in areas within a 3-mile buffer	**Action:** Manage domestic sheep and goat trailing to minimize contact between domestic sheep/goats and desert and Rocky Mountain bighorn sheep, in accordance with the

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			of occupied desert and Rocky Mountain bighorn sheep habitat. Limit trailing to one to two days.	completed Probability of Interaction Assessment in areas where the assessment shows high or moderate risk for contact with bighorn sheep. Limit trailing to one to two days.
319.	**COAL**			
320.	**GOAL:** Provide opportunities for environmentally sound exploration and development of coal resources.			
321.	**Objective:** Allow mineral development on all areas not specifically excluded from development. Provide protective stipulations to limit impacts on other resource values (BLM 1985). Coal development will be considered on a site-specific basis after consultation with affected entities and formulation of mitigating measures. Development of existing coal leases will continue, and unleased federal coal will be identified as acceptable for further coal leasing consideration with a	**Objective:** In areas identified as suitable for additional coal exploration and/or leasing, allow federal exploration and/or leasing while providing protective stipulations to limit impacts on other resource values.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	minimum of multiple-use restrictions (BLM 1989a).			
322.	**Action:** Manage 580 acres of split-estate in the coal resource development potential area as closed to coal leasing, in accordance with congressional mandates (Figures 2-15, Appendix A): • Tabeguache Area (PL 103-77)* • Curecanti National Recreation Area (43 CFR, 3400.2[a][8])** • Congressionally designated National Trails (i.e., Old Spanish National Historic Trail; 43 CFR, 3400.2[a][4]; 200-meter [656 feet] buffer from center line). **A portion of the area is within the coal resource development potential area* ***Not within the coal resource development potential area*	**Action:** Manage 1,910 acres (including 580 acres of split-estate) in the coal resource development potential area as closed to coal leasing, in accordance with congressional mandates (Figures 2-16 [Alternative B], 2-17 [Alternative C], and 2-18 [Alternative D], Appendix A): • Tabeguache Area (PL 103-77)* • Curecanti National Recreation Area (43 CFR, 3400.2[a][8])** • Congressionally designated National Trails (i.e., Old Spanish National Historic Trail; 43 CFR, 3400.2[a][4]; 200-meter [656 feet] buffer from center line). **A portion of the area is within the coal resource development potential area* ***Not within the coal resource development potential area*		
323.	**Action:** Allow coal leasing on 1,480 acres in the Nucla Known Recoverable Coal Resource	**Action:** Manage 320,440 acres (Figure 2-16, Appendix A) in the coal resource development potential area as	**Action:** Manage 405,230 acres (Figure 2-17, Appendix A) in the coal resource development	**Action:** Manage 371,400 acres (Figure 2-18, Appendix A) in the coal resource development

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Area. The remaining coal lands determined to be suitable or identified as priorities for future leasing will be managed for other multiple use considerations. These lands would be made available for future leasing only when the coal priority area has been depleted or a significant demand is expressed that could not be met by the existing coal priority area (BLM 1985). Identify 144,790 acres as acceptable for further coal leasing consideration on a site-specific basis after consultation with affected entities and formulation of mitigating measures designed to protect identified resources (BLM 1989a). • BLM surface/federal mineral estate: 33,890 acres • Private or State surface/ federal mineral estate: 110,900 acres	acceptable for further consideration of leasing and development. • BLM surface/federal mineral estate: 168,700 acres • Private or State surface/federal mineral estate: 151,740 acres	potential area as acceptable for further consideration of leasing and development. • BLM surface/federal mineral estate: 249,620 acres • Private or State surface/federal mineral estate: 155,610 acres	potential area as acceptable for further consideration of leasing and development. • BLM surface/federal mineral estate: 214,070 acres • Private or State surface/federal mineral estate: 157,330 acres

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	(Refer to Figure 2-15, Appendix A.)			
324.	**Action:** Manage 490 acres of BLM surface/federal mineral estate in the coal resource development potential area (BLM 1985, 1989a) identified in Screen 2 criteria, set forth in 43 CFR, 3461.5, as unsuitable for surface mining and surface mining operations (Appendix L, Coal Screening Criteria for the Uncompahgre Planning Area; Figure 2-15, Appendix A).	**Action:** Manage 2,500 acres in the coal resource development potential area identified in Screen 2 criteria, set forth in 43 CFR, 3461.5, as unsuitable for surface mining and surface mining operations (Appendix L, Coal Screening Criteria for the Uncompahgre Planning Area; Figures 2-16 [Alternative B], 2-17 [Alternative C], and 2-18 [Alternative D], Appendix A): • BLM surface/federal mineral estate: 2,170 acres • Private or State surface/federal mineral estate: 330 acres		
325.	**Action:** Manage the following areas as unacceptable for further consideration of leasing and development, in accordance with Screen 3, set forth in 43 CFR, 3420.1 (Appendix L, Coal Screening Criteria for the Uncompahgre Planning Area): • Adobe Badlands ACEC* • WSAs* **Not within the coal resource*	**Action:** Manage 96,650 acres • BLM surface/federal mineral estate: 88,890 acres • Private or State surface/federal mineral estate: 7,760 acres (Figure 2-16, Appendix A) in the coal resource development potential area as unacceptable for further consideration of leasing and development, in accordance with Screen 3, set forth in 43 CFR, 3420.1 (Appendix L, Coal Screening Criteria	**Action:** Manage 11,860 acres • BLM surface/federal mineral estate: 7,960 acres • Private or State surface/federal mineral estate: 3,900 acres (Figure 2-17, Appendix A) in the coal resource development potential area as unacceptable for further consideration of leasing and development, in accordance	**Action:** Manage 45,690 acres • BLM surface/federal mineral estate: 43,510 acres • Private or State surface/federal mineral estate: 2,180 acres (Figure 2-18, Appendix A) in the coal resource development potential area as unacceptable for further consideration of leasing and development, in accordance

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	development potential area.	for the Uncompahgre Planning Area): • Lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Public water supplies that use a groundwater well or spring, a 2,640-foot (0.50-mile) buffer • State parks • State wildlife areas • Municipal parks • Lands managed to protect wilderness characteristics • SRMAs • ACECs ○ Salt Desert Shrub ○ San Miguel River Expansion ○ East Paradox • WSAs • Suitable WSR segments classified as wild (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)])	with Screen 3, set forth in 43 CFR, 3420.1 (Appendix L, Coal Screening Criteria for the Uncompahgre Planning Area): • Lands within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Public water supplies that use a groundwater well or spring, a 1,000-foot buffer • State parks • State wildlife areas • Municipal parks • WSAs	with Screen 3, set forth in 43 CFR, 3420.1 (Appendix L, Coal Screening Criteria for the Uncompahgre Planning Area): • State parks • State wildlife areas • Municipal parks • Lands managed to protect wilderness characteristics • SRMAs • ACECs ○ Adobe Badlands ○ San Miguel River • Suitable WSR segments • WSAs
326.	Allowable Use: **STIPULATION** NSO-CO-1 (BLM 1991a): *Coal Lands.*	Allowable Use: No similar allowable use.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

<table>
<tr><th>Line #</th><th>Alternative A
Current Management (No Action)</th><th colspan="3">Alternative B</th><th colspan="2">Alternative C</th><th>Alternative D
Agency Preferred</th></tr>
<tr><td></td><td>Prohibit surface occupancy on leases within the area of federally leased coal lands where oil and gas development would likely be incompatible with coal extraction. (Refer to Appendix B; Figures 2-19, Appendix A.)</td><td colspan="6"></td></tr>
<tr><td rowspan="2">327.</td><td rowspan="2">Allowable Use:
STIPULATION CSU-CO-25 (BLM 1991a): Federally Leased Coal. Where oil and gas operations are proposed within the area of federally leased coal, relocate them outside the area to be mined or so as to accommodate room and pillar mining operations. (Refer to Appendix B; Figure 2-19, Appendix A.)</td><td colspan="6">Allowable Use:
STIPULATION CSU-48: Geology Coal Mine. Surface occupancy or use may be restricted due to surface or underground coal mines. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. Operations proposed within the area of an approved surface or underground coal mine will be relocated outside the area to be mined or to accommodate room and pillar and long wall mining operations. This stipulation does not apply to operations that capture or pipe methane from a mine for beneficial use. (Refer to Appendix B; Figures 2-20 [Alternative B], 2-22 [Alternative C], and 2-23 [Alternative D], Appendix A.)</td></tr>
<tr><td>Alternative B:
Allowable Use:
No similar allowable use. (Active and existing coal leases may be available for fluid mineral leasing.)</td><td colspan="2">Alternative B.1 (North Fork area only):
Allowable Use:
NO LEASING
NL-13: Active (and Future) and Existing (Inactive, Retired) Coal Leases. Close to oil and gas leasing areas within 0.25-mile of active</td><td colspan="2">Allowable Use:
Same as Alternative B.</td></tr>
</table>

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		(and future) and existing (inactive, retired) coal leases. This NL does not apply to operations that capture methane for commercial use.[1] (Refer to Appendix B; Figure 2-21, Appendix A.)		
328.	**Action:** No similar action in current RMPs.	**Action:** Prior to lease or modification, require the proponent of a new federal coal lease or of a federal coal lease modification to evaluate the technical and economic feasibility of destroying, converting, capturing and using, or otherwise mitigating the release of coal mine methane to the atmosphere by all components of the mine ventilation system. If coal mine methane release is not mitigated with the issue of a new	**Action:** No similar action. (There would not be similar requirement on a coal lease or modification.)	

[1] This NL is shown as submitted by the proponents of the North Fork Alternative Plan; however, it is not implementable as described. It is being analyzed for illustrative purposes. The BLM oil and gas regulations do not provide for gas to be leased, regardless of the source or reason, in an area that is closed to leasing.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		lease, require the recipient of a federal coal lease or federal coal lease modification to annually provide the BLM with a report (prepared by a neutral third party) evaluating the technical and economic feasibility of destroying, converting, capturing and using, or otherwise mitigating the release of coal mine methane to the atmosphere by all components of the mine ventilations system. The report will have a summary of known projects that do mitigate methane, the effectiveness of the projects, and the adaptability to the local mine.		
329.	Allowable Use: **LEASE NOTICE** LN-UB-10/CO-33: *Coal Areas*. Within the Paonia-Somerset Known Recoverable Coal Resource Area, coal and oil and gas leasing and development will be managed consistent with land use plans and lease terms. More specifically, the portions of the Known Recoverable Coal Resource Area where the overburden above the B-Seam of the Mesaverde coals is less than	**Action:** The portions of the coal potential area where the overburden above the coal is less than 3,500 feet will be managed primarily for the exploration and development of coal resources. Oil and gas operators anticipating exploration or development operations are required to consult and coordinate their activities with the BLM Authorized Officer to first determine the status of the coal resource then what course of action is in the public's interest. Under no circumstances would the BLM approve any oil and gas operations that compromise maximum economic coal recovery or the safety of underground mining operations. Where the coal is in place but is neither licensed for exploration nor leased for mining, oil and gas operators may expect the BLM to scrutinize and adjust well placement and hydraulic fracturing activities to avoid ruining coal resources. Where the coal is either licensed for exploration or leased for mining the oil and gas, operators must consult with the affected coal operators on proposed oil and gas exploration or development. In the event that the oil and gas and coal operators are unable to agree on any proposal, the BLM Authorized Officer would intervene and use all pertinent lease terms, regulations, and policy to determine what course of action is in the public's interest. This applies even if actual exploration and mining has ceased. Where the BLM has determined the coal to be completely mined out		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	3,500 feet will be managed primarily for the exploration and development of the coal resources. Oil and gas operators anticipating exploration or development operations are encouraged to consult and coordinate their activities with the affected coal operators. In the event that the oil and gas and coal operators are unable to agree on proposed oil and gas exploration or development, the BLM Authorized Officer would intervene and use all pertinent lease terms, regulations, and policy to determine what course of action is in the public's interest. However, under no circumstances will the BLM approve any oil and gas operations that compromise maximum economic coal recovery or the safety of underground mining operations. (Refer to Appendix B.)	and all licenses and leases terminated, the oil and gas operator is required to become informed about historic mine maps and mine-related drill holes.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
330.	**FLUID MINERALS** *(Oil and Gas and Geothermal Resources)*			
331.	**GOAL:** Provide opportunities to develop fluid minerals consistent with other resource goals and uses to support local and national energy needs.			
332.	**Objective:** Allow mineral development on all areas not specifically excluded from development. Provide protective stipulations to limit impacts on other resource values (BLM 1985). Continue oil, gas, and carbon dioxide operations in areas designated as Known Geologic Structures (BLM 1985). Facilitate orderly, economic, and environmentally-sound exploration and development of oil and gas resources using balanced multiple use management (BLM 1993a).	**Objective:** Lease federal fluid mineral and geothermal resources to facilitate economically and environmentally responsible exploration, development, and reclamation using the best available technology.		
333.	Allowable Use: **NO LEASING (NL):** *BLM Surface/Federal Mineral Estate.* Manage 44,220 acres of the federal mineral estate	**Alternative B:** Allowable Use: **NO LEASING (NL):** *BLM Surface/Federal Mineral Estate.* Manage 181,220 acres of the federal mineral	Allowable Use: Same as Alternative A (Figure 2-22, Appendix A).	Allowable Use: **NO LEASING (NL):** *BLM Surface/Federal Mineral Estate.* Manage 48,510 acres of the federal mineral estate

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	underlying BLM-administered surface as closed to fluid mineral leasing and geophysical exploration (Figure 2-19, Appendix A): • Tabeguache Area • WSAs (Refer to Appendix B.)	estate underlying BLM-administered surface as closed to fluid mineral leasing, geothermal leasing, and geophysical exploration (Figure 2-20, Appendix A): • Same as Alternative A plus: ○ Within 0.25-mile of bank-full stage or within 100 meters (328 feet) of the 100-year floodplain (whichever is greater) on the Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers ○ Within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" ○ Within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring ○ Gunnison sage-grouse critical habitat and lek habitat (lek area plus a 0.6-mile radius) ○ Lands managed to protect wilderness characteristics		underlying BLM-administered surface as closed to fluid mineral leasing, geothermal leasing, and geophysical exploration (Figure 2-23, Appendix A): • Same as Alternative A plus: ○ Within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" ○ Within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring (Refer to Appendix B.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		○ SRMAs – Dolores River Canyon – Dry Creek RMZs 1, 2, and 4 – Jumbo Mountain RMZ 1 – Paradox Valley RMZ 4 – Ridgway Trails RMZ 1 – Roubideau – San Miguel River – Spring Creek RMZs 1 ○ ACECs – Dolores Slickrock Canyon – Roubideau-Potter-Monitor – San Miguel River Expansion (Refer to Appendix B.) **Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING (NL):** *BLM Surface/Federal Mineral Estate.* Manage 221,570 acres (51,370 acres of which are in the North Fork area) of the federal mineral estate underlying BLM-administered surface as closed to oil and gas leasing and geophysical exploration (Figure 2-21, Appendix A): • Within 0.50-mile of the Paonia, Hotchkiss, and Crawford town limits • Within 0.25-mile of active (and		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		future) and existing (inactive, retired) coal leases. This NL does not apply to operations that capture methane for commercial use. (See footnote to row 327.) • Within 1,320 feet of a municipal water supply (classified surface water-supply stream segment), including intakes, and within a 1,320-foot buffer of all public water supplies that use a groundwater well or spring • Within 1,320 feet of all domestic water wells and private water systems, including ditches and domestic water decrees • Within 0.50-mile mile of the North Fork of the Gunnison and Smith Fork of the Gunnison Rivers • Within 2,640-feet (0.50-mile) of all streams, watercourses and waterways • Within 2,640-feet (0.50-mile) of lakes, ponds, naturally occurring wetlands, and impounding reservoirs (not including stock ponds for livestock) • Soils with high and very high potential for selenium loading • Prominent landmarks: face of		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Jumbo Mountain, Youngs Peak, "H" Hill, near flanks of the West Elks, Needle Rock ACEC (Refer to Appendix B.)		
334.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B**: Allowable Use: **NO LEASING (NL):** *Split-estate.* Manage 38,360 acres of private and State surface/federal fluid mineral estate as closed to fluid mineral leasing and geophysical exploration (Figure 2-20, Appendix A): • Within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring • Gunnison sage-grouse critical habitat and lek habitat (lek area plus a 0.6-mile radius) • Curecanti National Recreation Area • State parks • State wildlife areas	Allowable Use: No similar allowable use; there are no areas identified as No Leasing in this alternative.	Allowable Use: **NO LEASING (NL):** *Split-estate.* Manage 1,550 acres of private and State surface/federal fluid mineral estate as closed to fluid mineral leasing and geophysical exploration (Figure 2-23, Appendix A): • Within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Alternative B.1 (North Fork area only): Allowable Use: **NO LEASING (NL):** *Split-estate.* Manage 85,100 acres (53,380 acres of which are in the North Fork area) of private and State surface/federal fluid mineral estate as closed to oil and gas leasing and geophysical exploration (Figure 2-21, Appendix A): • Within 0.50-mile of the Paonia, Hotchkiss and Crawford town limits • Within 0.25-mile of active (and future) and existing (inactive, retired) coal leases. This NL does not apply to operations that capture methane for commercial use • Within 1,320 feet of a municipal water supply (classified surface water-supply stream segment), including intakes, and within a 1,320-foot buffer of all public water supplies that use a groundwater well or spring • Within 1,320 feet of all domestic water wells and private water systems, including ditches and		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		domestic water decrees • Within 0.50-mile mile of the North Fork of the Gunnison and Smith Fork of the Gunnison Rivers • Within 2,640-feet (0.50-mile) of all streams, watercourses and waterways • Within 2,640-feet (0.50-mile) of lakes, ponds, naturally occurring wetlands and impounding reservoirs (not including stock ponds for livestock) • Soils with high and very-high potential for selenium loading • Prominent landmarks: face of Jumbo Mountain, Youngs Peak, "H" Hill, near flanks of the West Elks, Needle Rock ACEC		
335.	Allowable Use: **LEASING** Manage 871,810 acres of the federal mineral estate as open to fluid mineral leasing and geophysical exploration, subject to standard lease terms and conditions (stipulations may apply) to protect existing resources (Figure 2-19, Appendix A): • BLM surface/federal fluid	**Alternative B:** Allowable Use: **LEASING** Manage 696,450 acres of the federal mineral estate as open to fluid mineral leasing, geothermal leasing, and geophysical exploration, subject to standard lease terms and conditions (stipulations may apply) (Figure 2-20, Appendix A): • BLM surface/federal fluid mineral estate: 494,580 acres	Allowable Use: **LEASING** Manage 871,810 acres of the federal mineral estate as open fluid mineral leasing, geothermal leasing, and geophysical exploration, subject to standard lease terms and conditions (stipulations may apply) (Figure 2-22, Appendix A): • BLM surface/federal fluid	Allowable Use: **LEASING** Manage 865,970 acres of the federal mineral estate as open to fluid mineral leasing, geothermal leasing, and geophysical exploration, subject to standard lease terms and conditions (stipulations may apply) (Figure 2-23, Appendix A): • BLM surface/federal fluid

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	mineral estate: 631,580 acres • Private or State surface/federal fluid mineral estate: 240,230 acres	• Private or State surface/federal fluid mineral estate: 201,870 acres **Alternative B.1** (North Fork area only): Allowable Use: **LEASING** Manage 609,360 acres (34,790 acres of which are in the North Fork area) of the federal mineral estate as open to oil and gas leasing and geophysical exploration, subject to standard lease terms and conditions (stipulations may apply) (Figure 2-21, Appendix A): • BLM surface/federal fluid mineral estate: 454,230 acres • Private or State surface/federal fluid mineral estate: 155,130 acres	mineral estate: 631,580 acres • Private or State surface/federal fluid mineral estate: 240,230 acres	mineral estate: 627,290 acres • Private or State surface/federal fluid mineral estate: 238,680 acres
336.	Allowable Use: **STIPULATION** *NSO* (all NSOs): Prohibit surface occupancy on 25,610 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 24,890acres • Private or State surface/federal fluid mineral estate: 720 acres that are open to oil and	**Alternative B:** Allowable Use: **STIPULATION** *NSO* (all NSOs): Prohibit surface occupancy on 452,930 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 354,970 acres • Private or State surface/federal fluid mineral estate: 97,960 acres that are open to fluid mineral leasing (refer to Appendix B; Figure 2-20, Appendix A):	Allowable Use: **STIPULATION** *NSO* (all NSOs): Prohibit surface occupancy on 22,300 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 14,680 acres • Private or State surface/federal fluid mineral estate: 7,620 acres that are open to fluid mineral leasing (refer to Appendix B; Figure	Allowable Use: **STIPULATION** *NSO* (all NSOs): Prohibit surface occupancy on 238,140 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 187,560 acres • Private or State surface/federal fluid mineral estate: 50,580 acres that are open to fluid mineral leasing

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	gas leasing (BLM 1985, 1989a; refer to Appendix B; Figure 2-19, Appendix A): • ACECs ○ Adobe Badlands ○ Fairview South ○ Needle Rock Within the San Juan/San Miguel RMP area only, the following: • Significant waterfowl and shorebird production areas (major areas are Waterfowl Habitat Management Areas and rookeries) • Special status plant species habitat (including federally listed and proposed species for listing and candidate species) • Within 0.25-mile radius of a lek site for sage-grouse and mountain sharp-tailed grouse and lesser and greater prairie chickens • Raptors (golden eagle, osprey, accipiters, falcons	• Saline/selenium soils • Slopes of 30 percent or greater • Within 500 feet of the edge of the ordinary high-water mark (bank-full stage) of perennial streams • Within 1,000 feet of all domestic water wells • Exemplary, ancient, and rare and relict vegetation communities • Within 660 feet of the edge of perennial, intermittent and ephemeral streams; riparian areas, fens and/or wetlands; and water impoundments • Portions of ecological emphasis areas (see *Wildlife – Terrestrial* section) • Within 200 meters (656 feet) of edge of habitat of federally listed, proposed, or candidate threatened or endangered plant species, • Within 1.0 mile of federally listed fish occupied habitat • Within known occupied habitat for federally threatened, endangered, proposed, and candidate wildlife and bird species, except for Canada lynx and yellow billed cuckoo • Yellow-billed cuckoo habitat • Within 4.0 miles of an active lek or	2-22, Appendix A): • Within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Within a 805 meters (0.5-mile) of all public water supplies that use a groundwater well or spring • Within 0.6-mile of Gunnison sage-grouse leks • Activities that are more than 1.0 acre within active Gunnison and white-tailed prairie dog towns that are less than 10 acres • Within 200 meters (656 feet) of eligible or potentially eligible cultural sites allocated to Traditional Use • National Register Districts • Within 1,500 feet of a BOR dam (i.e., Ridgway, Crawford, and Paonia Dams)	(refer to Appendix B; Figure 2-23, Appendix A): • Slopes of 40 percent or greater • Within 400 meters (1,312 feet) of bank-full stage or within 100 meters (328 feet) of the 100-year floodplain (whichever is greater) on the Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers • Within 325 feet from the edge of the ordinary high-water mark (bank-full stage) of perennial streams • Within 325 feet of perennial, intermittent and ephemeral streams; riparian areas, fens and/or wetlands; and water impoundments. Within 2,500 feet of the ordinary high water mark of the Lower Gunnison River, below the confluence with the Uncompahgre River, along occupied federally listed fish habitat • Within 325 feet of the edge

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	[except kestrel], buteos, and owls, within 0.125-mile of nest sites) • Within 0.25-mile of bald eagle roost or nest sites • Within 0.25-mile of peregrine falcon cliff nesting complexes • Within 0.25-mile of confirmed Mexican spotted owl roost and nesting sites • Tabeguache Cave II and Tabeguache Canyon • Tabeguache Pueblo • Dolores Cave • Dolores River Canyon SRMA • Tabeguache Creek ACEC • Within the area of federally leased coal lands where oil and gas development would likely be incompatible with coal extraction	within mapped Gunnison sage-grouse nesting and early brood-rearing habitat • Within 0.25-mile of active special status raptor nest sites and associated alternate nests • Within 0.125-mile of active nest sites and associated alternate nests of raptors that are not special status (except kestrel) • Within 0.5-mile of bald eagle winter roost sites • Within 1.0 mile of confirmed Mexican spotted owl roost and nesting sites • Within 150 feet of active Gunnison and white-tailed prairie dog towns • Within 0.25-mile of federally listed, BLM sensitive, and Colorado state species of concern bat species' maternity roost sites and winter hibernacula (all entrances to cave/mine network) • Within 200 meters (656 feet) of cultural resource sites allocated to Traditional Use • Tabeguache Pueblos area and Tabeguache Canyon • Within 200 meters (656 feet) of eligible cultural properties,	or their appurtenant structures • Needle Rock ACEC • Within a 50-meter buffer (164 feet) of the center line of the Old Spanish National Historic Trail • Within 200 meters (656 feet) of the center line of designated National Recreation Trails • DOE Uranium Mill Tailings Remedial Action Area	of the ordinary high water mark (bank-full stage) of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout • Within known habitat for federally threatened endangered and proposed wildlife and bird species, except for Canada lynx, Mexican spotted owl, and yellow-billed cuckoo • Within a 0.6-mile radius of Gunnison sage-grouse leks • Within 0.25-mile of active and inactive bald eagle nest sites or within 100 meters (328 feet) of abandoned nests (i.e., unoccupied for 5 consecutive years but with all or part of the nest remaining) • Within 0.25-mile of active and inactive golden eagle nest sites or within 100 meters (328 feet) of abandoned nests (i.e., unoccupied for 5

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		traditional cultural properties listed National or State Registers of Historic Places (sites or districts), outstanding cultural resources to be nominated to the National or State Registers of Historic Places, interpreted and/or public use sites, and experimental-use sites • National Register Districts • VRM Class I areas • SRMAs ○ Burn Canyon ○ Dry Creek RMZ 3 ○ Jumbo Mountain RMZ 2 ○ Kinikin Hills ○ North Delta ○ Paradox Valley RMZs 1-3 ○ Ridgway Trails RMZ 2 ○ Spring Creek RMZ 3 • Within 1,500 feet of a BOR dam (i.e., Ridgway, Crawford, and Paonia Dams) or their appurtenant structures • ACECs (except Dolores Slickrock Canyon, Roubideau-Potter-Monitor, and San Miguel River Expansion, which are No Leasing) • Suitable WSR segments classified as wild (see Table 2-4 [Summary of Wild and Scenic River Study		consecutive years but with all or part of the nest remaining) • Within 0.50-mile of active and inactive ferruginous hawk, peregrine falcon, prairie falcon, and northern goshawk nest sites • Within 0.25-mile of active and inactive nest sites of all other special status raptors and those that are not special status (except Mexican spotted owl) • Within 0.25-mile of bald eagle winter roost sites • Lands identified as Protected Activity Centers for Mexican spotted owl • Within 0.25-mile of federally listed and BLM sensitive bat species' maternity roost sites and winter hibernacula (all entrances to cave/mine network) • Within 200 meters (656 feet) of cultural resource sites allocated to Traditional Use • Within 100 meters (328

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Segments (Alternatives A and B)]) • Within a 0.5-mile buffer of the center line of the Old Spanish National Historic Trail • Within 0.5-mile of the center line of designated National Recreation Trails • Within the viewshed of scenic byways, up to 0.5-mile • DOE Uranium Mill Tailings Remedial Action Area • Within 152 meters (500 feet) of occupied dwellings and building units or within 305 meters (1,000 feet) from high occupancy buildings **Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** *NSO* (all NSOs): Prohibit surface occupancy on 404,690 acres (27,280 acres of which are in the North Fork area) of federal mineral estate: • BLM surface/federal fluid mineral estate: 318,630 acres • Private or state surface/federal fluid mineral estate: 86,060 acres that are open to oil and gas leasing (refer to Appendix B; Figure 2-21, Appendix		feet) of known eligible cultural resources, traditional cultural properties, listed NRHP sites and districts, outstanding cultural resources to be nominated to the NRHP, interpreted and/or public use sites, and experimental-use sites • Lands with wilderness characteristics • SRMAs ○ Dolores River Canyon ○ Dry Creek RMZs 2 and 4 ○ Jumbo Mountain ○ Ridgway Trails ○ Roubideau ○ San Miguel River RMZs 1-3 ○ Spring Creek • Curecanti National Recreation Area • State parks • State wildlife areas • Municipal parks • Within 1,500 feet of a BOR dam (i.e., Ridgway, Crawford, and Paonia Dams) or their appurtenant

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		A): • Within 0.25-mile of any prime and unique farmlands, livestock operations, organic farm, conventional farm, ranch, orchard, and the West Elks American Viticultural area • From 1,320 feet to 2640 feet of a municipal water supply (classified surface water-supply stream segment), including intakes, and from 1,320 feet to 2640 feet of all public water supplies that use a groundwater well or spring • From 1,320 feet to 2640 feet of all domestic water wells and private water systems, including ditches and domestic water decrees • Within 1,320 feet of any dam, ditch, irrigation intake, canal, or other water conveyance • Within 0.50- to 1.0 mile of the North Fork of the Gunnison and Smith Fork of the Gunnison Rivers • Within 0.50- to 1.0 mile of the North Fork of the Gunnison and Smith Fork of the Gunnison Rivers • Within the 100-year floodplain of any stream or river system • In mule deer and elk crucial winter		structures • ACEC ○ Adobe Badlands ○ Fairview South (BLM Expansion) ○ Needle Rock ○ San Miguel River ○ Dolores River Slickrock Canyon ○ Biological Soil Crust ○ Roubideau Corridors ○ Paradox Rock Art • Suitable WSR segments classified as wild or scenic (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) • Within a 0.5-mile buffer of the center line of the congressionally designated portion of the Old Spanish National Historic Trail • Within 200 meters (656 feet) of the center line of designated National Recreation Trails • DOE Uranium Mill Tailings Remedial Action Area • Within 152 meters (500 feet) of occupied dwellings

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*

		range, including severe winter range and winter concentration areas, and in elk reproduction areas
		• In big game migration corridors
		• In Gunnison sage-grouse lek habitat (lek area plus a 0.6-mile radius)
		• Within 4.0 miles of any known lek, and within mapped Gunnison sage-grouse breeding, summer, and winter habitat outside of the 4.0-mile buffer
		• Within 0.25-mile of any active or historic bald eagle or golden eagle nest site and within 0.50-mile of any active or historic peregrine falcon nest site
		• Within 0.25-mile of northern leopard frog breeding sites
		• Within 0.50-mile of stream segments occupied by native cutthroat trout
		• Within 0.25-mile of soils with high and very high potential for selenium loading
		• On all areas with medium to high geologic hazard
		• Within 1.0 mile of:
		  ○ West Elk Scenic Byway (Colorado Highways 92 and 133 and Gunnison County Road 12)
		  ○ 3100 Road
				and building units or within 305 meters (1,000 feet) from high-occupancy buildings

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		○ North Road ○ Crawford Road ○ Back River Road • Within 0.25-mile of schools and community facilities: ○ North Fork Swimming Pool ○ Crawford School ○ Hotchkiss High School ○ North Fork Community Montessori School ○ North Fork Recycling Center		
337.	Allowable Use: **STIPULATION** *CSU* (all CSUs): Apply CSU restrictions on 119,860 acres of the federal mineral estate within the San Juan/San Miguel RMP area: • BLM surface/federal fluid mineral estate: 110,180 acres • Private or State surface/federal fluid mineral estate: 9,680 acres that are open to oil and gas leasing (BLM 1985; refer to Appendix B; Figure 2-19, Appendix A): • Slopes of 40 percent or greater	**Alternative B:** Allowable Use: **STIPULATION** *CSU* (all CSUs): Apply CSU restrictions on 238,010 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 139,560 acres • Private or State surface/federal fluid mineral estate: 98,450 acres that are open to fluid mineral leasing (refer to Appendix B; Figure 2-20, Appendix A): • Lands, streams, and wetlands not meeting or meeting with problems BLM Colorado Public Land Health Standards • Potential biological soil crust • Ecological emphasis areas (see *Wildlife – Terrestrial* section)	Allowable Use: **STIPULATION** *CSU* (all CSUs): Apply CSU restrictions on 457,120 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 365,810 acres • Private or State surface/federal fluid mineral estate: 91,310 acres that are open to fluid mineral leasing (refer to Appendix B; Figure 2-22, Appendix A): • Saline/selenium soils • East Paradox biological soil • Slopes of 40 percent or greater • Within 0.25-mile of bank-full	Allowable Use: **STIPULATION** *CSU* (all CSUs): Apply CSU restrictions on 333,330 acres of the federal mineral estate: • BLM surface/federal fluid mineral estate: 265,140 acres • Private or State surface/federal fluid mineral estate: 68,190 acres that are open to fluid mineral leasing (refer to Appendix B; Figure 2-23, Appendix A): • Saline/selenium soils • Potential biological soil crust • Slopes of 30 to 39 percent • From 325 to 500 feet of the edge of the ordinary high-

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	• Riparian vegetation zone • Federally leased coal	• Desert and Rocky Mountain bighorn sheep summer range • Within 0.25-mile of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout • Canada lynx habitat • Within 1.0 mile of special status raptor (including Mexican spotted owl) nest sites • Within 0.5-mile of nest sites of raptors that are not special status (except American kestrel) • Bald eagle habitat (winter concentration and communal roosts) • Within 0.25-mile of active kit fox dens • VRM Class II and III areas • Federally leased coal • Suitable WSR segments classified as scenic and recreational (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) • From 0.50- to 5.0 miles of either side of the Old Spanish National Historic Trail	stage or within 100 meters (328 feet) of the 100-year floodplain (whichever is greater) on the Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers • Within 325 feet of the edge of the ordinary high-water mark (bank-full stage) of perennial streams • Within a distance greater than 1,000 feet but less than 2,640 feet of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply," and all public water supplies that use a groundwater well or spring • Within 100 feet from the edge of the riparian zone along perennial and intermittent waters and naturally occurring wetlands, springs, and seeps	water mark (bank-full stage) of perennial streams • Within a distance greater than 1,000 feet but less than 2,640 feet of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply," and all public water supplies that use a groundwater well or spring • Exemplary, ancient, and rare vegetation communities • From 325 to 500 feet of the perennial and intermittent waters and naturally occurring wetlands, springs, and seeps • Ecological emphasis areas (see *Wildlife – Terrestrial* section) • Desert and Rocky Mountain bighorn sheep summer range • Within 100 meters (328

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Alternative B.1 (North Fork area only): Allowable Use: **STIPULATION** *CSU* (all CSUs): Apply CSU restrictions on 199,170 acres (1,380 acres of which are in the North Fork area) of federal mineral estate: • BLM surface/federal fluid mineral estate: 135,950 acres • Private or State surface/federal fluid mineral estate: 63,620 acres that are open to oil and gas leasing (refer to Appendix B; Figure 2-21, Appendix A): • All areas with moderate geologic hazards • Lands visible from important vistas and travel corridors: o Jumbo Mountain o Youngs Peak o "H" Hill o Flanks of the West Elks o Needle Rock ACEC o Beyond 1.0 mile of: ▪ West Elk Scenic Byway (Colorado Highways 92 and 133 and Gunnison County Road 12) ▪ 3100 Road ▪ North Road	• Ecological emphasis areas (see *Wildlife – Terrestrial* section) • Within 500 feet of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout • Federally threatened, endangered, proposed, and candidate wildlife and bird species' occupied habitat (except Canada lynx) • Within 0.25-mile of bald eagle roost or nest sites • Within 0.125-mile of golden eagle, osprey, accipiter, falcon (except kestrel), buteo, and owl nest sites • Within 0.25-mile of peregrine falcons cliff nesting complex • Within 330 feet of active nest sites and associated alternate nests of raptors that are not special status (except American kestrel, red-tailed hawk, and great-horned owl) • Within 4.0 miles of an active	feet) of BLM sensitive plant species • Within habitat for individuals or populations of federally listed plant species • Between 325 and 500 feet of occupied habitat for conservation populations (90 percent pure or greater) of native cutthroat trout • Yellow-billed cuckoo habitat • Canada lynx habitat • Within 4.0 miles of a lek to protect Gunnison sage-grouse mapped seasonal habitats (non-lek breeding, late brood-rearing, and winter habitat) or suitable sagebrush habitat • Within 1.0 mile of accipiter, falcon (except kestrel), buteo, and owl (except Mexican spotted owl) nest sites • Bald eagle habitat (winter concentration and communal roosts) • Mexican spotted owl suitable breeding habitat

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		▪ Crawford Road ▪ Back River Road	Gunnison sage-grouse lek • Within 0.25-mile of federally listed, BLM sensitive, and Colorado state species of concern bat species' maternity roost sites and winter hibernacula (all entrances to cave/mine network) • Within 100 meters (328 feet) of sites listed on the National or State Registers of Historic Places • Federally leased coal • Curecanti National Recreation Area • State parks • State wildlife areas • ACECs ○ Adobe Badlands ○ Fairview South ○ San Miguel River • From 50 meters (164 feet) to 5 miles of either side of the Old Spanish National Historic Trail • Within 0.25-mile of scenic byways	• Within 150 feet of active Gunnison and white-tailed prairie dog towns • Within 200 meters (656 feet) of active kit fox dens • Within 0.25-mile of Colorado state species of concern bat species' maternity roost sites and winter hibernacula (all entrances to cave/mine network) • Tabeguache Pueblos Area and Tabeguache Canyon • Area of archaeological significance • ERMAs • SRMAs ○ Dry Creek RMZs 1 and 3 ○ San Miguel River RMZ 4 • Federally leased coal • Suitable WSR segments classified as recreational (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) • From 0.5 to 5 miles of either side of the Old Spanish National Historic Trail

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				• Within 0.5-mile of scenic byways
338.	Allowable Use: **STIPULATION** *TLs* (all TLs): Prohibit surface occupancy and, in some cases, surface-disturbing activities, on 501,100 acres of the federal mineral estate (see the specific resource section and Appendix B for dates): • BLM surface/federal fluid mineral estate: 423,900 acres • Private or State surface/federal fluid mineral estate: 77,200 acres that are open to oil and gas leasing (BLM 1985, 1989a; refer to Appendix B; Figure 2-24, Appendix A): • Highly erodible and/or saline soil areas • White pelican • Waterfowl habitat • Big game species (mule deer, elk, pronghorn antelope, and bighorn	Allowable Use: **STIPULATION** *TLs* (all TLs): Prohibit surface occupancy and surface-disturbing activities on 696,450 acres* of the federal mineral estate (see the specific resource section and Appendix B for dates): • BLM surface/federal fluid mineral estate: 494,580 acres* • Private or State surface/federal fluid mineral estate: 201,870 acres* that are open to fluid mineral leasing (refer to Appendix B; Figure 2-25, Appendix A): • Saturated soils • Coldwater sport and native fish • Big game crucial winter range (elk, mule deer, pronghorn antelope, moose, and Rocky Mountain and desert bighorn sheep) • Big game reproduction areas (elk, pronghorn antelope, Rocky Mountain and desert bighorn sheep, and moose calving/fawning/lambing areas) • Wild turkey winter habitat • Migratory bird breeding habitat • Gunnison sage-grouse winter habitat	Allowable Use: **STIPULATION** *TLs* (all TLs): Prohibit surface occupancy and surface-disturbing activities on 582,390 acres of the federal mineral estate (see the specific resource section and Appendix B for dates): • BLM surface/federal fluid mineral estate: 475,220 acres • Private or State surface/federal fluid mineral estate: 107,170 acres that are open to fluid mineral leasing (refer to Appendix B; Figure 2-26, Appendix A): • Coldwater sport fish • Big game crucial winter range (elk and mule deer) • Elk reproduction areas • Yellow-billed cuckoo habitat • Active kit fox dens	Allowable Use: **STIPULATION** *TLs* (all TLs): Prohibit surface occupancy and surface-disturbing activities on 865,970 acres of the federal mineral estate (see the specific resource section and Appendix B for dates): • BLM surface/federal fluid mineral estate: 627,290 acres • Private or State surface/federal fluid mineral estate: 238,680 acres that are open to fluid mineral leasing (Refer to Appendix B; Figure 2-27, Appendix A): • Saturated soils • Coldwater sport and native fish • Big game crucial winter range (severe winter range and winter concentration areas) • Big game reproduction areas (elk, pronghorn antelope, Rocky Mountain and desert bighorn sheep, and moose calving/fawning/lambing

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	sheep) • Big game birthing areas • Grouse • Raptor nesting and fledgling habitat (golden eagle, accipiters, falcons [except kestrel], buteos, and owls) • Osprey nesting and fledgling habitat • Bald eagle nesting habitat • Peregrine falcon cliff nesting complex • Ferruginous hawk • Bald eagle winter roost sites • Bald eagle winter concentration areas • Mexican spotted owl nesting and fledgling habitat	• Gunnison sage-grouse breeding (non-lek) habitat • Within 0.5-mile of active special status raptor nest sites and associated alternate nests • Within 0.25-mile of active nest sites and associated alternate nests of raptors that are not special status (except kestrel) • Bald eagle winter concentration areas • Within 300 feet of active Gunnison and white-tailed prairie dog colonies • East Paradox ACEC **Under Alternative B.1, portions of some of the above areas would be closed to oil and gas leasing. As such, 609,360 acres of the federal mineral estate would be subject to TL stipulations:* • *BLM surface/federal fluid mineral estate: 454,230 acres* • *Private or State surface/federal fluid mineral estate: 155,130 acres*		areas) • Wild turkey winter habitat • Migratory bird breeding habitat • Gunnison sage-grouse winter habitat • Gunnison sage-grouse breeding (lek and non-lek) habitat • 0.5-mile radius around active nests of bald and golden eagle, ferruginous hawk, peregrine and prairie falcon, and northern goshawk • 0.25-mile radius around active nests of osprey; red-tailed, Swainson's, Cooper's, and sharp-shinned hawk; northern harrier; burrowing and great horned owl; and other owls and raptors (except kestrel) • Bald eagle winter roost sites • Bald eagle winter concentration areas • Mexican spotted owl suitable breeding habitat (nesting and fledgling habitat) • Within 300 feet of active Gunnison and white-tailed

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
				prairie dog colonies • Active kit fox dens
339.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **NO LEASING** NL-14: *Recreation Park*. Close to fluid mineral leasing and geophysical exploration the following areas where the BLM holds the fluid mineral rights: • Curecanti National Recreation Area • State parks • State wildlife areas (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: **STIPULATION** CSU-49: *Recreation Park*. Surface occupancy or use may be restricted where the BLM holds the fluid mineral rights under the following areas: • Curecanti National Recreation Area • State parks • State wildlife areas Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. (Refer to Appendix B; Figure 2-22, Appendix A.)	Allowable Use: **STIPULATION** NSO-54: *Recreation Park*. Prohibit surface occupancy and use within the boundaries of: • Curecanti National Recreation Area • State parks • State wildlife areas • Municipal parks (Refer to Appendix B; Figure 2-23, Appendix A.)
340.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-55: *Bureau of Reclamation Dams or Appurtenant Structures.* Prohibit surface occupancy and use within 1,500 feet of a BOR dam (i.e., Ridgway, Crawford, and Paonia Dams) or their appurtenant structures. Also, prohibit directional drilling within 1,500 vertical feet below a BOR dam or its appurtenant structures. (Directional drilling could be conducted more than 1,500 feet below these dams and structures from outside the 1,500-foot radius of the structures; refer to Appendix B; Figures 2-20 [Alternative B], 2-22 [Alternative C], and 2-23 [Alternative D], Appendix A.)		
341.	**Action:** Require operators to meet the current BLM Goldbook standards for soil and water protection and plans for surface reclamation, plus other BMPs (Appendix G), as applicable, for all permitted fluid minerals (i.e., oil and gas and geothermal) actions.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
342.	**Action:** No similar action in current RMPs.	**Action:** Where appropriate and feasible, require installation of central liquids gathering and production facilities to reduce the total number of sources and to minimize truck traffic during fluid minerals development.		
343.	**LOCATABLE MINERALS, MINERAL MATERIALS, & NONENERGY LEASABLE MINERALS**			
344.	**GOAL:** Provide opportunities to develop locatable minerals, mineral materials, and nonenergy leasable minerals consistent with other resource goals and uses to support local and national energy and mineral needs.			
345.	*LOCATABLE MINERALS*			
346.	**Objective:** Minimize public land withdrawn from mining. Allow mineral development on all areas not specifically excluded from development. Provide protective stipulations to limit impacts on other resource values (BLM 1985).	**Objective:** Facilitate environmentally responsible exploration and development of locatable minerals.		
347.	**Action:** Maintain the following areas as withdrawn from locatable mineral entry (28,060 acres; Figures 2-32 [Alternative A], 2-33 [Alternative B], 2-34 [Alternative C], and 2-35 [Alternative D], Appendix A): • Tabeguache Area • Cory Lode mine for bat roosting (20 acres; BLM 2008c) • BOR withdrawals (9,010 acres) • FERC withdrawals (1,610 acres) • DOE lease tracts (9,620 acres; BLM 1985)			
348.	**Action:** Recommend to the Secretary of the Interior withdrawal from mineral	**Action:** Recommend to the Secretary of the Interior withdrawal from mineral entry the following areas totaling	**Action:** Recommend to the Secretary of the Interior withdrawal from mineral entry the	**Action:** Recommend to the Secretary of the withdrawal from mineral entry the following

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	entry the following areas totaling 27,690 acres (Figure 2-32, Appendix A): • Dolores Cave (BLM 1985) • Tabeguache Pueblo (BLM 1985) • Important cultural resource properties (BLM 1985) • ACECs ○ Needle Rock (BLM 1989a) ○ Adobe Badlands (BLM 1989a) ○ Fairview South (BLM 1989a)	387,270 acres: • BLM surface/federal mineral estate: 382,900 acres • Private or State surface/federal mineral estate: 4,370 acres (Figure 2-33, Appendix A): • Lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Lands within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring • Sensitive bat species' significant maternity roost or hibernaculum • Lands managed to protect wilderness characteristics • San Miguel River, Uncompahgre River, North Fork Gunnison River, Gunnison River, and Dolores River, plus a 0.25-mile buffer each side of center • SRMAs • ACECs • Suitable WSR segments classified as	following areas totaling 11,250 acres: • BLM surface/federal mineral estate: 9,550 acres • Private or State surface/federal mineral estate: 1,700 acres (Figure 2-34, Appendix A): • Lands within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Lands within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring	areas totaling 55,880 acres: • BLM surface/federal mineral estate: 54,090 acres • Private or State surface/federal mineral estate: 1,790 acres (Figure 2-35, Appendix A): • Same as Alternative C, plus: ○ Recreational sites (100-foot buffer) ○ ACECs – Needle Rock – Dolores River Slickrock Canyon – San Miguel River – Biological Soil Crust – Paradox Rock Art – Roubideau Corridors ○ Suitable WSR segments classified as wild (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) ○ Sensitive bat species' significant maternity roost or hibernaculum

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		wild (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)])		
349.	**Action:** Allow locatable mineral exploration and development on the remaining 840,440 acres under the General Mining Law of 1872: • BLM surface/federal mineral estate: 620,050 acres • Private or State surface/ federal mineral estate: 220,390 acres Continue approved operations of hard rock mining on 12,790 acres (emphasis area E) under 43 CFR, 3809, regulations (BLM 1985). Open 309,720 acres (management units 1-3, 5, 7-11, 15, 16) to mineral entry and location due to the lack of resource conflicts.	**Action:** Allow locatable mineral exploration and development on the remaining 480,860 acres under the General Mining Law of 1872: • BLM surface/federal mineral estate: 264,840 acres • Private or State surface/federal mineral estate: 216,020 acres	**Action:** Allow locatable mineral exploration and development on the remaining 856,880 acres under the General Mining Law of 1872: • BLM surface/federal mineral estate: 638,190 acres • Private or State surface/ federal mineral estate: 218,690 acres	**Action:** Allow locatable mineral exploration and development on the remaining 812,250 acres under the General Mining Law of 1872: • BLM surface/federal mineral estate: 593,650 acres • Private or State surface/ federal mineral estate: 218,600 acres

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
350.	*MINERAL MATERIALS*			
351.	**Objective:** Allow mineral development on all areas not specifically excluded from development. Provide protective stipulations to limit impacts on other resource values (BLM 1985).	**Objective:** Facilitate environmentally responsible exploration and development of mineral materials.		
352.	Allowable Use: Identify 104,690 acres of federal mineral estate • BLM surface/federal mineral estate: 102,190 acres • Private or State surface/federal mineral estate: 2,500 acres as closed to mineral materials disposal (BLM 1989a; Figure 2-36, Appendix A): • Riparian zones • ACECs • Tabeguache Area • Needle Rock ISA • Portion of Adobe Badlands WSA (6,380 acres) • In the San Miguel SRMA outside the ACEC (13,210	Allowable Use: Close 567,590 acres of federal mineral estate • BLM surface/federal mineral estate: 499,340 acres • Private or State surface/federal mineral estate: 68,250 acres to mineral materials disposal (Figure 2-37, Appendix A): • Lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Lands within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring	Allowable Use: Close 58,610 acres of federal mineral estate • BLM surface/federal mineral estate: 56,350 acres • Private or State surface/federal mineral estate: 2,260 acres to mineral materials disposal (Figure 2-38, Appendix A): • Lands within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Lands within a 1,000-foot	Allowable Use: Close 135,370 acres of federal mineral estate • BLM surface/federal mineral estate: 132,520 acres • Private or State surface/federal mineral estate: 2,850 acres to mineral materials disposal (Figure 2-39, Appendix A): • Lands within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" • Lands within a 1,000-foot

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	acres), the San Miguel River, creeks, and their riparian corridors (BLM 1993a)	• Ecological emphasis areas • Lands within 500 feet of riparian areas • Federally threatened, endangered, proposed, and candidate plant species' occupied habitat • Potential Fossil Yield Classification 5a areas (270,070 acres) • Lands managed to protect wilderness characteristics • SRMAs • ACECs • Tabeguache Area • WSAs • Suitable WSR segments classified as wild (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) • Lands within 0.50-mile of congressionally designated National Trails • DOE Uranium Mill Tailings Remedial Action Area	buffer of all public water supplies using a groundwater well or spring • Federally threatened, endangered, and proposed plant species' occupied habitat • Tabeguache Area • WSAs • Lands within 50 meters (164 feet) of congressionally designated National Trails • DOE Uranium Mill Tailings Remedial Action Area	buffer of all public water supplies that use a groundwater well or spring • Lands within 100 feet of riparian areas • Federally threatened, endangered, and proposed plant species' occupied habitat • Lands managed to protect wilderness characteristics • SRMAs ○ Dolores River Canyon ○ Dry Creek RMZs 1, 2, and 4 ○ Jumbo Mountain ○ Ridgway Trails ○ Roubideau RMZs 1-3 ○ A portion of San Miguel River RMZ 1 (13,660 acres) and San Miguel River RMZs 2-4 ○ Spring Creek RMZs 1 and 2 • ACECs • Tabeguache Area • WSAs • Suitable WSR segments; • Lands within 50 meters (164 feet) of congressionally

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
				designated National Trails • DOE Uranium Mill Tailings Remedial Action Area
353.	Allowable Use: Allow disposal of mineral materials on 791,500 acres of federal mineral estate: • BLM surface/federal mineral estate: 573,610 acres • Private or State surface/federal mineral estate: 217,890 acres (BLM 1985, 1989a). Continue sand and gravel operations (BLM 1985; refer to Figure 2-36, Appendix A.)	Allowable Use: Allow disposal of mineral materials on 328,600 acres of federal mineral estate: • BLM surface/federal mineral estate: 176,460 acres • Private or State surface/federal mineral estate: 152,140 acres (Refer to Figure 2-37, Appendix A.)	Allowable Use: Allow disposal of mineral materials on 837,580 acres of federal mineral estate: • BLM surface/federal mineral estate: 619,450 acres • Private or State surface/federal mineral estate: 218,130 acres (Refer to Figure 2-38, Appendix A.)	Allowable Use: Allow disposal of mineral materials on 760,820 acres of federal mineral estate: • BLM surface/federal mineral estate: 543,280 acres • Private or State surface/federal mineral estate: 217,540 acres (Refer to Figure 2-39, Appendix A.)
354.	**Action:** Manage 120,260 acres as a common use area for moss rock (refer to Figure 2-75, Appendix A).	**Action:** Manage 120,260 acres as a common use area for moss rock (refer to Figure 2-75, Appendix A).	**Action:** Manage 120,260 acres as a common use area for moss rock (refer to Figure 2-75, Appendix A). Establish common use areas in appropriate locations and with sufficient capacity, while avoiding proliferation of sites for similar materials in a given area.	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
355.	Allowable Use: **STIPULATION** *TL* (all TLs): Apply TLs to 146,050 acres (management units 2 and 5) that are open to mineral materials disposal (BLM 1989a; refer to Appendix B.)	Allowable Use: No similar allowable use. TLs are applied through other programs.		
356.	*NONENERGY SOLID LEASABLE MINERALS (e.g., sodium and potassium)*			
357.	**Objective:** Allow mineral development on all areas open to such development. Provide protective stipulations to limit impacts on other resource values (BLM 1985).	**Objective:** Facilitate environmentally responsible exploration and development of nonenergy solid leasable minerals.		
358.	Allowable Use: Close 44,220 acres in the following areas to nonenergy solid leasable mineral exploration and/or development (Figure 2-40, Appendix A): • Tabeguache Area • WSAs	Allowable Use: Close 395,900 acres • BLM surface/federal mineral estate: 386,400 acres • Private or State surface/federal mineral estate: 9,500 acres in the following areas to nonenergy leasable mineral exploration and/or development (Figure 2-41, Appendix A): • Same as Alternative A, plus ○ Lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream	Allowable Use: Close 57,390 acres • BLM surface/federal mineral estate: 55,570 acres • Private or State surface/federal mineral estate: 1,820 acres in the following areas to nonenergy leasable mineral exploration and/or development (Figure 2-42, Appendix A): • Same as Alternative A, plus ○ Lands within 1,000 feet of	Allowable Use: Close 170,490 acres • BLM surface/federal mineral estate: 168,130 acres • Private or State surface/federal mineral estate: 2,360 acres in the following areas to nonenergy leasable mineral exploration and/or development (Figure 2-43, Appendix A): • Same as Alternative C, plus ○ Lands managed to protect

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" ○ Lands within a 2,640-foot (0.50-mile) buffer of all public water supplies that use a groundwater well or spring ○ Federally threatened, endangered, proposed, and candidate plant species' occupied habitat ○ Lands managed to protect wilderness characteristics ○ SRMAs ○ ACECs ○ Suitable WSR segments classified as wild (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) ○ Lands within 0.50-mile of congressionally designated National Trails	either side of a classified surface water-supply stream segment (as measured from the average high water mark) for a distance of 5 miles upstream of a public water supply intake classified by the State as "water supply" ○ Lands within a 1,000-foot buffer of all public water supplies that use a groundwater well or spring ○ Federally threatened, endangered, and proposed plant species' occupied habitat ○ Lands within 50 meters (164 feet) of congressionally designated National Trails	wilderness characteristics ○ SRMAs ○ ACECs ○ Suitable WSR segments (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)])
359.	Allowable Use: Continue nonenergy solid leasable mineral leasing on 631,480 acres (BLM 1985).	Allowable Use: Manage 500,290 acres as open for consideration of nonenergy solid leasable mineral exploration and/or development, subject to stipulations in Appendix B:	Allowable Use: Manage 838,800 acres as open for consideration of nonenergy solid leasable mineral exploration and/or development, subject to	Allowable Use: Manage 725,700 acres as open for consideration of nonenergy solid leasable mineral exploration and/or development, subject to

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• BLM surface/federal mineral estate: 289,400 acres • Private or State surface/federal mineral estate: 210,890 acres	stipulations in Appendix B: • BLM surface/federal mineral estate: 620,230 acres • Private or State surface/federal mineral estate: 218,570 acres	stipulations in Appendix B: • BLM surface/federal mineral estate: 507,670 acres • Private or State surface/federal mineral estate: 218,030 acres
360.	**RECREATION AND VISITOR SERVICES**			
361.	**GOAL:** Produce a diversity of quality recreational opportunities that support outdoor-oriented lifestyles and add to participants' quality of life, enhance the quality of local communities, and foster protection of natural and cultural resources.			
362.	**Objective:** Manage public lands for a variety of targeted and dispersed recreation opportunities in natural settings consistent with classifications determined in Recreational Opportunity Spectrum inventories (BLM 1985).	**Objective:** Provide quality recreational opportunities and increase awareness, understanding, and a sense of stewardship in recreational users so their conduct safeguards cultural and natural resources as defined by Colorado Standards for Public Land Health and area-specific (e.g., ACECs and WSRs) objectives. Increase collaboration with community partners to maintain appropriate activity-based recreation opportunities in community growth areas (BLM-administered lands adjacent to, between, and surrounding communities; also referred to as wildland-urban interface areas).		

363.	**Action:**
	No similar action in current RMPs.
		Action:
		Close the following areas to dispersed camping:
		• Day use areas
		• SRMAs
		  ○ Burn Canyon
		  ○ Dolores River Canyon
		  ○ Dry Creek RMZ 3
		  ○ Jumbo Mountain RMZ 2
		  ○ Kinikin Hills RMZ 3
			Action:
			Close the following areas to dispersed camping:
			• Day use areas
			• San Miguel River ERMA
				Action:
				Close the following areas to dispersed camping:
				• Same as Alternative C, plus
				  ○ SRMAs
				  – Dry Creek RMZs 1 and 2
				  – Roubideau RMZ 4
				  – San Miguel River
				  – Spring Creek RMZ 3

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		○ North Delta RMZ 2 ○ Paradox Valley RMZs 1, 2, and 3 ○ Roubideau RMZs 2, 3, and 4 ○ San Miguel River ○ Spring Creek RMZs 2 and 3 • ACECs ○ Dolores Slickrock Canyon ○ La Sal Creek ○ Paradox Rock Art ○ San Miguel River ○ West Paradox		○ ERMAs – Kinikin Hills – North Delta ○ Within 200 meters (656 feet) of Scenic Byways ○ Within 0.50-mile of rock climbing and bouldering areas ○ ACECs – Paradox Rock Art – San Miguel
364.	**Action:** No similar action in current RMPs.	**Action:** Close the following areas to overnight use: • All developed recreation sites along the San Miguel River, with the exception of Lower Beaver and Caddis Flats • SRMAs ○ Dry Creek RMZs 1, 2, and 4 ○ Jumbo Mountain RMZ 1 ○ Kinikin Hills RMZs 1 and 2 ○ North Delta RMZ 1 ○ Ridgway Trails ○ Spring Creek RMZ 1 • ACECs ○ East Paradox ○ Fairview South (CNHP Expansion) ○ Needle Rock ○ Salt Desert Shrub	**Action:** Close the following areas to overnight use: • ACECs ○ Needle Rock ○ Adobe Badlands ○ Fairview South	**Action:** Close the following areas to overnight use: • Same as Alternative C, plus ○ San Miguel Recreation Sites: Beaver, Deep Creek, Placerville, and Specie Creek ○ SRMAs – Dry Creek RMZ 4 – Jumbo Mountain RMZ 1 – Ridgway Trails – Spring Creek RMZ 1 ○ Biological Soil Crust ACEC

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
365.	**Action:** No similar action in current RMPs.	**Action:** Provide new and maintain existing facilities where needed to meet management objectives.		
366.	Allowable Use: Allow recreational mining.	Allowable Use: Prohibit recreational mining.	Allowable Use: Prohibit recreational mining in developed recreational sites.	Allowable Use: Prohibit recreational mining in the following areas: • In occupied streams during spawning periods to protect native fish ○ April 1 to July 15 for spring spawning native cutthroat trout, rainbow trout, and native warm water fish (flannelmouth sucker, bluehead sucker, and roundtail chub) • Within 100 feet of developed recreation sites, roadways, and boat ramps
367.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: No similar allowable use (prohibit by the allowable use above).	Allowable Use: Recreational mining must adhere to the following practices: • All recreational mining activities must take place within the stream channel, no closer than two feet from any stream bank (and /or inter-river island) with established vegetation, and	Allowable Use: Recreational mining must adhere to the following practices: • Prohibit motorized recreational mining (e.g., motorized dredge); • All activities shall be conducted below existing water surface; • Material too large to be

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			shall be conducted to prevent undercutting of banks; • Material too large to be moved by hand shall remain undisturbed; • All excavations shall have materials replaced upon completion of operations, and no sites shall be left open in excess of 14 days; • Operations shall not disturb in excess of two cubic yards of material per day; and • Anchorage systems (if used) shall not span the stream if it will restrict the free passage of water craft.	moved by hand, including using hand tools such as crowbars and pry-bars, shall remain undisturbed; • All excavations shall have materials replaced upon completion of operations, and no sites shall be left open in excess of 14 days; and • Operations shall not disturb in excess of one cubic yard of material per day.
368.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: Recommend to the Secretary of the Interior to withdraw from locatable mineral entry the San Miguel River, Uncompahgre River, North Fork Gunnison River, Gunnison River, and Dolores River, plus a 0.25-mile buffer each side of center.	Allowable Use: No similar allowable use. (Recreation sites would not be recommended for withdrawal from locatable mineral entry.)	Allowable Use: Recommend to the Secretary of the Interior to withdraw from locatable mineral entry all developed recreational sites plus a 100-foot buffer.
369.	**Objective:** No similar objective	**Objective:** Ensure that visitors are not exposed to unhealthy or unsafe human-created conditions, and achieve a minimum level of conflict between recreation participants and between recreation and other resource uses.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
370.	**Action:** Issue SRPs as a discretionary action to manage commercial, competitive, vending, special area use, organized groups, and event permits under the UFO Special Recreation Permit Policy and BLM Handbook H-2930-1, Recreation Permit Administration.	**Action:** Issue SRPs and competitive events as a discretionary action unless otherwise restricted. Issue SRPs for a wide variety of uses that are consistent with resource/program objectives and within budgetary/workload constraints. Prohibit vending permits outside of special events on BLM-administered lands. Apply cost-recovery procedures for issuing SRPs, where appropriate.		
371.	**Action:** Issue SRPs as a discretionary action to manage commercial, competitive, vending, special area use, organized groups, and event permits under the UFO Special Recreation Permit Policy and BLM Handbook H-2930-1, Recreation Permit Administration.	**Action:** Unless otherwise restricted through other RMP actions, same as Alternative A. Prohibit all competitive events in the following SRMAs: • Burn Canyon • Dolores River Canyon • Dry Creek RMZs 1, 2, and 4 • Jumbo Mountain • Kinikin Hills • North Delta • Paradox Valley RMZs 1 and 4 • Ridgway Trails • Roubideau RMZs 1, 2, and 3 • San Miguel River • Spring Creek RMZs 1 and 2 Prohibit motorized competitive events (allow nonmotorized competitive	**Action:** Unless otherwise restricted through other RMP actions, same as Alternative A.	**Action:** Unless otherwise restricted through other RMP actions, same as Alternative A. Prohibit all competitive events in the following SRMAs: • Dolores River Canyon • San Miguel River RMZs 2 and 3 Prohibit motorized competitive events (allow nonmotorized competitive events) in the following SRMAs: • Dry Creek RMZ 4 • Jumbo Mountain RMZ 1 • Ridgway Trails RMZ 1 • Roubideau RMZs 1, 2, and 3 • San Miguel River RMZs 1

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		events) in the following SRMAs: • Dry Creek RMZ 3 • Paradox Valley RMZs 2 and 3 • Roubideau RMZ 4 • Spring Creek RMZ 3		and 4 • Spring Creek RMZ 1 Prohibit motorized and mechanized competitive events (allow nonmotorized/ nonmechanized competitive events) in Spring Creek SRMA, RMZ 2.
372.	**Action:** No similar action in current RMPs, although organized group permits are required to be obtained by the organizer. Vehicle and participant, including spectator, limits are determined on a case-by-case basis. In the Dolores River Canyon SRMA, group size is limited to no more than 16 people.	**Action:** Unless otherwise restricted or allowed through other RMP actions, require the organizer to obtain organized group permits for groups with or expecting 50 people, including spectators. Adjust numbers if monitoring indicates the need. An additional restriction for SRMAs is: • Dolores River: No more than 12 people, including guides	**Action:** Unless otherwise restricted or allowed through other RMP actions, require the organizer to obtain organized group permits for groups with or expecting more than 150 people, including spectators. Adjust numbers if monitoring indicates the need.	**Action:** Unless otherwise restricted or allowed through other RMP actions, require the organizer to obtain organized group permits for groups with or expecting more than 16 people in a WSA, wilderness, or Tabeguache Area and groups with or expecting more than 75 people in all other areas. An additional restriction for SRMAs is: • Dolores River: No more than 16 people, including guides
373.	Allowable use: Allow hunting in accordance with CPW regulations.			
374.	Allowable Use: *Target Shooting*. Prohibit (close) target	Allowable use: *Target Shooting*. The purpose of the limits and closures is for visitor and	Allowable use: *Target Shooting*. The purpose of the closure is for visitor and	Allowable use: *Target Shooting*. The purpose of the limits and closures is

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	shooting in developed recreation sites (10 acres) (43 CFR, 8365.2-5; Figure 2-76, Appendix A).	public safety and to protect facilities from damage. Allow hunting in accordance with CPW regulations. Limit target shooting within the following areas: ○ Do not target shoot towards an intended target that is located across a designated route (roads and designated trails). ○ If within the range of the firearm, do not target shoot toward or in the direction of any developed recreation site. Prohibit (close) target shooting in the following areas (237,990 acres) (Figure 2-77, Appendix A): • Same as Alternative A, plus ○ Do not shoot within 0.25-mile of a residence, occupied building, or developed site or facility (e.g., recreation sites, substations, power lines, and communication sites). ○ Do not shoot at prairie dog colonies with burrowing owls. ○ Do not shoot within lands	public safety and to protect facilities from damage. Allow hunting in accordance with CPW regulations. Prohibit (close) target shooting in developed recreation sites (10 acres) (Figure 2-78, Appendix A).	for visitor and public safety and to protect facilities from damage. Allow hunting in accordance with CPW regulations. Limit target shooting within the following areas: • If within the range of the firearm, do not target shoot toward or in the direction of any developed site or facility (e.g., recreation site, communication site, and power substation). • Do not target shoot towards an intended target that is located across a designated route (roads and designated trails). Prohibit (close) target shooting in the following areas: (49,370 acres) (Figure 2-79, Appendix A): • Do not shoot within 150 yards of any developed recreation site. • Do not shoot within 200

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		managed to protect wilderness characteristics. ○ Do not shoot within the following SRMAs: – Burn Canyon – Dolores River Canyon – Dry Creek – Jumbo Mountain – Kinikin Hills – North Delta – Paradox Valley RMZs 1 and 2 – Ridgway Trails – Roubideau – San Miguel River – Spring Creek ○ Do not shoot within the following ACECs: – Roubideau-Potter-Monitor – San Miguel River – Paradox Rock Art ○ Do not shoot within the Tabeguache Area or WSAs.		feet of a residence or occupied building. • Do not shoot within the following ACECs: – San Miguel River – Paradox Rock Art • Do not shoot within the following SRMAs: – Dry Creek RMZs 1, 2, and 4 – Jumbo Mountain – Ridgway Trails – Roubideau RMZ 4 – San Miguel River – Spring Creek RMZs 1 and 3
375.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: The discharge of firearms for recreational target shooting is permitted on BLM-administered lands, considering areas with firearm use restrictions or closures, provided that the firearm is discharged toward a proper backstop sufficient to stop the projectile's forward progress beyond the intended target. Targets shall be constructed of wood, cardboard, and paper or similar unbreakable materials. Discharge of firearms at any appliance, television, object containing glass, or other target material that can shatter and cause a public safety hazard is prohibited. All shooting materials, including targets, shell boxes, shells, shell casings, and clay targets (e.g., trap and skeet), are considered litter and must be		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		removed and properly disposed of. Refer to the *Extensive Recreation Management Area*, *Special Recreation Management Area*, and *Areas of Critical Environmental Concern* sections for firearm use restrictions within these areas.		
376.	**Action:** No similar action in current RMPs.	**Action:** No similar action. (Designated shooting areas and ranges would not be allowed.)	**Action:** Allow designated shooting areas and ranges.	**Action:** Same as Alternative B.
377.	*SPECIAL RECREATION MANAGEMENT AREAS (SRMAs; Refer to Appendix J for details on settings and complete list of actions)*			
378.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage administratively designated areas (SRMAs) to provide for targeted recreation, experiences, and settings for personal, community, environmental, and economic benefits.		
379.	**Action:** Manage 49,320 acres as SRMAs to provide targeted recreation opportunities, visitor experiences, and benefits. Investments in SRMAs include facilities, visitor management, interpretation and environmental education, and increased on-the-ground BLM presence for enhanced visitor services and resource protection (Figure 2-44, Appendix A; also refer to Appendix J, Description of Recreation Management Areas, for figures of each SRMA):	**Action:** Manage 244,050 acres as SRMAs to provide targeted recreation opportunities, experiences, and benefits listed below (Figure 2-45, Appendix A; also refer to Appendix J, Description of Recreation Management Areas, for settings and actions of each SRMA): • Burn Canyon (9,160 acres) • Dolores River Canyon (13,380 acres) • Dry Creek (42,180 acres) • Jumbo Mountain (5,020 acres) • Kinikin Hills(11,320 acres) • North Delta (8,520 acres) • Paradox Valley (86,990 acres) • Ridgway Trails (1,130 acres) • Roubideau (25,350 acres)	**Action:** No similar action. (Manage no areas as SRMAs; see ERMAs.)	**Action:** Manage 124,400 acres as SRMAs to provide targeted recreation opportunities, experiences, and benefits listed below (Figure 2-47, Appendix A; also refer to Appendix J, Description of Recreation Management Areas, for settings and actions of each SRMA): • Dolores River Canyon (13,380 acres) • Dry Creek (42,180 acres) • Jumbo Mountain (1,360 acres) • Ridgway Trails (1,130 acres) • Roubideau (25,350 acres) • San Miguel River (36,020

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	• Dolores River Canyon (13,380 acres) • San Miguel River (35,940 acres) Refer to Appendix J, Description of Recreation Management Areas.	• San Miguel River (36,020 acres) • Spring Creek (4,980 acres) Refer to Appendix J, Description of Recreation Management Areas.		acres) • Spring Creek (4,980 acres) Refer to Appendix J, Description of Recreation Management Areas.
380.	**Action:** No similar action.	**Action:** Within SRMAs, allow activities that benefit biological values (including fire) to support the management objectives of the overlying ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, areas with exemplary, ancient, or rare vegetation, and suitable WSR segments with a fish, wildlife, or vegetation ORV.	**Action:** No similar action (there would be no SRMAs under this alternative).	**Action:** Within SRMAs, allow activities that benefit biological values (including fire) to support the management objectives of the overlying ACECs, WSAs, lands managed to protect wilderness characteristics, ecological emphasis areas, areas with exemplary, ancient, or rare vegetation, and suitable WSR segments with a fish, wildlife, or vegetation ORV, if consistent with SRMA objectives in the long term.
381.	*Burn Canyon SRMA (Refer to Appendix J for prescribed setting character conditions)*			
382.	***Objective:*** *No similar objective.*	*Zone 1* ***Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in nonmotorized/ nonmechanized, quiet trail activities so that they report an average 4.0 realization of the following targeted*	***Objective:*** *No similar objective (see Burn Canyon ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized): *Target the following Activities:* *Horseback riding and hiking* *Experiences* – Enjoying nature and escaping personal-social pressures. *Benefits* – Improve physical fitness and health maintenance; improve capacity for outdoor physical activity; develop a more outdoor-oriented lifestyle; improve appreciation of nature's splendor.		
383.	***Objective:*** *No similar objective.*	*Zone 2* ***Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in motorized and nonmotorized trail activities, including challenging natural surfaced disabled accessible trails with adaptive equipment so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV use, mountain biking, and accessible trails through the use of current and emerging adaptive equipment.	***Objective:*** *No similar objective (see Burn Canyon ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Experiences – Enjoying nature; being able to frequently participate in desired activities and settings; enjoying easy access to natural landscapes; gaining a greater sense of self-confidence; developing skills and abilities; and increasing quality of life. *Benefits* – Improve local economic stability and physical fitness and health maintenance; enhanced quality of life; improve capacity for outdoor physical activity; improve outdoor knowledge and self-confidence; develop a more outdoor-oriented lifestyle; more positive contributions to local and regional economy; increased local tax revenue from visitors; increased local job opportunities; increased desirability as a place to live or retire; increased local tourism revenue; greater diversification of local job offerings; and improve appreciation of nature's splendor.		
384.	***Objective:*** *No similar objective.*	*Zone 3* ***Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in backcountry activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability*	***Objective:*** *No similar objective (see Burn Canyon ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		scale, where 1=not at all realized to 5=totally realized): *Target the following Activities:* *Mountain biking, hunting, hiking, and horseback riding* *Experiences* – Enjoying getting some needed physical rest; enjoying exploring; and feeling good about solitude. *Benefits* – Restore mind from unwanted stress; improve mental well-being; improve outdoor knowledge and self-confidence; improve appreciation of nature's splendor; and improve local economic stability.		
385.	*Dolores River Canyon SRMA (Refer to Appendix J for prescribed setting character conditions)*			
386.	***Objective:*** *No similar objective.*	*Zone 1* ***Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in quiet water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* *Rafting, kayaking, fishing, educational programs, and hiking* *Experiences* – Being able to tell others about the trip; enjoying risk-taking	***Objective:*** *No similar objective (see Dolores River Canyon ERMA).*	*Zone 1* ***Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in quiet water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* *Rafting, kayaking, fishing, educational programs, and hiking* *Experiences* – Being able to tell

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		adventure; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; escaping everyday responsibilities for a while; and just knowing this attraction is here. <u>Benefits</u> – Restored mind from unwanted stress; improved skills for outdoor enjoyment; greater awareness of outdoor ethics (e.g., "leave no trace"); a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater freedom from urban living; restored body from fatigue; enhanced lifestyle; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.		others about the trip; enjoying risk-taking adventure; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; escaping everyday responsibilities for a while; and just knowing this attraction is here. <u>Benefits</u> – Restored mind from unwanted stress; improved skills for outdoor enjoyment; greater awareness of outdoor ethics (e.g., "leave no trace"); a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater freedom from urban living; restored body from fatigue; enhanced lifestyle; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.
387.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/ nonmechanized, quiet trail*	***Objective:*** *No similar objective (see Dolores River Canyon ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/*

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized): *Target the following Activities:* *Hiking and backpacking* *Experiences* – Developing skills and abilities; enjoying exploring; enjoying risk-taking adventure; learning more about things here; savoring the total sensory experience of a natural landscape; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; and just knowing this attraction is here. *Benefits* – Improved mental well-being; greater self-reliance; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; a more outdoor-oriented lifestyle; enhanced sense of personal freedom; greater sense of adventure; improved appreciation of nature's splendor; greater freedom from urban living; restored body from fatigue; lifestyle improvement or maintenance; enhanced lifestyle; greater retention of distinctive natural landscape features;		*nonmechanized, quiet trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* *Hiking and backpacking* *Experiences* – Developing skills and abilities; enjoying going exploring; enjoying risk-taking adventure; learning more about things here; savoring the total sensory experience of a natural landscape; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; and just knowing this attraction is here. *Benefits* – Improved mental well-being; greater self-reliance; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; a more outdoor-oriented lifestyle; enhanced sense of personal freedom;

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		and increased awareness and protection of natural landscapes.		greater sense of adventure; improved appreciation of nature's splendor; greater freedom from urban living; restored body from fatigue; lifestyle improvement or maintenance; enhanced lifestyle; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.
388.	*Dry Creek SRMA (Refer to Appendix J for prescribed setting character conditions)*			
389.	***Objective:*** *No similar objective,*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in motorized and mechanized technical riding activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcome (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *<u>Target the following Activities</u>:* *Rock Crawling and Trials Bike Riding* <u>Experiences</u> – Developing skills and abilities; being able to tell others about the trip; enjoying risk-taking adventure; talking to others about equipment; relishing group affiliation	***Objective:*** *No similar objective (see Dry Creek ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in motorized and mechanized technical riding activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *<u>Target the following Activities</u>:* *Rock Crawling and Trials Bike Riding* <u>Experiences</u> – Developing skills and abilities; being able to tell others about the trip; enjoying

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		and togetherness; enjoying meeting new people with similar interests; having easy access to natural landscapes; escaping everyday responsibilities for a while; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved skills for outdoor enjoyment; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater sense of adventure; improved understanding of the community's dependence and impact on public lands; improved physical capacity to do favorite recreation activities; enhanced quality of life; positive contributions to local/regional economic stability; increased local tourism revenue; and greater retention of distinctive natural landscape features.		risk-taking adventure; talking to others about equipment; relishing group affiliation and togetherness; enjoying meeting new people with similar interests; enjoying easy access to natural landscapes; escaping everyday responsibilities for a while; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved skills for outdoor enjoyment; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater sense of adventure; improved understanding of the community's dependence and impact on public lands; improved physical capacity to do favorite recreation activities; enhanced quality of life; positive contributions to local/regional economic stability; increased local

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				tourism revenue; and greater retention of distinctive natural landscape features.
390.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in rock climbing and observing natural landscapes activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* *Rock climbing for beginners, overlook viewing, and picnicking.* *Experiences* – Developing skills and abilities; gaining a greater sense of self-confidence; enjoying risk-taking adventure; relishing group affiliation and togetherness; enjoying meeting new people with similar interests; enjoying easy access to natural landscapes; escaping everyday responsibilities for a while; enjoying getting some needed physical exercise; enjoying access to close-to-home outdoor amenities; just knowing this attraction is here. *Benefits* – Improved mental well-being;	***Objective:*** *No similar objective (see Dry Creek ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in rock climbing and observing natural landscapes activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* *Rock climbing for beginners, overlook viewing, and picnicking.* *Experiences* – Developing skills and abilities; gaining a greater sense of self-confidence; enjoying risk-taking adventure; relishing group affiliation and togetherness; enjoying meeting new people with similar interests; enjoying easy access to natural landscapes; escaping everyday responsibilities for a while; enjoying getting some needed physical exercise; enjoying

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity awareness of outdoor aesthetics; closer relationship with the natural world; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; enhanced quality of life; improved local economic stability; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.		access to close-to-home outdoor amenities; just knowing this attraction is here. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity awareness of outdoor aesthetics; closer relationship with the natural world; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; enhanced quality of life; improved local economic stability; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
391.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in wide variety of recreational activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV riding, mountain biking, hiking, and horseback riding. *Experiences* – Enjoying exploring; learning more about things here; enjoying easy access to natural landscapes; enjoying a wide variety of environments within a recreation area; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; just knowing this attraction is here; and encouraging visitors to help safeguard lifestyle and quality of life. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place;	***Objective:*** *No similar objective (see Dry Creek ERMA).*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in wide variety of recreational activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV riding, mountain biking, hiking, and horseback riding. *Experiences* – Enjoying exploring; learning more about things here; enjoying easy access to natural landscapes; enjoying a wide variety of environments within a recreation area; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; just knowing this attraction is here; and encouraging visitors to help safeguard lifestyle and quality of life.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; positive contributions to local/regional economic stability; and increased awareness and protection of natural landscapes.		*Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; positive contributions to local/regional economic stability; and increased awareness and protection of natural landscapes.
392.	***Objective:*** *No similar objective.*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors of all abilities to engage in close to town nonmotorized activities, including natural surfaced, disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and*	***Objective:*** *No similar objective (see Dry Creek ERMA).*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors of all abilities to engage in close to town nonmotorized activities, including natural surfaced, disabled accessible trails so that they report an average 4.0*

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized): *Target the following Activities:* Mountain biking, running, hiking, horseback riding, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying going exploring; learning more about things here; enjoying access to hands-on environmental learning; enjoying learning outdoor ethics; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying a wide variety of environments within a single park or recreation area; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; escaping everyday responsibilities for a while; increasing the quality of life; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor		*realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Mountain biking, running, hiking, horseback riding, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying going exploring; learning more about things here; enjoying access to hands-on environmental learning; enjoying learning outdoor ethics; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying a wide variety of environments within a single park or recreation area; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; escaping everyday

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		enjoyment; improved outdoor knowledge and self-confidence; greater awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; greater opportunity for people with different skills to exercise in the same place; lifestyle improvement or maintenance; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.		responsibilities for a while; increasing the quality of life; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of this community's dependence and impact on public lands; greater opportunity for people with different skills to exercise in the same place; lifestyle improvement or maintenance; enhanced quality of life; improved local economic stability; positive contributions

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				to local/regional economic stability; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.
393.	*Jumbo Mountain SRMA (Refer to Appendix J for prescribed setting character conditions)*			
394.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use, stacked loop, nonmotorized trail activities, including challenging natural surfaced disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, horseback riding, running, hiking, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying meeting new people with similar interests; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural	***Objective:*** *No similar objective (see Jumbo Mountain ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use stacked loop nonmotorized trail activities including challenging natural surfaced disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, horseback riding, running, hiking, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying meeting

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		landscapes; enjoying getting some needed physical exercise; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; releasing or reducing some built-up mental tensions; escaping everyday responsibilities for a while; increasing/maintaining the quality of life here; feeling that this community is a special place to live; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity awareness of outdoor aesthetics; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; greater respect for		new people with similar interests; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; releasing or reducing some built-up mental tensions; escaping everyday responsibilities for a while; increasing/maintaining the quality of life here; feeling that this community is a special place to live; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		private property and local lifestyles; improved physical fitness and health maintenance; improved capacity for outdoor physical activity; greater opportunity for people with different skills to exercise in the same place; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.		sensitivity awareness of outdoor aesthetics; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; greater respect for private property and local lifestyles; improved physical fitness and health maintenance; improved capacity for outdoor physical activity; greater opportunity for people with different skills to exercise in the same place; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				awareness and protection of natural landscapes.
395.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in motorized and mechanized trail riding so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV use, mountain biking, hunting, and backpacking *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying being able to frequently participate in desired activities and settings; releasing or reducing some built-up mental tensions; escaping everyday responsibilities for a while; increasing/maintaining the quality of life here; feeling that this community is a special place to live; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from	***Objective:*** *No similar objective (see Jumbo Mountain ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in motorized and mechanized trail riding so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Motorcycle riding, mountain biking, hunting, and backpacking *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying being able to frequently participate in desired activities and settings; releasing or reducing some built-up mental tensions; escaping everyday responsibilities for a while; increasing/maintaining the quality of life here; feeling that

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; improved outdoor recreation skills; greater sensitivity awareness of outdoor aesthetics; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; improved capacity for outdoor physical activity; enhanced lifestyle; improved local economic stability; positive contributions to local/regional economic stability; and increased awareness and protection of natural landscapes.		this community is a special place to live; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; improved outdoor recreation skills; greater sensitivity awareness of outdoor aesthetics; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; improved capacity for outdoor physical activity; enhanced lifestyle; improved local economic stability; positive contributions to local/regional economic

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				stability; and increased awareness and protection of natural landscapes.
396.	*Kinikin Hills SRMA (Refer to Appendix J for prescribed setting character conditions)*			
397.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use nonmotorized/ nonmechanized single-track trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use horseback riding, running, and hiking. *Experiences* – Learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying teaching others about the outdoors; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved outdoor knowledge; increased quality of life; greater sensitivity awareness of outdoor aesthetics; enhanced awareness and understanding of	***Objective:*** *No similar objective (see Kinikin Hills ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		nature; enlarged sense of personal accountability for acting responsibly on public lands; improved appreciation of nature's splendor; greater personal enrichment through involvement with other people; greater cultivation of natural resource stewardship ethic; greater protection of plant habitat from growth, development, and public use impacts; and increased awareness and protection of natural landscapes.		
398.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in day use nonmotorized stacked loop single-track trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, running, hiking, and horseback riding. *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired	***Objective:*** *No similar objective (see Kinikin Hills ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		activities and settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; increasing/maintaining quality of life; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater understanding of the importance of recreation and tourism to the community; enlarged understanding of the responsibility to help care for this community and keep it clean; a more outdoor-oriented lifestyle; greater respect for private property and local lifestyles; improved physical fitness and health maintenance; improved physical capacity to do favorite recreation activities; greater opportunity for people with different skills to exercise in the same place; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		for privately owned lands; and reduced negative human impacts, such as litter, vegetative trampling, and unplanned trails.		
399.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in a variety of day use motorized and mechanized trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* <u>*Target the following Activities*</u>*:* Day use OHV riding and mountain biking. <u>*Experiences*</u> – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying being able to frequently participate in desired activities and settings; escaping everyday responsibilities for a while; just knowing this attraction is here; increasing/maintaining quality of life; and feeling good about how this attraction is being used and enjoyed. <u>*Benefits*</u> – Restored mind from unwanted stress; improved skills for outdoor enjoyment; greater	***Objective:*** *No similar objective (see Kinikin Hills ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		understanding of the importance of recreation and tourism to the community; enlarged sense of personal accountability for acting responsibly on public lands; enlarged understanding of my responsibility to help care for this community and keep it clean; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater respect for private property and local lifestyles; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; increased desirability as a place to live or retire; improved respect for privately owned lands; and reduced negative human impacts, such as litter, vegetative trampling, and unplanned trails.		
400.	*North Delta SRMA (Refer to Appendix J for prescribed setting character conditions)*			
401.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use nonmotorized/ nonmechanized single-track trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally*	***Objective:*** *No similar objective (see North Delta ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		realized): *Target the following Activities:* Day use hiking, running, and horseback riding *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities and settings; releasing or reducing some built-up mental tensions; increasing/maintaining quality of life; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved appreciation of nature's splendor; greater awareness that this community is a special place; greater respect for private property and local lifestyles; improved understanding of how this community's dependence and impact on public lands; improved physical fitness and health maintenance; enhance quality of life; improved local economic stability; positive contributions to local/regional economic stability; improved respect		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		for privately owned lands; and reduced negative human impacts such as litter, vegetative trampling, and unplanned trails.		
402.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in motorized single and two track trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Utility terrain vehicles and all-terrain vehicles (ATVs) (50 inches or less), motorcycles, and educational trainings and programs. *Experiences* – Talking to others about equipment; relishing group affiliation and togetherness; enjoying learning ethical and proper riding skills; enjoying easy access to natural landscapes; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities and settings; escaping everyday responsibilities for a while; just knowing this attraction is here; appreciating personal interaction with	***Objective:*** *No similar objective (see North Delta ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		visitors; safeguarding the lifestyle and quality of life; increasing/ maintaining the quality of life; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from unwanted stress; improved skills for outdoor enjoyment; enhanced awareness and understanding of nature; greater understanding of the importance of recreation and tourism to the community; enlarged sense of personal accountability for acting responsibly on public lands; a more outdoor-oriented lifestyle; greater respect for private property and local lifestyles; improved understanding of the community's dependence and impact on public lands; greater opportunity for people with different skills to enjoy the same place; enhanced quality of life; improved local economic stability; positive contributions to local/regional economic stability; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; increased awareness and protection of natural landscapes; and		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		reduced negative human impacts, such as litter, vegetative trampling, and unplanned trails.		
403.	*Paradox Valley SRMA (Refer to Appendix J for prescribed setting character conditions)*			
404.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in water-based and scenic/historical touring activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Scenic/historical road touring and river running activities. *Experiences* – Being able to tell others about the trip; enjoying exploring; relishing group affiliation and togetherness; learning more about things here; enjoying access to environmental learning; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; just knowing this attraction is here; enjoying telling visitors what makes this a special place; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Restored mind from	***Objective:*** *No similar objective (see Paradox Valley ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		unwanted stress; improved outdoor knowledge and self-confidence; enhanced awareness and understanding of nature; greater understanding of the importance of recreation and tourism to the community; improved appreciation of nature's splendor; greater personal enrichment through involvement with other people; increased appreciation of area's cultural history; greater awareness that this community is a special place; an improved stewardship ethic; improved understanding of the community's dependence and impact on public lands; enhanced quality of life; more positive contributions to local/regional economy; increased local tourism revenue; greater retention of distinctive natural landscape features; greater protection of area historic structures and archaeological sites; and increased awareness and protection of natural landscapes.		
405.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in rock climbing and observing natural landscapes activities so that they report*	***Objective:*** *No similar objective (see Paradox Valley ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized): *Target the following Activities:* Rock climbing, camping, and educational/training programs. *Experiences* – Developing skills and abilities; being able to tell others about the trip; enjoying risk-taking adventure; enjoying access to environmental learning; relishing group affiliation and togetherness; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater personal enrichment through involvement with other people; improved physical fitness and health maintenance; improved group cooperation; enhanced quality of life;		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		more positive contributions to local/regional economy; increased local tourism revenue; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.		
406.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in a wide variety of motorized and nonmotorized activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV riding, mountain biking, and dispersed camping. *Experiences* – Developing skills and abilities; enjoying exploring; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; escaping everyday responsibilities for a while; enjoying an escape from crowds of people; just knowing this attraction is here; and feeling good about how natural resources and facilities are being	***Objective:*** *No similar objective (see Paradox Valley ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; greater sensitivity to and awareness of outdoor aesthetics; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; enhanced quality of life; more positive contributions to local/regional economy; increased local tourism revenue; greater retention of distinctive natural landscape features; and increased awareness and protection of natural landscapes.		
407.	***Objective:*** *No similar objective.*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors to engage in quiet nonmotorized/ nonmechanized activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Backcountry educational programs, backcountry hiking/ backpacking and	***Objective:*** *No similar objective (see Paradox Valley ERMA).*	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		horseback riding. *Experiences* – Being able to tell others about the trip; enjoying exploring; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying some needed physical exercise; releasing or reducing some built-up mental tensions; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; greater sensitivity to and awareness of outdoor aesthetics; enhanced awareness and understanding of nature; enlarged sense of personal accountability for acting responsibly on public lands; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater freedom from urban living; greater cultivation of natural resource stewardship ethic; improved physical		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		fitness and health maintenance; enhanced quality of life; reduced wildlife disturbance from recreation facility development; reduced wildlife harassment by recreation users; greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts; increased awareness and protection of natural landscapes; and reduced negative human impacts, such as litter, vegetative trampling, and unplanned trails.		
408.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NGD-25: *SRMAs*. Prohibit surface-disturbing activities within RMZ 4 of Paradox Valley SRMA. (Refer to Appendix B; Figure 2-29, Appendix A.)	Allowable Use: No similar allowable use *(see Paradox Valley ERMA).*	
409.	*Ridgway Trails SRMA (Refer to Appendix J for prescribed setting character conditions)*			
410.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors of all abilities to engage in day use nonmotorized and educational activities, including disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally*	***Objective:*** *No similar objective (see Ridgway Trails ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors of all abilities to engage in day use nonmotorized and educational activities, including disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit*

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		realized): *Target the following Activities:* Day use outdoor living classroom, biking, horseback riding, accessible trails, running, and hiking. *Experiences* – Enjoying meeting new people with similar interests; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; enhanced awareness and understanding of nature; greater environmental awareness and sensitivity; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic;		*outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use outdoor living classroom, biking, horseback riding, accessible trails, running, and hiking. *Experiences* – Enjoying meeting new people with similar interests; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; enhanced

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.		awareness and understanding of nature; greater environmental awareness and sensitivity; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
411.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in day use, stacked loop, nonmotorized, trail activities, including challenging, natural surfaced, disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, horseback riding, running, hiking, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; increasing/ maintaining quality of life; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor	***Objective:*** *No similar objective (see Ridgway Trails ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in day use, stacked loop, nonmotorized, trail activities, including challenging, natural surfaced, disabled accessible trails so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, horseback riding, running, hiking, and accessible trails through the use of current and emerging adaptive equipment. *Experiences* – Developing skills and abilities; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; increasing/maintaining quality of life; releasing or reducing some built-up mental tensions; just knowing this

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.		attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; and increased awareness and protection of natural landscapes.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
412.	*Roubideau SRMA (Refer to Appendix J for prescribed setting character conditions)*			
413.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in nonmotorized/ nonmechanized backcountry activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Backcountry educational programs, backcountry hiking/ backpacking and horseback riding. *Experiences* – Gaining a greater sense of self-confidence; being able to tell others about the trip; enjoying going exploring; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying getting some needed physical exercise; releasing or reducing some built-up mental tensions; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; increasing/ maintaining quality of life; knowing that things are not going to change too	***Objective:*** *No similar objective (see Roubideau ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in nonmotorized/ nonmechanized backcountry activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Backcountry educational programs, backcountry hiking/ backpacking and horseback riding. *Experiences* – Gaining a greater sense of self-confidence; being able to tell others about the trip; enjoying going exploring; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying getting some needed physical exercise; releasing or reducing some built-up mental tensions; feeling good about solitude;

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; improved physical fitness and health maintenance; enhanced quality of life; greater retention of distinctive natural landscape features; reduced wildlife harassment by recreation users; reduced wildlife disturbance from recreation facility development; increased awareness and protection of natural landscapes; and greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts.		enjoying an escape from crowds of people; just knowing this attraction is here; increasing/ maintaining quality of life; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; improved physical fitness and health maintenance; enhanced quality of life; greater retention of distinctive natural landscape features; reduced wildlife harassment by recreation users; reduced wildlife

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				disturbance from recreation facility development; increased awareness and protection of natural landscapes; and greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts.
414.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/ nonmechanized canyon viewing activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Horseback riding, day use hiking, and overnight backpacking. *Experiences* – Gaining a greater sense of self-confidence; developing skills and abilities; enjoying exploring; learning more about things here; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying getting some needed physical exercise; releasing or reducing some built-up	***Objective:*** *No similar objective (see Roubideau ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/ nonmechanized canyon viewing activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Horseback riding, day use hiking, and overnight backpacking. *Experiences* – Gaining a greater sense of self-confidence; developing skills and abilities; enjoying exploring; learning more about things here; savoring the total sensory—sight, sound, and smell—

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		mental tensions; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; improved physical fitness and health maintenance; enhanced quality of life; increased desirability as a place to live or retire; greater retention of distinctive natural landscape features; reduced wildlife harassment by recreation users; reduced wildlife disturbance from recreation facility development; greater awareness that this community is a special place; greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts;		experience of a natural landscape; enjoying getting some needed physical exercise; releasing or reducing some built-up mental tensions; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; improved physical fitness and health maintenance; enhanced quality of life; increased desirability as a place to live or retire; greater retention of distinctive

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		and increased awareness and protection of natural landscapes.		natural landscape features; reduced wildlife harassment by recreation users; reduced wildlife disturbance from recreation facility development; greater awareness that this community is a special place; greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts; and increased awareness and protection of natural landscapes.
415.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in quiet use nonmotorized recreation, with the exception of a few existing motorized trails, so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Hunting, scenic viewing, and horseback riding. *Experiences* – Being able to tell others about the trip; enjoying exploring;	***Objective:*** *No similar objective (see Roubideau ERMA).*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in quiet use nonmotorized recreation, with the exception of a few existing motorized trails, so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Hunting, scenic viewing, and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		enjoying some needed physical rest; releasing or reducing some built-up mental tensions; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; greater opportunity for people with different skills to exercise in the same place; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; and increased awareness and protection of natural landscapes.		horseback riding. *Experiences* – Being able to tell others about the trip; enjoying exploring; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; greater opportunity for people with different skills to exercise in the same place; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; and increased awareness and protection of natural landscapes.

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
416.	***Objective:*** *No similar objective.*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors to engage in canyon overlook activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Motorized and nonmotorized scenic viewing, camping, and environmental learning. *Experiences* – Being able to tell others about the trip; enjoying exploring; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; just knowing this attraction is here; feeling good about how this attraction is being used and enjoyed; learning more about things here; enjoying easy access to natural landscapes; encouraging visitors to help safeguard the lifestyle and quality of life; and enjoying access to environmental learning. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence;	***Objective:*** *No similar objective (see Roubideau ERMA).*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors to engage in canyon overlook activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Motorized and nonmotorized scenic viewing, camping, and environmental learning. *Experiences* – Being able to tell others about the trip; enjoying exploring; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; just knowing this attraction is here; feeling good about how this attraction is being used and enjoyed; learning more about things here; enjoying easy access to natural landscapes; encouraging visitors to help safeguard the lifestyle and quality of life; and enjoying access to environmental

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		greater sensitivity to and awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater retention of distinctive natural landscape features; increased awareness and protection of natural landscapes.		learning. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; enhanced awareness and understanding of nature; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater awareness that this community is a special place; improved understanding of the community's dependence and impact on public lands; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; increased desirability as a place to live or retire; greater retention of distinctive natural landscape features; increased awareness and protection of natural landscapes.

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Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
417.	*San Miguel River SRMA (Refer to Appendix J for prescribed setting character conditions)*			
418.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in motorized and nonmotorized scenic touring and nonmotorized water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Rafting, kayaking, fishing, hiking, mountain biking, camping, nonmotorized trail use, educational programs, and scenic driving. *Experiences* – Developing skills and abilities; seeking solitude; seeking challenge and adventure; socializing with friends and family; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying extensive open space; enjoying outdoor exercise; enjoying a wide variety of environments within a single park or recreation area; enjoying being able to frequently participate in desired activities in desired settings;	***Objective:*** *No similar objective (see San Miguel River ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in motorized and nonmotorized scenic touring and nonmotorized water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Rafting, kayaking, fishing, hiking, mountain biking, camping, nonmotorized trail use, educational programs, and scenic driving. *Experiences* – Developing skills and abilities; seeking solitude; seeking challenge and adventure; socializing with friends and family; learning more about things here; enjoying access to hands-on environmental learning; enjoying easy access to natural landscapes; enjoying extensive open space; enjoying outdoor

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		releasing or reducing some built-up mental tensions; and escaping urban environments. Benefits – Restored mind from unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; improved outdoor recreation skills; greater sensitivity to and awareness of outdoor aesthetics; greater sensitivity to and respect for other visitors; enhanced awareness and understanding of nature; greater environmental awareness and sensitivity; enlarged sense of personal accountability for acting responsibly on public lands; closer relationship with the natural world; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater personal enrichment through involvement with other people; greater cultivation of natural resource stewardship ethic; increased appreciation of area's cultural history; greater respect for private property and local lifestyles; an improved stewardship ethic towards adjoining		exercise; enjoying a wide variety of environments within a single park or recreation area; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; and escaping urban environments. Benefits – Restored mind from unwanted stress; improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; improved outdoor recreation skills; greater sensitivity to and awareness of outdoor aesthetics; greater sensitivity to and respect for other visitors; enhanced awareness and understanding of nature; greater environmental awareness and sensitivity; enlarged sense of personal accountability for acting responsibly on public lands; closer relationship with the natural world; a more outdoor-oriented lifestyle;

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		host communities; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; reduced demands on local health care system; greater opportunity for people with different skills to exercise in the same place; improved community integration; improved group cooperation; strengthened family relationships; enhanced lifestyle; enlarged sense of community dependency on public lands; improved local economic stability; more positive contributions to local/regional economy; increased local tax revenue from visitors; increased local tourism revenue; increased desirability as a place to live or retire; increased awareness and protection of natural landscapes; greater retention of distinctive natural landscape features; sustainability of community's cultural heritage; improved respect for privately owned lands; and greater community ownership and stewardship of park, recreation, and natural resources.		greater sense of adventure; improved appreciation of nature's splendor; greater personal enrichment through involvement with other people; greater cultivation of natural resource stewardship ethic; increased appreciation of area's cultural history; greater respect for private property and local lifestyles; an improved stewardship ethic towards adjoining host communities; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; reduced demands on local health care system; greater opportunity for people with different skills to exercise in the same place; improved community integration; improved group cooperation; strengthened family relationships; enhanced lifestyle; enlarged sense of community dependency on public lands; improved local economic stability; more

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				positive contributions to local/regional economy; increased local tax revenue from visitors; increased local tourism revenue; increased desirability as a place to live or retire; increased awareness and protection of natural landscapes; greater retention of distinctive natural landscape features; sustainability of community's cultural heritage; improved respect for privately owned lands; and greater community ownership and stewardship of park, recreation, and natural resources.
419.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/ nonmechanized canyon exploring, with the exception of a few motorized routes, so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Backcountry hiking and backpacking	***Objective:*** *No similar objective (see San Miguel River ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in nonmotorized/ nonmechanized canyon exploring, with the exception of a few motorized routes, so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):*

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		and fishing. *Experiences* – Enjoying exploring; being able to tell others about the trip; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved physical fitness and health maintenance; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; greater sense of adventure; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; enhanced quality of life; greater retention of distinctive natural landscape features; reduced wildlife harassment by recreation users; greater protection of fish, wildlife, and plant habitat from growth,		*Target the following Activities:* Backcountry hiking and backpacking and fishing. *Experiences* – Enjoying exploring; being able to tell others about the trip; savoring the total sensory—sight, sound, and smell—experience of a natural landscape; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; enjoying an escape from crowds of people; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved physical fitness and health maintenance; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; greater sense of adventure; improved

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		development, and public use impacts; increased awareness and protection of natural landscapes; and restored mind from unwanted stress.		appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; enhanced quality of life; greater retention of distinctive natural landscape features; reduced wildlife harassment by recreation users; greater protection of fish, wildlife, and plant habitat from growth, development, and public use impacts; increased awareness and protection of natural landscapes; and restored mind from unwanted stress.
420.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in nonmotorized/ nonmechanized remote river canyon viewing activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Hiking, backpacking, rafting, kayaking, fishing, and camping. *Experiences* – Developing skills and abilities; being	***Objective:*** *No similar objective (see San Miguel River ERMA).*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in nonmotorized/ nonmechanized remote river canyon viewing activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Hiking, backpacking, rafting,

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		able to tell others about the trip; enjoying going exploring; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; closer relationship with the natural world; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; improved physical fitness and health maintenance; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; greater retention of distinctive natural landscape features; reduced wildlife disturbance from		kayaking, fishing, and camping. *Experiences* – Developing skills and abilities; being able to tell others about the trip; enjoying going exploring; enjoying getting some needed physical exercise; escaping everyday responsibilities for a while; feeling good about solitude; just knowing this attraction is here; knowing that things are not going to change too much; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; closer relationship with the natural world; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; improved

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		recreation facility development; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.		physical fitness and health maintenance; enhanced quality of life; improved local economic stability; more positive contributions to local/regional economy; increased local tourism revenue; greater retention of distinctive natural landscape features; reduced wildlife disturbance from recreation facility development; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.
421.	***Objective:*** *No similar objective.*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors to engage in scenic viewing through camping and nonmotorized water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Rafting, kayaking, fishing, camping, and educational programs. *Experiences* – Developing skills and	***Objective:*** *No similar objective (see San Miguel River ERMA).*	***Zone 4 Objective:*** *Through the life of the plan, manage Zone 4 for visitors to engage in scenic viewing through camping and nonmotorized water-based activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Rafting, kayaking, fishing,

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Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		abilities; relishing group affiliation and togetherness; learning more about things here; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; enjoying getting some needed physical rest; releasing or reducing some built-up mental tensions; just knowing this attraction is here; appreciating personal interaction with visitors; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; enlarged sense of personal accountability for acting responsibly on public lands; closer relationship with the natural world; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; greater respect for private property and local lifestyles; improved physical fitness and health maintenance;		camping, and educational programs. *Experiences* – Developing skills and abilities; relishing group affiliation and togetherness; learning more about things here; enjoying easy access to natural landscapes; enjoying getting some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; enjoying some needed physical rest; releasing or reducing some built-up mental tensions; just knowing this attraction is here; appreciating personal interaction with visitors; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and awareness of outdoor aesthetics; enlarged sense of personal accountability for

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		enhanced quality of life; improved local economic stability; increased awareness and protection of natural landscapes; increased local tourism revenue; greater community ownership and stewardship of park, recreation, and natural resources; greater retention of distinctive natural landscape features; enhanced awareness and understanding of nature; improved understanding of the community's dependence and impact on public lands; greater opportunity for people with different skills to exercise in the same place; improved respect for privately owned lands; and more positive contributions to local/regional economy.		acting responsibly on public lands; closer relationship with the natural world; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater cultivation of natural resource stewardship ethic; greater respect for private property and local lifestyles; improved physical fitness and health maintenance; enhanced quality of life; improved local economic stability; increased awareness and protection of natural landscapes; increased local tourism revenue; greater community ownership and stewardship of park, recreation, and natural resources; greater retention of distinctive natural landscape features; enhanced awareness and understanding of nature; improved understanding of the community's dependence and impact on public lands; greater opportunity for people with different skills to exercise in the same place;

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				improved respect for privately owned lands; and more positive contributions to local/regional economy.
422.	*Spring Creek SRMA (Refer to Appendix J for prescribed setting character conditions)*			
423.	***Objective:*** *No similar objective.*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use, nonmotorized single-track, stacked loop, trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, running, hiking, and environmental learning. *Experiences* – Developing skills and abilities; enjoying meeting new people with similar interests; enjoying easy access to natural landscapes; enjoying access to hands-on environmental learning; enjoying learning outdoor social skills; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; appreciating personal	***Objective:*** *No similar objective (see Spring Creek ERMA).*	***Zone 1 Objective:*** *Through the life of the plan, manage Zone 1 for visitors to engage in day use, nonmotorized, single-track, stacked loop, trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Day use mountain biking, running, and hiking. *Experiences* – Developing skills and abilities; enjoying meeting new people with similar interests; enjoying easy access to natural landscapes; enjoying access to hands-on environmental learning; enjoying learning outdoor social skills; enjoying some needed physical exercise;

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		interaction with visitors; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and respect for other visitors; greater understanding of the importance of recreation and tourism to the community; enlarged understanding of the responsibility to help care for this community and keep it clean; a more outdoor-oriented lifestyle; greater respect for private property and local lifestyles; improved understanding of the community's dependence and impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.		enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; appreciating personal interaction with visitors; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater sensitivity to and respect for other visitors; greater understanding of the importance of recreation and tourism to the community; enlarged understanding of the responsibility to help care for this community and keep it clean; a more outdoor-oriented lifestyle; greater respect for private property and local lifestyles; improved understanding of the community's dependence and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				impact on public lands; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.
424.	***Objective:*** *No similar objective.*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in canyon viewing through nonmotorized, single-track, trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Mountain biking, hiking, and horseback riding. *Experiences* – Being able to tell others	***Objective:*** *No similar objective (see Spring Creek ERMA).*	***Zone 2 Objective:*** *Through the life of the plan, manage Zone 2 for visitors to engage in canyon viewing through single-track trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* Motorcycle riding, mountain biking, hiking, and horseback

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		about the trip; enjoying going exploring; developing skills and abilities; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater respect for private property and local lifestyles; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and		riding *Experiences* – Being able to tell others about the trip; enjoying going exploring; developing skills and abilities; enjoying easy access to natural landscapes; enjoying some needed physical exercise; enjoying being able to frequently participate in desired activities in desired settings; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how this attraction is being used and enjoyed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; greater sense of adventure; improved appreciation of nature's splendor; greater respect for private property and local

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.		lifestyles; improved physical fitness and health maintenance; enhanced quality of life; enlarged sense of community dependency on public lands; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.
425.	***Objective:*** *No similar objective.*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in camping and scenic viewing through motorized and nonmotorized trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV use, scenic viewing, and camping. *Experiences* – Enjoying easy access to natural landscapes; enjoying access to	***Objective:*** *No similar objective (see Spring Creek ERMA).*	***Zone 3 Objective:*** *Through the life of the plan, manage Zone 3 for visitors to engage in camping and scenic viewing through motorized and nonmotorized trail activities so that they report an average 4.0 realization of the following targeted experiences and benefit outcomes (4.0 on a probability scale, where 1=not at all realized to 5=totally realized):* *Target the following Activities:* OHV use, scenic viewing, and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities in desired settings; enjoying some needed physical rest; increasing or maintaining quality of life; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater respect for private property and local lifestyles; enhanced quality of life; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.		camping. *Experiences* – Enjoying easy access to natural landscapes; enjoying access to close-to-home outdoor amenities; enjoying being able to frequently participate in desired activities in desired settings; enjoying some needed physical rest; increasing or maintaining quality of life; releasing or reducing some built-up mental tensions; just knowing this attraction is here; and feeling good about how natural resources and facilities are being managed. *Benefits* – Improved mental well-being; improved skills for outdoor enjoyment; improved outdoor knowledge and self-confidence; greater understanding of the importance of recreation and tourism to the community; a more outdoor-oriented lifestyle; improved appreciation of nature's splendor; greater respect for

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				private property and local lifestyles; enhanced quality of life; improved local economic stability; increased desirability as a place to live or retire; greater community ownership and stewardship of park, recreation, and natural resources; improved respect for privately owned lands; and increased awareness and protection of natural landscapes.
426.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NL-15: *SRMAs*. Close the following SRMAs to fluid mineral leasing and geophysical exploration: • Dolores River Canyon • Dry Creek RMZs 1, 2, 4 • Jumbo Mountain RMZ 1 • Paradox Valley RMZ 4 • Ridgway Trails RMZ 1 • Roubideau • San Miguel River • Spring Creek (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: No similar allowable use. (Areas would not be managed as SRMAs under Alternative C; SRMAs under Alternative D would not be closed to fluid mineral leasing.)	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**		**Alternative C**	**Alternative D** *Agency Preferred*
427.	Allowable Use: **STIPULATION** NSO-SJ-3 (BLM 1991a): *SRMAs*. Prohibit surface occupancy and use within the following SRMAs: Dolores River Canyon SRMA. (Refer to Appendix B; Figure 2-19, Appendix A.)	**Alternative B:** Allowable Use: **STIPULATION** NSO-56: *Recreation SRMA*. Prohibit surface occupancy and use within the following SRMAs: • Burn Canyon • Dry Creek RMZ 3 • Jumbo Mountain RMZ 2 • Kinikin Hills • North Delta • Paradox Valley RMZs 1, 2, and 3 • Ridgway Trails RMZ 2 • Spring Creek RMZ 3 (Refer to Appendix B; Figure 2-20, Appendix A.)	**Alternative B.1** (North Fork area only): Allowable Use: **STIPULATION** NSO-57: *Recreation Jumbo Mountain SRMA*. Prohibit surface occupancy and or use within the Jumbo Mountain SRMA. (Refer to Appendix B; Figure 2-21, Appendix A.)	Allowable Use: No similar allowable use. (There would be no SRMAs in this alternative.)	Allowable Use: **STIPULATION** NSO-56: *Recreation SRMA*. Prohibit surface occupancy and use within the following SRMAs: • Dolores River Canyon • Dry Creek RMZs 2 and 4 • Jumbo Mountain • Ridgway Trails • Roubideau • San Miguel River RMZs 1, 2, and 3 • Spring Creek (Refer to Appendix B; Figure 2-23, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
428.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: No similar allowable use. (SRMAs would be either closed to fluid mineral leasing or would have an NSO stipulation applied to fluid mineral leases under Alternative B; areas would not be managed as SRMAs under Alternative C.)		Allowable Use: **STIPULATION** CSU-50: *Recreation SRMAs*. Apply CSU restrictions in the following SRMAs: • Dry Creek RMZs 1 and 3 • San Miguel River RMZ 4 (Refer to Appendix B; Figure 2-23, Appendix A.)
429.	*EXTENSIVE RECREATION MANAGEMENT AREAS (ERMA)*			
430.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage administratively designated areas (ERMAs) to provide for targeted recreation opportunities.		
431.	**Action:** No similar action in current RMPs. Planning guidance that was in place when the San Juan/San Miguel and Uncompahgre Basin RMPs were written directed that all BLM-administered land not designated as a SRMA should be designated as an ERMA. Under today's recreation guidance, what was formerly the Uncompahgre ERMA would be considered undesignated (i.e., neither an ERMA nor a SRMA). As such, the	**Action:** No similar action. (ERMAs would not be designated; see SRMAs.)	**Action:** Manage 215,880 acres as ERMAs to specifically address local recreation issues (Figure 2-46, Appendix A; also refer to Appendix J, Description of Recreation Management Areas, for actions of each ERMA): • Adobe Badlands (6,370 acres) • Burn Canyon (9,160 acres) • Dolores River Canyon (13,380 acres) • Dry Creek (41,290 acres) • Jumbo Mountain (5,020 acres)	**Action:** Manage 73,310 acres as ERMAs to specifically address local recreation issues (Figure 2-47, Appendix A; also refer to Appendix J, Description of Recreation Management Areas, for actions of each ERMA): • Burn Canyon (9,160 acres) • Kinikin Hills (10,810 acres) • North Delta (8,520 acres) • Paradox Valley (44,820 acres)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	terminology has been updated to reflect more closely the recreation guidance under which this RMP was written to avoid unequal comparisons.		• Kinikin Hills (11,310 acres) • North Delta (8,520 acres) • Paradox Valley (44,820 acres) • Ridgway Trails (1,130 acres) • Roubideau (25,350 acres) • San Miguel River Corridor (36,020 acres) • Spring Creek (13,510 acres)	
432.	*Adobe Badlands ERMA*			
433.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective. (Adobe Badlands is not identified as an ERMA under this alternative.)	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to participate in a variety of backcountry nonmotorized/ nonmechanized recreation (e.g., hiking, horseback riding, hunting, and camping).	**Objective:** Same as Alternative B.
434.	**Action:** No similar action in current RMPs.	**Action:** No similar action. (Adobe Badlands is not identified as an ERMA under this alternative.)	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a low level of contrast between developments and the natural surroundings, while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			and trailheads) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
435.	*Burn Canyon ERMA*			
436.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Burn Canyon SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of quality sustainable motorized and nonmotorized trails (e.g., ATV and motorcycle riding, mountain biking, and hiking).	
437.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Burn Canyon SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, and staging areas) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
438.	*Dolores River Canyon ERMA*			
439.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Dolores River Canyon SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to participate in a nonmotorized/nonmechanized trail and water-based activities (e.g., hiking, rafting, kayaking, and fishing).	**Objective:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
440.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Dolores River Canyon SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain an undisturbed natural landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails and trailheads) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	**Action:** Same as Alternative B.
441.	*Dry Creek ERMA*			
442.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Dry Creek SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation activities (e.g., OHV riding, mountain biking, hiking, hunting, and scenic driving).	**Objective:** Same as Alternative B.
443.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Dry Creek SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
444.	*Jumbo Mountain ERMA*			
445.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Jumbo Mountain SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation activities (e.g., OHV riding, mountain biking, hiking, and hunting).	**Objective:** Same as Alternative B.
446.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Jumbo Mountain SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			camping) to facilitate activity participation; 3) provide basic on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
447.	*Kinikin Hills ERMA*			
448.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Kinikin Hills SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of motorized and nonmotorized trail activities (e.g., OHV riding, mountain biking, and hiking).	
449.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Kinikin Hills SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
450.	*North Delta ERMA*			
451.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see North Delta SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established motorized and nonmotorized recreation activities (e.g., OHV riding, mountain biking, and hiking).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
452.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see North Delta SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
453.	*Paradox Valley ERMA*			
454.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Paradox Valley SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation activities (e.g., OHV riding, mountain biking, hiking, rock climbing and bouldering, rafting, scenic touring, and hunting).	
455.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Paradox Valley SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
456.	*Ridgway Trails ERMA*			
457.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Ridgway Trails SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation	**Objective:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
			activities (e.g., OHV riding, mountain biking, hiking, and hunting).	
458.	**Action:** No similar action in current RMPs.	**Action:** No similar action (see Ridgway Trails SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	**Action:** Same as Alternative B.
459.	*Roubideau ERMA*			
460.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Roubideau SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to participate in a variety of backcountry recreation activities (e.g., hiking, horseback riding, hunting, and camping).	**Objective:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
461.	**Action:** No similar action in current RMPs.	**Action:** No similar action (See Roubideau SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a low level of contrast between developments and the natural surrounding while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails and trailheads) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	**Action:** Same as Alternative B.
462.	*San Miguel River ERMA*			
463.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see San Miguel River SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation activities (e.g., mountain biking, hiking, rafting, and scenic touring).	**Objective:** Same as Alternative B.
464.	**Action:** No similar action in current RMPs.	**Action:** No similar action (See San Miguel River SRMA).	**Action:** Provide a recreation setting commensurate with other uses	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
			that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values; 2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
465.	*Spring Creek ERMA*			
466.	**Objective:** No similar objective in current RMPs.	**Objective:** No similar objective (see Spring Creek SRMA).	**Objective:** Focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of established recreation activities (e.g., OHV riding, mountain biking, hiking, hunting, and camping).	**Objective:** Same as Alternative B.
467.	**Action:** No similar action in current RMPs.	**Action:** No similar action (See Spring Creek SRMA).	**Action:** Provide a recreation setting commensurate with other uses that 1) retain a natural-appearing landscape while allowing for activities that would benefit biological values;	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
			2) provide the necessary recreation facilities (e.g., trails, trailheads, staging areas, and camping) to facilitate activity participation; 3) provide basic, on-site visitor services (e.g., signs and maps), and 4) clearly post conditions of use throughout the area.	
468.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: No similar allowable use. (ERMAs would not be designated under Alternative B; a CSU would not apply to ERMAs under Alternative C.)		Allowable Use: **STIPULATION** CSU-51: *Recreation ERMAs*. Apply CSU restrictions in ERMAs. (Refer to Appendix B; Figure 2-23, Appendix A.)
469.	*PUBLIC LANDS NOT DESIGNATED AS RECREATION MANAGEMENT AREAS*			
470.	**Objective:** No similar objective in current RMPs	**Objective:** Provide for a diversity of quality, sustainable recreational opportunities consistent with other resources and uses, and contribute to local economies.		
471.	**Action:** Manage 626,480 acres as public lands not designated as recreation management areas to provide a wide range of diverse recreational opportunities to meet public demands for dispersed recreation. Emphasize providing access, visitor information, and facilities	**Action:** Manage 432,880 acres as public lands not designated as recreation management areas (i.e., ERMAs or SRMAs; Figure 2-45, Appendix A).	**Action:** Manage 459,920 acres as public lands not designated as recreation management areas (i.e., ERMAs or SRMAs; Figure 2-46, Appendix A).	**Action:** Manage 479,220 acres as public lands not designated as recreation management areas (i.e., ERMAs or SRMAs; Figure 2-47, Appendix A).

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	needed to address public health and safety standards (BLM 1985, 1989a; Figure 2-44, Appendix A). *Note: Planning guidance in place when the San Juan/San Miguel and Uncompahgre Basin RMPs were written directed that all BLM-administered land not designated as an SRMA should be designated as an ERMA. Under today's recreation guidance, what was formerly the Uncompahgre ERMA would be considered "undesignated" (i.e., neither an ERMA nor an SRMA). As such, the terminology has been updated to reflect more closely the recreation guidance under which this RMP was written to avoid unequal comparisons.*			
472.	**COMPREHENSIVE TRAVEL AND TRANSPORTATION MANAGEMENT**			
473.	**GOAL:** Manage travel to support the BLM's mission, achieve resource management objectives and provide appropriate, sustainable public and administrative access.			
474.	**Objective:** Maintain and improve land health while promoting	**Objective:** Maintain and improve land health while promoting responsible use through active travel management. Within in each Travel Management Area, designate a comprehensive travel management system that		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	responsible use through active travel management (BLM 2009a). Prioritize travel planning, including the designation of areas open, limited to existing roads and trails, limited to designated roads and trails, and closed to motorized vehicle access (BLM 1985).	achieves resource management objectives, provides appropriate, sustainable public and administrative access, communicates with the public about opportunities, and monitors the effects of use. (Refer to Appendix M, Travel Management, for further information.)		
475.	**Action:** Identify off-road vehicle designations as follows (Figure 2-48, Appendix A): • Open: 8,560 acres • Closed to motorized travel: 11,950 acres • Closed to motorized and mechanized travel: 44,200 acres • Limited yearlong to existing routes for motorized and mechanized travel: 465,790 acres • Limited yearlong to designated routes for motorized and mechanized travel: 145,300 acres	**Action:** Designate travel areas as follows (Figure 2-49, Appendix A): • Open: 0 acres • Closed to motorized travel: 12,180 acres • Closed to motorized and mechanized travel: 102,790 acres • Limited yearlong to designated routes for motorized and mechanized travel: 560,830 acres • Seasonal limitations: 218,230 acres	**Action:** Designate travel areas as follows (Figure 2-50, Appendix A): • Open: 16,070 acres • Closed to motorized travel: 0 acres • Closed to motorized and mechanized travel: 45,170 acres • Limited yearlong to designated routes for motorized and mechanized travel: 614,560 acres • Seasonal limitations: 19,580 acres	**Action:** Designate travel areas as follows (Figure 2-51, Appendix A): • Open: 0 acres • Closed to motorized travel: 1,160 acres • Closed to motorized and mechanized travel: 57,400 acres • Limited yearlong to designated routes for motorized and mechanized travel: 617,240 acres • Seasonal limitations: 104,940 acres

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	• Seasonal limitations: 59,070 acres			
476.	**Action:** Identify the North Delta OHV Area (8,560 acres) as open to OHV use.	**Action:** Manage 0 acres as open to OHV use. (The North Delta OHV area would be limited to designated routes; until a future route-designation process is completed, the preliminary route network would include all existing routes.)	**Action:** Manage 16,070 acres as Open to OHV use: • Portion of North Delta ERMA (5,250 acres) • Kinikin Hills ERMA (10,810 acres)	**Action:** Same as Alternative B.
477.	**Action:** Identify 11,950 acres as closed to motorized travel (except for administrative and permitted use). • Dolores River Canyon SRMA • ACECs ○ Adobe Badlands ○ Fairview South ○ Portions of San Miguel River – Beaver Canyon – Norwood Canyon (Clay Creek to Horsefly Creek) • Potter Creek • Saltado Creek	**Action:** Manage 12,180 acres as closed to motorized travel, except for administrative and permitted vehicular access (which would be limited to authorized routes), and with mechanized travel limited to designated routes: • SRMAs ○ Jumbo Mountain RMZ 1 ○ Kinikin Hills RMZ 2 ○ North Delta RMZ 1 ○ Ridgway Trails ○ Spring Creek RMZs 1 and 2	**Action:** No similar action.	**Action:** Manage 1,160 acres as closed to motorized travel, except for with administrative and permitted vehicular access (which would be limited to authorized routes), and with mechanized travel limited to designated routes: • SRMAs ○ Jumbo Mountain RMZ 1 ○ Ridgway Trails RMZ 1 ○ Spring Creek RMZ 1

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
478.	**Action:** Manage 44,200 acres as closed to motorized and mechanized travel, except for administrative and permitted vehicular access: • Tabeguache Area • WSAs	**Action:** Manage 102,080 acres as closed to motorized and mechanized travel, except for administrative and permitted vehicular access, which would be limited to authorized routes: • Lands managed to protect wilderness characteristics • SRMAs ○ Burn Canyon RMZ 1 ○ Dolores River Canyon ○ Kinikin Hills RMZ 1 ○ Paradox Valley RMZ 4 ○ Roubideau RMZs 1 and 2 (no exceptions for administrative and permitted vehicular access in RMZ 2) ○ San Miguel River RMZs 2 and 3 • Portion of Dolores Slickrock Canyon ACEC (9,790 acres) • Tabeguache Area • WSAs	**Action:** Manage 45,170 acres as closed to motorized and mechanized travel, except for administrative and permitted vehicular access, which would be limited to authorized routes: • Portion of Paradox Rock Art Complex National Register District above Paradox Valley bottom (920 acres) • ERMAs ○ Adobe Badlands ○ Dolores River Canyon • Adobe Badlands ACEC • Tabeguache Area • WSAs	**Action:** Manage 57,400 acres as closed to motorized and mechanized travel, except for administrative and permitted vehicular access, which would be limited to authorized routes: • SRMAs ○ Dolores River Canyon ○ Roubideau RMZs 1 and 2 (no exceptions for administrative and permitted vehicular access in RMZ 2) ○ Portion of San Miguel River RMZ 2 (Saltado Canyon; 2,570 acres) ○ San Miguel River RMZ 3 • ACECs ○ Adobe Badlands ○ Fairview South (BLM Expansion) ○ Dolores River Slickrock Canyon • Tabeguache Area • WSAs
479.	**Action:** Identify 145,300 acres as limited to designated routes for motorized and	**Action:** Manage the remaining portion of the planning area (561,540 acres; including landing strips) as limited to designated	**Action:** Manage the remaining portion of the planning area (614,560 acres; including landing strips)	**Action:** Manage the remaining portion of the planning area (617,240 acres and including landing

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	mechanized travel. Manage areas without designated routes (465,790 acres) as limited to existing routes, according to the OHV Area Designations (BLM 2010b; Figure 2-48, Appendix A).	routes for motorized and mechanized travel. Until travel management plans to designate routes are completed, limit areas to existing routes and existing route widths, as shown on Figure 2-49, Appendix A.	as limited to designated routes for motorized and mechanized travel. Until travel management plans to designate routes are completed, limit areas to existing routes and existing route widths, as shown on Figure 2-50, Appendix A.	strips) as limited to designated routes for motorized and mechanized travel. Until travel management plans to designate routes are completed, limit areas to existing routes and existing route widths, as shown on Figure 2-51, Appendix A.
480.	**Action:** Prohibit motorized and mechanized travel seasonally, except for administrative and permitted vehicular access, on 59,070 acres, as follows (Figure 2-48, Appendix A): • The Storm King area (May 15 to June 15) • Closure areas identified in the Dry Creek Travel Management Plan and EA (May 15 to June 15; BLM 2009a) • Closure areas identified in the Uncompahgre Basin RMP (BLM 1989a)	**Action:** Prohibit motorized and/or mechanized travel seasonally, except for administrative and permitted vehicular access, on 218,230 acres, as follows (Figure 2-49, Appendix A): ACECs (motorized and mechanized) ○ San Miguel Gunnison Sage-Grouse (April 1 to July 15) ○ Sims-Cerro Gunnison Sage-Grouse (April 15 to July 15) • Ecological emphasis areas (motorized) totaling 207,310 acres from December 1 to April 30 (dates may vary depending on data when area travel management plans are completed) ○ A portion of Adobe (Zone 1, 11,520 acres) ○ A portion of Dry Creek (Zones 1-4, 14,340 acres)	**Action:** Prohibit motorized and/or mechanized travel seasonally, except for administrative and permitted vehicular access, on 19,580 acres, as follows (Figure 2-50, Appendix A): • La Sal ecological emphasis area from January 1 to March 31 (dates may vary depending on data when area travel management plans are completed) • Elk production/ calving areas (motorized and mechanized; May 15 to June 15) • Add other areas as appropriate through future site-specific travel management analyses.	**Action:** Prohibit motorized and/or mechanized travel seasonally, except for administrative and permitted vehicular access, on 103,840 acres, as follows (Figure 2-51, Appendix A): • Ecological emphasis areas totaling 82,120 acres from December 1 to April 30 (dates may vary depending on data when area travel management plans are completed) ○ A portion of Adobe (Zone 1, 11,480 acres) ○ A portion of Dry Creek (Zone 1, 8,940 acres) ○ A portion of Jumbo Mountain/ McDonald Creek (Zones 2 and 3,

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		○ Jumbo Mountain/McDonald Creek ○ La Sal ○ Monitor-Potter-Roubideau ○ Naturita Canyon ○ Ridgway ○ San Miguel ○ Sims Mesa ○ Spring Canyon ○ Tabeguache ○ Terror Creek • Elk production/ calving areas (motorized and mechanized; April 15 to June 30) • Add other areas as appropriate through future site-specific travel management analyses The Field Manager may modify the size and time frames upon consultation with CPW: • if monitoring information indicates that plant seasonal cycles or animal use patterns are inconsistent with dates established, or • under mild winter conditions for the last 60 days of the closure (severity of the winter will be determined on the basis of snow depth, snow crusting, daily mean temperature, and whether the animals were	The Field Manager may modify the size and time frames: • if monitoring information indicates that plant seasonal cycles or animal use patterns are inconsistent with dates established, or • under mild winter conditions for the last 60 days of the closure (severity of the winter will be determined on the basis of snow depth, snow crusting, daily mean temperature, and whether the animals were concentrated on the crucial winter range during winter months). • where necessary, extend seasonal closures to include pedestrian or equestrian traffic.	4,670 acres) ○ A portion of La Sal (Zone 1, 9,860 acres); ○ A portion of Monitor-Potter-Roubideau (Zones 1, 2, and 10, 14,260 acres) ○ A portion of San Miguel (Zones 1-3, 9,880 acres) ○ Sims Mesa (19,650 acres ○ Spring Canyon (3,380 acres) • Area closures identified in Dry Creek Travel Management Plan and EA (BLM 2009a) ○ December 1 to April 15 (11,010 acres) ○ December 1 to March 31 (11,810 acres) • Add other areas as appropriate through future site-specific travel management analyses. Prohibit all travel (including motorized, mechanized, foot, and equestrian) seasonally in the Ridgway Trails SRMA, RMZ 2, from December 1 to April 30, except for

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		concentrated on the crucial winter range during winter months). • where necessary, extend seasonal closures to include pedestrian or equestrian traffic.		administrative and permitted access (1,100 acres). The Field Manager may modify the size and time frames upon consultation with CPW: • if monitoring information indicates that plant seasonal cycles or animal use patterns are inconsistent with dates established, or • under mild winter conditions for the last 60 days of the closure (severity of the winter will be determined on the basis of snow depth, snow crusting, daily mean temperature, and whether the animals were concentrated on the crucial winter range during winter months). • where necessary, extend seasonal closures to include pedestrian or equestrian traffic.
481.	**Action:** Use the following guidance for areas that are limited to existing routes until travel management plans to designate routes are completed: • Unless otherwise restricted, limit recreational motorized and mechanized travel to existing routes,			**Action:** Use the following guidance for areas that are limited to existing routes until travel

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	and aircraft to existing routes and backcountry air strips, as displayed on Figure 2-48 (Appendix A) and the BLM's 2009 aerial photography (on file at the UFO) until route-by-route analysis is complete. • Permit pedestrian or equestrian travel year-round on existing routes and cross-country travel on public lands throughout the planning area where available for public use. • Prohibit motorized or mechanized modes of travel on existing routes if the following would result: ○ Convert or upgrade a single-track route (maximum of 36 inches wide) to a two-track route, such as driving an ATV or full-size passenger vehicle on a route consisting of a single track used by hikers, horseback riders, motorcycles, mountain bikes, game, or livestock. ○ Convert or upgrade a route (maximum of 50 inches wide) used by and established for use by an ATV to a wider two-track route, such as would occur if a full-size passenger vehicle were used to travel along a route narrower than its wheelbase. • Require that anyone operating an emergency or administrative motorized vehicle or equipment off existing routes provide the BLM with prior notification and approval. Should prior notification not be possible, require contact with a BLM Authorized Officer within 72 hours following emergency entry. • Address any BLM administrative functions related to resource management objectives that require cross-country travel using motorized vehicles or equipment at the project level on a case-by-case basis and potentially require additional environmental documentation and analysis for certain administrative functions. • Subject the use of motorized or mechanized modes of travel (including snowmobiles) during the execution of BLM-issued authorizations or permits to the terms and conditions or stipulations of each individual authorization on a case-by-case basis. • Avoid impacts on known eligible cultural properties, or minimize or mitigate such impacts in consultation with the State Historical Preservation Office. Where NRHP-eligible sites are known to be in danger or are currently being impacted by travel activities, close routes to travel as necessary until the appropriate mitigation has been implemented. • To mitigate impacts on Colorado hookless cactus (*Sclerocactus glaucus*) and clay-loving wild buckwheat (*Eriogonum pelinophilum*) or other special status species listed in the future, systematically install roadside signs to indicate especially sensitive areas where travel-related impacts on these species would be greater. • Further restrict travel and use by vehicle type or season on any route in order to protect natural or			management plans to designate routes are completed: Same as Alternative A, plus • Require that travel modes adhere to the following width restrictions on existing routes: ○ Single track: 36 inches or less ○ ATV/utility-terrain vehicle: 50 inches or less and weighing no more than 1,200 pounds ○ Roads: wider than 50 inches • Prohibit cross-country motorized/mechanized travel for big game retrieval. Allow hand-held, wheeled, game retrieval carts off routes only during CPW-authorized big game and mountain lion hunting seasons. • Unless otherwise restricted, allow users to park motorized or mechanized vehicles next to and parallel to available existing routes.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	other resources or infrastructure from being impacted by vehicle use in the event of extreme winters and wet conditions to reduce safety hazards, or in other unforeseeable situations, or to better manage or protect other values, such as wetlands, riparian areas, rare plant communities and species, big game, nesting raptors, or other important resources. These actions could include permanent or seasonal route closures or relocations. Take these actions following appropriate emergency closure or other procedures and/or after appropriate site-specific NEPA analysis. • Over time, changes to the route network may be necessary, including adding, designating, relocating, closing, maintaining, and/or changing seasonal or other use restrictions on routes, as well as adding necessary travel management support facilities. Document such changes using appropriate BLM land use planning regulations and NEPA procedures.			
482.	**Action:** No similar action in current RMPs.	**Action:** Where off-highway vehicles or aircraft are causing or will cause considerable adverse effects on soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, immediately close the affected areas to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.		
483.	**Action:** Bring forward the decisions from the Dry Creek Travel Management Plan (BLM 2009a) in the Dry Creek Travel Management Area and the Ridgway Travel Management Plan (BLM 2013a) (Figure 2-80, Appendix A).			
484.	**Action:** No similar action in current RMPs.	**Action:** Establish Travel Management Areas and, within five years of the Approved RMP/Record of Decision, initiate comprehensive travel management plans within each the following Travel Management Areas and in the following order unless a change is deemed necessary by the BLM Authorized Officer (Figure 2-81, Appendix A): 1. North Fork (71,020 acres) 2. South Montrose (66,180 acres) 3. North Delta (61,270 acres) 4. San Miguel (74,960 acres) 5. West End (289,960 acres)		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Refer to Appendix M, Travel Management, for information and guidance on comprehensive travel management planning. Travel Management Areas are a planning and management tool and may be altered. At the time of comprehensive travel management planning, the Travel Management Area may be broken down into subareas to address different resource management objectives. A travel management plan is not intended to provide evidence bearing on or addressing the validity of any RS 2477 assertions. RS 2477 rights are determined through a process that is entirely independent of the BLM's planning process. Consequently, travel management planning should not take into consideration RS 2477 assertions or evidence. Travel management planning should be founded on an independently determined purpose and need that is based on resource uses and associated access to public lands and waters. At such time as a decision is made on RS 2477 assertions, the BLM will adjust its travel routes accordingly.		
485.	**Action:** Develop facilities to support the travel management plan, including staging areas, hardened camping areas, trailheads, and portal signs. Allow up to a maximum of three acres of disturbed surface for these facilities. Facilities could include restrooms, loading and unloading ramps, kiosks, hardened graveled parking areas and camping spurs, fencing, hitching rails, picnic tables and cabanas, vehicular control devices, native landscape islands, erosion	**Action:** Develop facilities as needed to support the travel management plan goals and objectives, including staging areas, hardened camping areas, trailheads, and portal signs. Facilities could include restrooms, loading and unloading ramps, kiosks, hardened graveled parking areas and camping spurs, fencing, hitching rails, picnic tables and cabanas, vehicular control devices, native landscape islands, erosion and drainage control devices, hardened access trails, and limited hardened egress, ingress, and winch points where needed for all technical four-wheel drive routes.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	and drainage control devices, hardened access trails, and limited hardened egress and ingress points for all technical four-wheel drive routes.			
486.	**Action:** No similar action in current RMPs.	**Action:** Prohibit mechanized and motorized off-route travel in areas with riparian or wetland vegetation.	**Action:** Prohibit mechanized and motorized off-route travel in areas with riparian or wetland vegetation, with the exception of camping, collecting rock, wood products, and other plant products, and retrieving large game during hunting seasons.	**Action:** Prohibit motorized off-route travel in riparian and wetland areas, including for camping and collecting rock, wood products, and other plant products.
487.	**Action:** No similar action in current RMPs.	**Action:** Limit BLM rerouting or relocating needed for mitigation to a corridor 250 feet wide on either side of the centerline of the existing or designated route.		
488.	**Action:** No similar action in current RMPs.	**Action:** Any emergency or administrative motorized vehicle or equipment use off designated routes on BLM-administered lands would require prior notification and approval. Should prior notification not be possible, contact would be made with the authorized BLM official within 72 hours following emergency entry.		
489.	**Action:** No similar action in current RMPs.	**Action:** In cooperation with the local communities, counties, and other partners, secure access to and manage a network of roads and trails that ensure management objectives are met and provide connectivity to the surrounding communities.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
490.	**LANDS AND REALTY**			
491.	**GOAL:** Meet public needs for land use authorizations (i.e., ROWs, communication sites, utility corridors, leases, permits, and renewable energy resources), land tenure adjustments, withdrawals, and easements in an environmentally responsible manner.			
492.	**Objective:** Ensure compatibility of the various multiple uses with environmental protection of natural resources (BLM 1985). Generally make public land available for utility corridor development (BLM 1985). Open the majority of public lands to development of major utility facilities (BLM 1989a).	**Objective:** Make lands available for land use authorizations, and apply stipulations to ensure the compatibility of multiple use with resource protection.		
493.	Allowable Use: ROW Exclusion Areas (including renewable energy sites): Manage 85,080 acres as ROW exclusion areas that are not available for locating ROWs or other land use authorizations under any conditions, to include the following (Figure 2-52, Appendix A): • On 3,890 acres (emphasis	Allowable Use: ROW Exclusion Areas (including renewable energy sites): Manage 431,040 acres as ROW exclusion areas that are closed to land use authorizations (Figure 2-53, Appendix A): • Saline/selenium soils • Slopes of 30 percent or greater • Lands within 325 feet of perennial streams	Allowable Use: ROW Exclusion Areas (including renewable energy sites): Manage 44,550 acres as ROW exclusion areas that are closed to land use authorizations (Figure 2-54, Appendix A): • Rare biological soil crust (*Lecanora gypsicola* and *Gypsoplaca macrophylla*) in East Paradox (360 acres)	Allowable Use: ROW Exclusion Areas (including renewable energy sites): Manage 53,700 acres as ROW exclusion areas that are closed to land use authorizations (Figure 2-55, Appendix A): • Roubideau SRMA, RMZ 1 • ACECs ○ Fairview South (BLM Expansion)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	area F) to protect cultural resources, generally disallow major utility corridors (BLM 1985) • A portion of the federal coal estate (17,350 acres; a portion of emphasis area 7), except for those needed for coal development (BLM 1989a) • Tabeguache Area • WSAs • ACECs ○ Adobe Badlands ○ Needle Rock ○ San Miguel River Corridor; close to the development of major utilities, with the exception of those already established with San Miguel Power Association. In addition, do not authorize ROWs in the relic riparian communities (BLM 1993a) ○ Fairview South (exclusion area for new pipelines)	• Lands within 100 feet of naturally occurring riparian and wetland areas, seeps, and springs • Lands within 2,640 feet (0.50-mile) of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake • Exemplary, ancient, and rare vegetation communities • Ecological emphasis areas (see *Wildlife – Terrestrial* section); • Occupied habitat of known populations of federally threatened and endangered species (see *Special Status Species – General* section) • Gunnison sage-grouse critical habitat • Tabeguache Caves/Tabeguache Pueblos Area and Tabeguache Canyon • Lands managed to protect wilderness characteristics • SRMAs ○ Dolores River Canyon ○ Paradox Valley RMZ 4 ○ Roubideau RMZs 1 and 2 • ACECs	• Tabeguache Area • WSAs The following exceptions would apply to ROW exclusions: • Designated West-wide Energy Corridors (section 368 corridors) • 100-foot buffer from the center line of county roads and highways (these areas would be managed as ROW avoidance) • Allow ROWs for private in-holdings or edge-holdings for reasonable access and utilities (these areas would be managed as ROW avoidance)	○ Biological Soil Crust • Tabeguache Area • WSAs • Suitable WSR segments classified as "wild" (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) The following exceptions would apply to ROW exclusions: • Designated West-wide Energy Corridors (section 368 corridors) • Designated utility corridors • 100-foot buffer from the center line of county roads and highways (these areas would be managed as ROW avoidance) • Allow ROWs for private in-holdings or edge-holdings for reasonable access and utilities (these areas would be managed as ROW avoidance)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Tabeguache Area • WSAs • Suitable WSR segments classified as wild (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) The following exceptions would apply to ROW exclusions (these areas would be managed as ROW avoidance): • Designated West-wide Energy Corridors (section 368 corridors) • Designated utility corridors • 100-foot buffer from the center line of county roads and highways • Allow ROWs for private in-holdings or edge-holdings for reasonable access and utilities		
494.	Allowable Use: In the San Miguel River ACEC outside of relic riparian communities, restrict ROW authorizations to only those with an overriding public need that will not create long-term visual impacts or damage the riparian system (BLM 1993a).	Allowable Use: ROW Avoidance Areas (including renewable energy sites): Manage 195,460 acres as ROW avoidance areas (Figure 2-53, Appendix A): • Lands, streams, and wetlands *not meeting* or *meeting with problems* the BLM Colorado Public Land Health Standards (BLM 1997; Appendix C) • Within 0.25-mile along major river corridors (i.e., Gunnison, North	Allowable Use: ROW Avoidance Areas (including renewable energy sites): Manage 210,390 acres as ROW avoidance areas (Figure 2-54, Appendix A): • Saline/selenium soils • Slopes of or greater than 40 percent • Lands within 1,000 feet of either side of a classified	Allowable Use: ROW Avoidance Areas (including renewable energy sites): Manage 276,500 acres as ROW avoidance areas (Figure 2-55, Appendix A): • Slopes of 30 percent or greater • Within 325 feet of perennial streams • Within 325 feet of naturally

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Fork Gunnison, San Miguel, Uncompahgre, and Dolores) • Ecological emphasis areas (see *Wildlife – Terrestrial* section) • Sites listed or eligible for listing on the NRHP • SRMAs: ○ Burn Canyon ○ Dry Creek ○ Jumbo Mountain ○ Kinikin Hills ○ North Delta ○ Paradox Valley RMZs 1-3 ○ Ridgway Trails ○ Roubideau RMZ 3 ○ San Miguel River ○ Spring Creek • Suitable WSR segments classified as scenic and recreational (see Table 2-4 [Summary of Wild and Scenic River Study Segments (Alternatives A and B)]) • Lands within 0.5-mile of either side of centerline of National Trails, except for the Old Spanish National Historic Trail • Lands within 100 meters (328 feet) of either side of centerline of the Old Spanish National Historic Trail	surface water-supply stream segment (as measured from the average high-water mark of a water body) for a distance of 5 miles upstream of a public water supply intake • Exemplary, ancient, and rare vegetation communities • Ecological emphasis areas (see *Wildlife – Terrestrial* section) • Occupied habitat of known populations of federally threatened and endangered species • Sites listed or eligible for listing on the NRHP • ACECs: ○ Needle Rock ○ Adobe Badlands ○ Fairview South • Lands within 100 meters (328 feet) of either side of centerline of National Trails.	occurring riparian and wetland areas, seeps, and springs • Lands within 1,000 feet of either side of a classified surface water-supply stream segment (as measured from the average high-water mark) for a distance of 5 miles upstream of a public water supply intake • Exemplary, ancient, and rare vegetation communities • Ecological emphasis areas (see *Wildlife – Terrestrial* section); • Occupied habitat of known populations of federally threatened and endangered species • Gunnison sage-grouse lek habitat (lek area plus 0.6-mile radius) • Tabeguache Caves/Tabeguache Pueblos Area and Tabeguache Canyon • Sites listed on or eligible for listing on the NRHP • Lands managed to protect

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				wilderness characteristics • SRMAs ○ Dolores River Canyon ○ Roubideau RMZs 2 and 3 ○ San Miguel River RMZs 2 and 3 ○ Spring Creek RMZ 2 • ACECs ○ Adobe Badlands ○ Needle Rock ○ Roubideau Corridors ○ Dolores River Slickrock Canyon ○ Paradox Rock Art • Suitable WSR segments classified as scenic (see Table 2-5 [Summary of Wild and Scenic River Study Segments (Alternative D)]) • Lands within 100 meters (328 feet) of either side of centerline of National Trails
495.	**Action:** Make every reasonable effort to authorize primary access to private landowners via ROWs, when such access will not cause significant adverse impacts on other resources. While county	**Action:** Provide reasonable access and utilities to private landowners in an environmentally responsible manner. New ROWs would not be permitted if there is other reasonable access.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	road standards may be required when environmental impacts can in no other way be mitigated, do not grant additional ROWs when reasonable access already exists, unless there is a compelling public need (BLM 1985).			
496.	**Action:** The ROD for the Solar Energy Development PEIS was signed on October 12, 2012 and excluded all lands within the UFO for solar development for projects 20 megawatts or greater.	**Action:** Allow renewable energy projects (such as wind, solar under 20 megawatts, and hydropower) development and operation, except in ROW exclusion areas and areas identified in Table 2-3 (Renewable Energy Exclusion and Avoidance Areas[1]). The ROD for the Solar Energy Development PEIS was signed on October 12, 2012 and excluded all lands within the UFO for solar development for projects 20 megawatts or greater.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
497.	*COMMUNICATION SITES (LAND USE AUTHORIZATIONS)*			
498.	**Action:** Manage existing communication sites.	**Action:** Same as Alternative A, plus: • Designate all existing sites for low-power uses (i.e., 1,000 watts effective radiated power or less), except for high-power uses that currently exist. • Evaluate and allow new low- or high-power communication site locations on a case-by-case basis.	**Action:** Same as Alternative A, plus: • Evaluate and allow new low- or high-power communication site locations on a case-by-case basis.	**Action:** Same as Alternative B.
499.	*UTILITY CORRIDORS (LAND USE AUTHORIZATIONS)*			
500.	**Action:** Manage the designated West-wide Energy Corridor (26,880 acres) according to existing policy (Appendix B of the West-wide Energy Corridor Programmatic EIS) (Figure 2-56, Appendix A).	**Action:** Same as Alternative A, plus: Designate and manage an additional 14 corridors (37,420 acres) for public utilities and facilities (Figure 2-57, Appendix A): • Dry Creek: 2,500 feet wide • Highway 90: 2,500 feet wide (the highway is generally the centerline but located south of the highway near Biological Soil Crust ACEC in Paradox Valley) • Highway 92: 1,320 feet wide (from the northern edge of highway) • Highway 141: 2,500 feet wide • Highway 145/62: 2,500 feet wide • Hotchkiss-Crawford: 2,500 feet wide	**Action:** Same as Alternative A (Figure 2-58, Appendix A).	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Hotchkiss-North Fork: 2,500 feet wide • North Delta: generally 2,500 feet wide, except 1,320 feet wide on small parcels next to the WSA • Oxbow-Hubbard Creek: 1,300 feet wide • South Canal: 200 feet wide (from western edge of canal) • Spring Creek Mesa: 2,500 feet wide • Stevens Gulch Road: 600 feet wide • Western Area Power Association Curecanti-Hayden: 2,500 feet wide • Western Area Power Association Curecanti-Shiprock: 2,500 feet wide		
501.	**Action:** Identify 297,930 acres (management units 1, 2, 3, 5, portion of 7, 8, 9, 10, 11, 16) as open to development of major utility corridors, including the following: • On 2,510 acres (management unit 7), corridors 0.25-mile wide and located on each side of Colorado Highway 133 (BLM 1989a) • Fairview South ACEC (210 acres), except pipelines	**Action:** Allow ROW development and operation except in ROW exclusion areas. ROWs must follow existing facilities and routes.	**Action:** Allow ROW development and operation except in ROW exclusion areas. Preferred locations are next to existing facilities and routes.	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	and any surface disturbance that would affect threatened or endangered plant species or their potential habitat (BLM 1989a) • San Miguel River SRMA, subject to visual impact mitigation. Open to major utilities the area downstream of Horsefly Creek until construction and maintenance impacts on the riparian zone reach five percent of the total riparian acreage (BLM 1993a) • West-wide Energy corridors (3,500 feet wide, 27,460 acres) for oil, gas, and hydrogen pipelines, and electricity transmission and distribution facilities (DOE and BLM 2009)			
502.	*LAND TENURE ADJUSTMENTS – DISPOSAL*			
503.	**Objective:** No similar objective in current RMPs.	**Objective:** Consider disposal of lands that would consolidate public ownership for greater management efficiency while serving the public interest, including communities and their expanding needs.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
504.	**Action:** No similar action in current RMPs.	**Action:** Desert Land Entry Act/Carey Act Applications: Do not accept new Desert Land Entry or Carey Act applications.		
505.	**Action:** Identify 9,850 acres as available for disposal (Figure 2-59, Appendix A) (refer to Appendix N, Legal Descriptions of Lands Available for Disposal): • Allow disposal through exchange, boundary adjustment, and the Recreation and Public Purposes Act (BLM 1993a) • Dispose of approximately 2,645 acres through sales, exchanges, or any other title transfer means (BLM 1985) • Identify 84 tracts totaling 7,200 acres for consideration for disposal through sale or exchange (BLM 1994a)	**Action:** Identify 2,650 acres as available for disposal by any method (Figure 2-60, Appendix A) (refer to Appendix N, Legal Descriptions of Lands Available for Disposal).	**Action:** Identify 9,850 acres as available for disposal by any method (Figure 2-61, Appendix A) (refer to Appendix N, Legal Descriptions of Lands Available for Disposal).	**Action:** Identify 1,930 acres as available for disposal by any method (Figure 2-62, Appendix A) (refer to Appendix N, Legal Descriptions of Lands Available for Disposal).
506.	**Action:** Land would be considered for disposal on a case-by-case basis. Intend to retain lands in public ownership,	**Action:** Consider additional lands suitable for disposal by any method if they meet one or more of the following criteria: • Enhance management goals.	**Action:** Consider additional lands suitable for disposal by any method if they meet one or more of the following criteria:	**Action:** Consider additional lands suitable for disposal by any method if they enhance management goals, meet one

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	but consider disposal that would enhance management goals and serve public interest. Allow disposal through exchange, boundary adjustment, and the Recreation and Public Purposes Act (BLM 1993a). Allow for disposal of parcels that are not significant or not needed for cultural values, mineral development, water and soil, livestock, wildlife, wild horses, forestry, natural resources, or recreation management (BLM 1985).	• Consolidate BLM ownership. • Serve local community or other government agency needs when in the public interest.	• Same as Alternative B plus: ○ Resolve unintentional trespass where disposal is the best tool to meet management objectives. ○ Do not provide public or administrative access.	or more of the following criteria, and do not meet the criteria for retention: • Consolidate BLM ownership. • Serve local community or other government agency needs when in the public interest. • Resolve unintentional trespass where disposal is the best tool to meet management objectives.
507.	**Action:** No similar action in current RMPs.	**Action:** Do not dispose of lands within existing withdrawals, powersite classifications, or powersite reserves (19,710 acres) (Figure 2-82, Appendix A) without concurrence from the managing agency (e.g., BOR and DOE).		
508.	*LAND TENURE ADJUSTMENTS – RETENTION*			
509.	**Objective:** No similar objective in current RMPs.	**Objective:** Retain lands in public ownership when it will serve the public interest, protect valuable resources, or achieve management goals.		
510.	**Action:** Retain in federal ownership a total of 665,950 acres (BLM 1994, 1985; Figure 2-59,	**Action:** Retain public lands not identified for disposal (673,150 acres), except for those lands that meet the criteria for	**Action:** Retain public lands not identified for disposal (665,950 acres), except for those lands	**Action:** Retain public lands not identified for disposal (673,870 acres), except for

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Appendix A); consider these lands for disposal on a case-by-case basis (BLM 1994a).	disposal, for long-term management (Figure 2-60, Appendix A).	that meet the criteria for disposal, for long-term management (Figure 2-61, Appendix A).	those lands that meet the criteria for disposal, for long-term management (Figure 2-62, Appendix A).
511.	**Action:** No similar action in current RMPs.	**Action:** Retain lands that meet one or more of the following criteria: • Lands containing valuable resources • Lands within key/priority habitats • Lands within or next to areas with special designation (i.e., Tabeguache Area, WSAs, lands managed to protect wilderness characteristics, NCAs, ACECs, WSRs, SRMAs) • Lands near communities that would better serve the public interest as open space • Lands that provide public or administrative access • Lands that consolidate BLM ownership • Lands suitable for trail construction to link communities • Lands containing National Historic Trail segments	**Action:** Retain lands that meet one or more of the following criteria: • Lands containing valuable resources • Lands within or next to special designation areas (i.e., Tabeguache Area, WSAs, NCAs, ACECs) • Lands suitable for trail construction to link communities • Lands containing National Historic Trail segments	**Action:** Retain lands that meet one or more of the following criteria: • Lands containing valuable resources • Lands within or next to special designation areas (i.e., Tabeguache Area, WSAs, lands managed to protect wilderness characteristics, NCAs, ACECs, WSRs, SRMAs) • Lands near communities that would better serve the public interest as open space • Lands that provide public or administrative access • Lands that consolidate BLM ownership • Lands suitable for trail construction to link communities • Lands containing National Historic Trail segments

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
512.	*LAND TENURE ADJUSTMENTS – ACQUISITION*			
513.	**Objective:** Acquire private lands, if available, to facilitate resource goals and objectives (BLM 1989a). Acquire easements needed to facilitate management (BLM 1993a).			**Objective:** Allow acquisition of nonfederal lands and easements to facilitate resource goals and objectives.
514.	**Action:** Acquire lands that contain sensitive, critical, crucial, and rare habitats to improve and benefit public lands and resources (BLM 1994a). Acquire or exchange land and subsurface mineral estate when mineral development, cultural resources, water and soil, livestock, wildlife, forestry, natural resources, ACECs, wilderness values or manageability, or recreation management opportunities will be enhanced (BLM 1985). • Acquire fishing easements associated with priority streams (emphasis area B; BLM 1985) • Acquire easements	**Action:** As opportunities arise, acquire lands or easements as follows: • Access to Jumbo Mountain near Paonia • Access to Ridgway SRMA • Private inholding in Camel Back WSA (Section 3 of Township 49 North, Range 12 West; 160 acres) • Easement to Paradox Rock Art ACEC • Between Bedrock and the Dolores River Canyon WSA	**Action:** No similar action. (Specific lands or easements have not been identified under this alternative.)	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	between Bedrock and the northern boundary of the Dolores River Canyon WSA (BLM 1985)			
515.	**Action:** Acquire private lands, if available, if they would meet any of the following criteria: • Improve livestock management. • Increase crucial (now termed severe and winter concentration areas) deer and elk winter range. • Improve riparian management (BLM 1989a). In land exchanges, acquire sensitive or critical habitats, where possible (BLM 1994a).	**Action:** Consider acquiring lands or easements that meet the following criteria: • Lands within or next to areas with special designations (e.g., WSAs, lands managed to protect wilderness characteristics, NCAs, ACECs, WSRs, and SRMAs) • Lands within key/priority habitats • Lands containing valuable resources (e.g., recreational, cultural, special status species, riparian, fragile soils, and rare biological soil crusts) • Lands that provide public or administrative access • Lands that consolidate BLM ownership and/or enhance management goals • Riverside parcels and/or associated water rights along the Gunnison, San Miguel, and Dolores Rivers with important riparian values or that provide watershed or water quality protection values (e.g., salinity/selenium and sedimentation) • Lands suitable for trail construction	**Action:** Consider acquiring lands or easements that meet the following criteria: • Lands containing valuable resources (e.g., recreational, cultural, special status species, riparian, fragile soils, and rare biological soil crusts); • Lands suitable for trail construction to link communities • Lands that enhance recreation opportunities	**Action:** Consider acquiring lands or easements that meet the following criteria: • Same as Alternative C, plus: ○ Lands within or next to areas with special designations (e.g., WSAs, lands managed to protect wilderness characteristics, NCAs, ACECs, and WSRs) ○ Lands that provide public or administrative access ○ Lands that consolidate BLM ownership and/or enhance management goals

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		to link communities • Lands that enhance recreation opportunities		
516.	**Action:** No similar action in current RMPs.	**Action:** Reserve public access easements on lands transferred from public ownership (patents) when it would benefit management goals or the public.		
517.	*WITHDRAWALS*			
518.	**Objective:** No similar objective in current RMPs.	**Objective:** Meet resource and other agency needs by withdrawing lands from the public land laws and/or mining laws.		
519.	Refer to the *Locatable Minerals* section for withdrawals.			
520.	**Action:** Where applicable, replace existing withdrawals with ROWs, leases, permits or cooperative agreements (BLM 1985).	**Action:** Where applicable, issue ROWs, leases, other authorizations, or agreements in lieu of withdrawals.		
521.	**Action:** Upon withdrawal modification or revocation, revert part or all of the withdrawn land to the BLM (BLM 1985).	**Action:** Upon revocation of existing withdrawals, manage the lands consistent with the objectives of adjacent or comparable public lands.		
522.	**Action:** Maintain existing power site withdrawals pending determination of potential. Do not consider these lands for disposal (BLM 1989a).	**Action:** Maintain existing power site classifications and power site reserves pending determination of potential for power or reservoir-related projects.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
523.	Special Designations			
524.	**AREAS OF CRITICAL ENVIRONMENTAL CONCERN**			
525.	**GOAL:** Manage ACECs to protect significant resource values and prevent damage to important natural, biological, cultural, recreational, or scenic resources and values, or to protect life and safety from natural hazards. Refer to Appendix O, Summary of Areas of Critical Environmental Concern Report.			
526.	**Objective:** Manage the following areas (30,000 acres) as ACECs and RNAs or outstanding natural areas (Figure 2-63, Appendix A): • Adobe Badlands ACEC/ Outstanding Natural Area (6,370 acres) • Fairview South ACEC/ Research Natural Area (210 acres) • Needle Rock ACEC/ Outstanding Natural Area (80 acres) • San Miguel River ACEC (22,780 acres) • Tabeguache Creek ACEC/ Outstanding Natural Area (560 acres)	**Objective:** Manage the following areas (215,840 acres) as ACECs (Figure 2-64, Appendix A): • Coyote Wash ACEC (2,100 acres) • Dolores Slickrock Canyon ACEC (10,670 acres) • East Paradox ACEC (7,360 acres) • Fairview South (CNHP Expansion) ACEC (4,250 acres) • La Sal Creek ACEC (10,490 acres) • Lower Uncompahgre Plateau ACEC (31,810 acres) • Needle Rock ACEC (80 acres) • Paradox Rock Art ACEC (1,080 acres) • Roubideau-Potter-Monitor ACEC (20,430 acres) • Salt Desert Shrub Ecosystem ACEC (34,510 acres; includes the existing Adobe Badlands ACEC) • San Miguel Gunnison Sage-Grouse ACEC (470 acres) • San Miguel River Expansion ACEC	**Objective:** Manage the following areas (29,440 acres) as ACECs (Figure 2-65, Appendix A): • Adobe Badlands ACEC (6,370 acres) • Fairview South ACEC (210 acres) • Needle Rock ACEC (80 acres) • San Miguel River (22,780 acres)	**Objective:** Manage the following areas (51,320 acres) as ACECs (Figure 2-66, Appendix A): • Adobe Badlands ACEC (6,370 acres) • Biological Soil Crust ACEC (1,900 acres) • Dolores River Slickrock Canyon ACEC (9,780 acres) • Fairview South (BLM Expansion) ACEC (610 acres) • Needle Rock ACEC (80 acres) • Paradox Rock Art ACEC (1,080 acres) • Roubideau Corridors ACEC (8,720 acres) • San Miguel River (22,780 acres)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		(35,480 acres) • Sims-Cerro Gunnison Sage-Grouse ACEC (25,620 acres) • Tabeguache Pueblo and Tabeguache Caves ACEC (26,400 acres) • West Paradox ACEC (5,190 acres)		
527.	**Action:** No similar action in current RMPs.	**Action:** Apply the following management prescriptions to all ACECs: • Manage as ROW exclusion • Recommend to the Secretary of the Interior for withdrawal from locatable mineral entry • Allowable Use: Close to mineral materials disposal • Allowable Use: Close to nonenergy solid mineral leasing	**Action:** No similar action; all management prescriptions are identified below within each ACEC.	
528.	*ADOBE BADLANDS ACEC/OUTSTANDING NATURAL AREA*			
529.	**Action:** Manage 6,370 acres of the Adobe Badlands WSA as an ACEC/Outstanding Natural Area to protect unique scenic qualities; threatened and endangered species' habitats (Colorado hookless cactus [formerly Uinta Basin hookless cactus], clay-loving wild buckwheat, and Adobe Hills beardtongue (*Penstemon*	**Action:** No similar action (see Salt Desert Shrub ACEC).	**Action:** Manage 6,370 acres as the Adobe Badlands ACEC to protect federally threatened and BLM-sensitive species and habitats, scenic values, and highly erodible soils; provide for semiprimitive, nonmotorized, recreation opportunities and use, and reduce active erosion. Management actions are as	**Action:** Manage 6,370 acres as the Adobe Badlands ACEC to protect federally threatened and BLM-sensitive species and habitats, scenic values, and highly erodible soils; provide for semiprimitive, nonmotorized, recreation opportunities and use, and reduce active erosion. Management actions are as follows:

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	retrorsus)); provide for semiprimitive, nonmotorized, recreation opportunities and use, and reduce active erosion. Management actions are as follows: • Close to off-highway vehicles. • Manage as VRM Class I. • Allowable Use: Close to major utility development. • Prohibit erosion and salinity control measures from using structures or land treatments that would alter scenic values. • Conduct a complete inventory for threatened and endangered species and establish research and monitoring studies. • Allowable Use: Close to coal leasing. • Allowable Use: Recommend for withdrawal from locatable mineral entry. • Allowable Use: Close to mineral materials disposal.		follows: • Manage for primitive nonmotorized and nonmechanized recreational uses. • Close to motorized and mechanized travel. • Manage as VRM Class II. • Provide such facilities as informational and interpretive signs, designated trail systems for nonmotorized and nonmechanized travel, restrooms, barricades, and fences as needed to protect resources. • Manage for day use only; prohibit camping. • Prohibit campfires. • Manage as ROW avoidance. • Allowable Use: **STIPULATION** CSU-52/ SSR-57: *Special Designation ACEC*: Surface occupancy or use may be restricted and SSR restrictions applied in the ACEC. (Refer to Appendix B.)	• Close to motorized and mechanized travel. • Manage as VRM Class II. • Provide such facilities as informational and interpretive signs, designated trail systems for nonmotorized and nonmechanized travel, restrooms, barricades, and fences as needed to protect resources. • Manage for day use only; prohibit camping. • Prohibit campfires. • Manage as ROW avoidance. • Allowable Use: Close to coal leasing. • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
	• Allowable Use: **STIPULATION** NSO-UB-7 (BLM 1989a): *Areas of Critical Environmental Concern/Outstanding Natural Areas*. Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.)			
530.	*FAIRVIEW SOUTH ACEC/RESEARCH NATURAL AREA*			
531.	**Action:** Manage 210 acres as the Fairview South ACEC/Research Natural Area to protect clay-loving wild buckwheat and Adobe Hills beardtongue (*penstemon retrorsus*). Management actions are as follows: • Develop plant monitoring studies in cooperation with the Colorado Natural Areas Program. • Close to OHV use. • Close to development of new pipelines. • Restrict surface-disturbing activities to protect the threatened and	**Action:** Manage 4,250 acres as the Fairview South (CNHP Expansion) ACEC to protect clay-loving wild buckwheat, Colorado desert parsley, Adobe Hills beardtongue, and good-neighbor bladderpod. Management actions are as follows: • Continue monitoring studies in cooperation with Colorado Natural Areas Program. • Close to sheep grazing unless research shows sheep grazing is beneficial or has no impact on clay-loving wild buckwheat. • Allow research on impacts from sheep to clay-loving wild buckwheat. • Close to cattle grazing. • Provide such facilities as informational and interpretive signs,	**Action:** Manage 210 acres as the Fairview South ACEC to protect clay-loving wild buckwheat. Management actions are as follows: • Continue monitoring studies in cooperation with Colorado Natural Areas Program. • Provide facilities such as informational and interpretive signs, designated trail systems for nonmotorized and nonmechanized travel, restrooms, barricades, fences, etc. as needed for resource protection. • Limit motorized and	**Action:** Manage 610 acres as the Fairview South (BLM Expansion) ACEC to protect clay-loving wild buckwheat. Management actions are as follows: • Continue monitoring studies in cooperation with Colorado Natural Areas Program. • Close to sheep grazing except for research. • Allow research on sheep impacts on clay-loving wild buckwheat. • Allow sheep grazing if approved research clearly demonstrates that effects of sheep grazing are beneficial

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	endangered species and their potential habitat. • Continue to allow livestock to graze at current levels unless studies determine threatened and endangered plant species or their potential habitats are being degraded. • Allowable Use: **STIPULATION** NSO-UB-7 (BLM 1989a): *Areas of Critical Environmental Concern/Outstanding Natural Areas*. Prohibit surface occupancy and use in the ACEC (Refer to Appendix B.) • Allowable Use: Recommend for withdrawal from locatable mineral entry and location. • Allowable Use: Close to mineral materials disposal.	designated trail systems for nonmotorized and nonmechanized travel, restrooms, barricades, and fences as needed for resource protection. • Limit motorized and mechanized travel to designated routes. • Manage for day use only; prohibit camping. • Prohibit campfires. • Prohibit wood collecting. • Close to wood product sales and/or harvest. • Manage as VRM Class III • Manage as ROW exclusion with additional exceptions; manage these exceptions as ROW avoidance: ○ 200 feet of the edge of South Canal, Kinikin Road, and Pahgre Road ○ 600-foot buffer on private lands in the Kinikin/Cedar portion (south unit of the ACEC) • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*: Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)	mechanized travel to designated routes. • Manage as day use only; prohibit camping. • Prohibit campfires. • Prohibit wood collecting. • Close to wood product sales and/or harvest. • Manage as VRM Class IV. • Manage as ROW avoidance. • Allowable Use: **STIPULATION** CSU-52/ SSR-57: *Special Designation ACEC*: Surface occupancy or use may be restricted and SSR restrictions applied in the ACEC. (Refer to Appendix B.)	or have no impact on clay-loving wild buckwheat, through consultation with USFWS. • Close to cattle grazing. • Provide facilities such as informational and interpretive signs, designated trail systems for nonmotorized and nonmechanized travel, restrooms, barricades, fences, etc. as needed for resource protection. • Close to motorized and mechanized travel. • Manage as day use only; prohibit camping. • Prohibit campfires. • Prohibit wood collecting. • Close to wood product sales and/or harvest. • Manage as VRM Class III. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. Prohibit surface occupancy and use and apply SSR restrictions in the ACEC. (Refer to Appendix

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				B.) • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing. • Manage as ROW exclusion.
532.	*NEEDLE ROCK ACEC/OUTSTANDING NATURAL AREA*			
533.	**Action:** Manage 80 acres as the Needle Rock ACEC/Outstanding Natural Area ISA to protect the scientific, interpretive, and scenic qualities of this site. Management actions are as follows: • Manage as unallotted for livestock grazing use. • Limit travel to designated road and trails. • Manage as VRM Class I. • Close to development of major utility facilities. • Manage as a roaded natural area for recreation opportunities, including sightseeing, picnicking, and geologic study. • Allowable Use:	**Action:** Manage 80 acres as the Needle Rock ACEC ISA to protect the scientific, interpretive, and scenic qualities of this site. Management actions are as follows: • Close to livestock grazing. • Limit motorized and mechanized travel to designated routes. • Manage as VRM Class II. • Provide such facilities as informational and interpretive signs and maintain existing trails as needed to provide enhanced visitor use, enjoyment, and safety. Maintain existing trail systems and interpretive signs. • Provide adequate protection (e.g., signing, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Manage for day use only: prohibit	**Action:** Manage 80 acres as the Needle Rock ACEC ISA to protect the scientific, interpretive, and scenic qualities of this site. Management actions are as follows: • Close to livestock grazing. • Limit motorized and mechanized travel to designated routes. • Manage as VRM Class II. • Manage for day use only: prohibit camping. • Prohibit open campfires; require use of stoves or grills. • Prohibit wood collecting. • Manage as ROW avoidance. • Allowable Use: **STIPULATION** NSO-58:	**Action:** Manage 80 acres as the Needle Rock ACEC ISA to protect the scientific, interpretive, and scenic qualities of this site. Management actions are as follows: • Close to livestock grazing. • Limit motorized and mechanized travel to designated routes. • Manage as VRM Class II. • Provide such facilities as informational and interpretive signs and maintain existing trails as needed to provide enhanced visitor use, enjoyment, and safety. Maintain existing trail systems and interpretive signs.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	STIPULATION NSO-UB-7 (BLM 1989a): *Areas of Critical Environmental Concern/ Outstanding Natural Areas*. Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.) • Allowable Use: Recommend for withdrawal from locatable mineral entry. • Allowable Use: Close to mineral materials disposal.	camping. • Prohibit open campfires: require use of stoves or grills. • Prohibit wood collecting. • Close to wood product sales and/or harvest. • Prohibit rock climbing.		*Special Designation ACEC*. No surface occupancy or use is allowed in the ACEC. (Refer to Appendix B.)	• Provide adequate protection (signing, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Manage for day use only; prohibit camping. • Prohibit open campfires; require use of stoves or grills. • Prohibit wood collecting. • Close to wood product sales and/or harvest. • Prohibit rock climbing. • Manage as ROW avoidance. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. No surface occupancy or use is allowed, and SSR restrictions are applied, in the ACEC. (Refer to Appendix B.) • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing. • Recommend to the Secretary of the Interior for
		Alternative B: Allowable Use: **STIPULATION** NSO-58/SSR-57: *Special Designation ACEC*. Prohibit surface occupancy and use and apply SSR restrictions in the Needle Rock ACEC. (Refer to Appendix B.)	**Alternative B.1** (North Fork area only): Allowable Use: **NO LEASING** NL-11: *Prominent Landmarks*. Close to oil and gas leasing and geophysical exploration the Needle Rock ACEC. (Refer to Appendix B.)		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
					withdrawal from locatable mineral entry.
534.	*SAN MIGUEL RIVER ACEC*				
535.	**Action:** Manage 22,780 acres as the San Miguel River ACEC to protect unique riparian resources, bird habitat, and scenic values. Management actions are as follows (BLM 1993a): • Continue cooperating with The Nature Conservancy and CPW to study suitability of the San Miguel River for river otter reintroduction. Support reintroduction into suitable habitat. • Manage as VRM Class II, except for the forest management areas from the original RMP (BLM 1985), which is VRM Class IV. • With exception of three forest management areas designated in the original RMP (BLM 1985), close the ACEC to forest	**Action:** Manage 35,480 acres as the San Miguel River Expansion ACEC to protect unique riparian resources, bird habitat, and scenic values. Management actions are as follows: • Manage as VRM Class III. • Allow on-site collection of dead and downed wood for campfires (fire pans, stoves, or grills required), unless monitoring indicates a need for change. • Close to wood product sales and/or harvest. • Close to livestock grazing. • Limit camping to designated sites and areas. • Limit camping to no longer than 7 consecutive days at any one location; after the 7 days has been reached, prohibit campers from returning to that location for 30 days and/or require them to move out of the ACEC. • Prohibit open campfires; require use of fire pans, stoves, or grills. • Prohibit target shooting *(see*		**Action:** Manage 22,780 acres as the San Miguel River ACEC to protect unique riparian resources, bird habitat, and scenic values. Management actions are as follows: • Manage as VRM Class III. • Allow on-site collection of dead and downed wood for campfires (fire pans, stoves, or grills required), unless monitoring indicates a need for change. • Prohibit vegetation projects to improve livestock forage production. • Limit camping to designated sites and areas. • Prohibit open campfires: require use of fire pans, stoves, or grills. • Limit motorized and mechanized travel to designated routes. • Where possible, locate facility development outside	**Action:** Manage 22,780 acres as the San Miguel River ACEC to protect unique riparian resources, bird habitat, and scenic values. Management actions are as follows: • Manage as VRM Class III. • Allow on-site collection of dead and downed wood for campfires (fire pans, stoves, or grills required), unless monitoring indicates a need for change. • Close to wood product sales and/or harvest. • Limit camping to designated sites and areas. • Limit camping to no longer than 7 consecutive days at any one location; after the 7 days has been reached, prohibit campers from returning to that location for 30 days and/or require them to move out of the ACEC.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	product disposal unless criteria of improving riparian values and maintaining forest health are met. • Do not attempt to improve forage production through vegetation projects. • Limit camping along the river between Placerville and Sanborn Park Road to two designated sites only. • Limit maximum length of stay to 14 days. • Limit travel to designated routes. • Require that all facility construction protects riparian and scenic values. Where possible, locate facility development outside the 100-year floodplain. • Authorize upgrades to existing electric transmission lines in San Miguel Canyon (BLM 1993a). • Close to development of	*Recreation section for more information)*. • Close to recreational mining. • Limit motorized and mechanized travel to designated routes. • Where possible, locate facility development outside the 100-year floodplain. • Provide such facilities as informational and interpretive signs, designated trail systems and restrooms, barricades, and fences, as needed for enhanced visitor use, enjoyment, and safety and to protect sensitive species and their habitats. • Allowable Use: Close to coal leasing. • Allowable Use: **NO LEASING/STIPULATION** NL-16/SSR-57: Special Designation *ACEC.* Close to fluid mineral leasing and geophysical exploration and apply SSR restrictions in the ACEC. (Refer to Appendix B.)	the 100-year floodplain. • Provide such facilities as informational and interpretive signs, designated trail systems and restrooms, barricades, and fences, as needed for enhanced visitor use, enjoyment, and safety and to protect sensitive species and their habitats. Allowable Use: **STIPULATION** CSU-52: *Special Designation ACEC:* Surface occupancy or use may be restricted in the ACEC. (Refer to Appendix B.) • Recreational mining must adhere to the following practices: ○ All recreational mining activities must take place within the stream channel, no closer than two feet from any stream bank (and/or inter-river island) with established vegetation, and shall be conducted to prevent undercutting of banks;	• Prohibit open campfires; require use of fire pans, stoves, or grills. • Prohibit target shooting *(see Recreation section for more information)*. • Limit motorized and mechanized travel to designated routes. • Where possible, locate facility development outside the 100-year floodplain. • Provide such facilities as informational and interpretive signs, designated trail systems and restrooms, barricades, and fences, as needed for enhanced visitor use, enjoyment, and safety and to protect sensitive species and their habitats. • Allowable Use: Close to coal leasing. • Allowable Use: Close to nonenergy solid mineral leasing. • Allowable Use: **STIPULATION** NSO-58: *Special Designation ACEC.*

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	major utilities, with the exception of those already established by the San Miguel Power Association. • Prohibit BLM-permitted actions, such as ROWs, bike trails, and camping areas, in relic riparian communities within the ACEC. • Allowable Use: Close to mineral materials disposal unless disposal is needed to meet management goals for the river or riparian area. • Allowable Use: Close to mineral materials disposal. • Manage mineral development to minimize impacts on riparian and recreation values.		Material too large to be moved by hand shall remain undisturbed; ○ All excavations shall have materials replaced upon completion of operations, and no sites shall be left open in excess of 14 days; ○ Operations shall not disturb in excess of two cubic yards of material per day; and ○ Anchorage systems (if used) shall not span the stream if it will restrict the free passage of water craft.	Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.) • Allowable Use: Close to mineral materials disposal. • Recommend to the Secretary of the Interior for withdrawal from locatable mineral entry. • Ensure that recreational mining adheres to the following practices: ○ Prohibit motorized recreational mining (e.g., motorized dredging); ○ All activities shall be conducted below existing water surface; ○ Material too large to be moved by hand shall remain undisturbed. ○ All excavations shall have materials replaced on completion of operations, and no sites shall be left open in excess of 14 days. ○ Operations shall not disturb in excess of two cubic yards of material per day.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
536.	*TABEGUACHE CREEK ACEC/OUTSTANDING NATURAL AREA*			
537.	**Action:** Manage 560 acres as the Tabeguache Creek ACEC/ONA to protect cultural resources and aquatic/riparian values. Management actions are as follows (BLM 1985): • Closed to OHV use • VRM Class II • Allowable Use: **STIPULATION** NSO-UB-7 (BLM 1989a): *Areas of Critical Environmental Concern/ Outstanding Natural Areas*. Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.)	**Action:** No similar action (Tabeguache Creek is not proposed as an ACEC under Alternatives B, C, and D; see the proposed Tabeguache Pueblo and Tabeguache Caves ACEC).		
538.	*COYOTE WASH ACEC*			
539.	**Action:** No similar action in current RMPs.	**Action:** Manage 2,100 acres as the Coyote Wash ACEC to protect BLM sensitive species. Management actions are as follows: • Manage as VRM Class II. • Provide such facilities as informational and interpretive signs, designated trail systems, camping	**Action:** No similar action (Coyote Wash is not proposed as an ACEC under this alternative).	**Action:** No similar action (this area is within the Dolores River Slickrock Canyon ACEC).

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		areas, restrooms, barricades, and fences, as needed for resource protection. • Allowable Use: **STIPULATION** NSO-58: *Special Designation ACECs*. Prohibit surface occupancy and use in the ACEC. (Refer to Appendix B.)		
540.	*DOLORES (RIVER) SLICKROCK CANYON ACEC*			
541.	**Action:** No similar action in current RMPs.	**Action:** Manage 10,670 acres as the Dolores Slickrock Canyon ACEC to protect scenic values, cultural and paleontological resources, desert bighorn sheep, peregrine falcon, roundtail chub, and plant communities, and the BLM sensitive species Kachina daisy and Naturita milkvetch. Management actions are as follows: • Close 9,800 acres (overlapping Dolores Canyon WSA) to motorized and mechanized travel. • In the remaining portion of the ACEC (870 acres), limit motorized and mechanized travel to designated routes. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, restrooms, barricades, and fences as needed for resource	**Action:** No similar action (Dolores [River] Slickrock Canyon is not proposed as an ACEC under this alternative).	**Action:** Manage 9,780 acres as the Dolores River Slickrock Canyon ACEC to protect scenic values, cultural and paleontological resources, desert bighorn sheep, peregrine falcon, roundtail chub, and plant communities and the BLM sensitive species Kachina daisy and Naturita milkvetch. Management actions are as follows: • Close to motorized and mechanized travel. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, restrooms, barricades, and fences, as needed for resource

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		protection. • Allow camping only in designated sites and areas. • Prohibit open campfires: require use of fire pans, stoves, or grills. • Allow on-site collection of dead and downed wood for campfires (fire pans, stoves, or grills required), unless monitoring indicates a need for change. • Close to wood product sales and/or harvest. • Require firepans and porta-potties for overnight use if restroom is not available. • Manage as VRM Class II. • Close to recreational mining. • Allowable Use: **NO LEASING/STIPULATION** NL-16/NGD-26: *Special Designation ACEC*: Close to fluid mineral leasing and geophysical exploration and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		protection. • Allow dispersed camping unless otherwise posted. • Prohibit open campfires: require use of fire pans, stoves, or grills. • Allow on-site collection of dead and downed wood for campfires (fire pans, stoves, or grills required), unless monitoring indicates a need for change. • Close to wood product sales and/or harvest. • Require porta-potties for overnight use if restroom is not available. • Manage as VRM Class II. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. Prohibit surface occupancy and use and apply SSR restrictions in the ACEC. (Refer to Appendix B.) • Manage as ROW avoidance. • Recommend to the Secretary of the Interior for withdrawal from locatable

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				mineral entry. • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing.
542.	*EAST PARADOX/BIOLOGICAL SOIL CRUST ACEC*			
543.	**Action:** No similar action in current RMPs.	**Action:** Manage 7,360 acres as the East Paradox ACEC to protect potential and known rare biological soil crusts, unique vegetation communities, and BLM sensitive plant, aquatic, and terrestrial wildlife species, including Paradox Valley lupine, Paradox breadroot, roundtail chub, flannelmouth sucker, and peregrine falcon. Management actions are as follows: • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes. • On 1,810 acres of biological soil crust and gypsipherous plant communities, limit all travel (motorized, mechanized, pedestrian, and equestrian) to designated routes. • Close to camping. • Allowable Use: **STIPULATION**	**Action:** No similar action (East Paradox/Biological Soil Crust is not proposed as an ACEC under this alternative).	**Action:** Manage 1,900 acres as the Biological Soil Crust ACEC to protect biological soil crusts. Management actions are as follows: • Manage as VRM Class II. • Emphasize management and long-term preservation of the biological soil crust community. • Allow surface-disturbing activities associated with research for biological soil crust and gypsipherous plant communities. Conduct a complete inventory for biological soil crust and gypsipherous plant communities. • Locate livestock salt/mineral supplement sites and water sites farther than 0.25-mile

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.) • Allowable Use: **STIPULATION** TL-28: *East Paradox ACEC.* Close the East Paradox ACEC to rock climbing during peregrine falcon breeding season (March 1 to August 15) if peregrine falcons are present. (Refer to Appendix B.) • Allowable Use: Close to coal leasing. • Allow surface-disturbing activities associated with research for biological soil crust and gypsipherous plant communities. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats.		from the boundary of the gypsipherous soils (gypsum land and gypsiothorids). • Allow existing livestock watering reservoirs closer than 0.25-mile from the gypsipherous soils to remain; prohibit new reservoirs within 0.25-mile of the gypsipherous soils. • Limit motorized and mechanized travel to designated routes. • Manage for day use only; prohibit camping. • Manage as ROW exclusion with the following additional exception: ○ Allow private edge-holding ROWs for reasonable access and utilities, only if other access is not possible (these areas would be managed as ROW avoidance). • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. Prohibit surface

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				occupancy and use and apply SSR restrictions in the ACEC. (Refer to Appendix B.) • Recommend to the Secretary of the Interior for withdrawal from locatable mineral entry. • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing.
544.	*LA SAL CREEK ACEC*			
545.	**Action:** No similar action in current RMPs.	**Action:** Manage 10,490 acres as the La Sal Creek ACEC to protect unique vegetation communities and BLM sensitive plant, fish, and wildlife species, including Paradox breadroot, Paradox Valley lupine, desert bighorn sheep, and peregrine falcon. Management actions are as follows: • Limit motorized and mechanized travel to designated routes. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, restrooms, barricades, and fences, as needed for resource	**Action:** No similar action (La Sal Creek is not proposed as an ACEC under Alternatives C and D; it is partially within the Dolores River Slickrock Canyon ACEC under Alternative D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		protection. • Allow camping only in designated sites and areas. • Manage as VRM Class II. • Manage with additional exceptions for ROW exclusion, including: ○ 0.25-mile buffer along private lands on the north side of the ACEC • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*: Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
546.	*LOWER UNCOMPAHGRE PLATEAU ACEC*			
547.	**Action:** No similar action in current RMPs.	**Action:** Manage 31,810 acres in the area of the Lower Uncompahgre Plateau between the Dry Creek Basin and Roubideau Creek as an ACEC to protect unique cultural resource values. Management actions are as follows: • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes. • Provide such facilities as informational and interpretive signs, designated trail systems, camping areas, restrooms, barricades, and	**Action:** No similar action (Lower Uncompahgre Plateau is not proposed as an ACEC under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		fences, as needed to provide resource protection. • Manage for the protection of the Formative Era and protohistoric Ute occupations in Coalbank Canyon. • Manage for the protection of historic Ute occupations and sacred sites. • Manage for the protection of numerous rock art panels in the region including Dry Creek Overlook, Roatcap Gulch, Big Sandy, and Cushman Creek. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
548.	*PARADOX ROCK ART ACEC*			
549.	**Action:** No similar action in current RMPs.	**Action:** Manage 1,080 acres in the area of Paradox Rock Art Complex as an ACEC to protect unique cultural resource values, including numerous prehistoric petroglyphs and pictographs. Management actions are as follows: • Manage as VRM Class II. • Limit motorized and mechanized	**Action:** No similar action (Paradox Rock Art is not proposed as an ACEC under this alternative).	**Action:** Manage 1,080 acres in the area of Paradox Rock Art Complex as an ACEC to protect unique cultural resource values, including numerous prehistoric petroglyphs and pictographs in the area. Management actions are as follows:

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		travel to designated routes. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, and restrooms, as needed for resource protection. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sites. • Allow camping only in designated sites and areas. • Prohibit target shooting *(see Recreation section for more information)*. • Close to rock climbing. • Issue no SRPs. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions are applied, in the ACEC. (Refer to Appendix B.)		• Manage as VRM Class II. • Limit motorized and mechanized travel to designated routes. • Manage as ROW avoidance. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, and restrooms, as needed for resource protection. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive sites. • Allow camping only in designated sites and areas. • Prohibit target shooting *(see Recreation section for more information)*. • Prohibit rock climbing, except for in designated areas. • Issue no SRPs for competitive events. • Allow organized SRPs for groups up to 25 people. • If resource damage occurs,

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				close to the action that is causing the damage. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC*. Prohibit surface occupancy and use and apply SSR restrictions in the ACEC. (Refer to Appendix B.) • Recommend to the Secretary of the Interior for withdrawal from locatable mineral entry. • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing.
550.	*ROUBIDEAU CORRIDORS AND ROUBIDEAU-POTTER-MONITOR ACEC*			
551.	**Action:** No similar action in current RMPs.	**Action:** Manage 20,430 acres as the Roubideau-Potter-Monitor ACEC to protect narrowleaf cottonwood/skunkbrush riparian forests, montane and lower montane riparian forests, BLM-sensitive species (peregrine falcon, Grand Junction milkvetch, desert bighorn sheep, and northern leopard frog), and historic	**Action:** No similar action (Roubideau Corridors and Roubideau-Potter-Monitor are not proposed as an ACEC under this alternative).	**Action:** Manage 8,720 acres as the Roubideau Corridors ACEC to protect narrowleaf cottonwood/skunkbrush riparian forests, montane and lower montane riparian forests, BLM-sensitive species (Grand Junction milkvetch, desert bighorn sheep, and

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		resources. Management actions are as follows: • Manage as VRM Class II. • Limit motorized and mechanized travel to designated routes, in accordance with the Dry Creek Travel Management Plan (BLM 2009a). • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Issue no SRPs for competitive events. • Prohibit target shooting *(see Recreation section for more information)*. • Close to wood product sales and/or harvest and Christmas tree cutting. • Allowable use: Close to recreational mining. • Allowable Use: **NO LEASING/STIPULATION** NL-16/NGD-26: *Special Designation ACEC.* Close to fluid mineral leasing and geophysical exploration and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		northern leopard frog), and historic resources. Management actions are as follows: • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes, In accordance with the Dry Creek Travel Management Plan (BLM 2009a). • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Close to wood product sales and/or harvest and Christmas tree cutting. • Manage as ROW avoidance. • Allowable Use: **STIPULATION** NSO-58/ SSR-57: *Special Designation ACEC.* Prohibit surface occupancy and use and apply SSR restrictions in the ACEC. (Refer to Appendix B.) • Recommend to the Secretary of the Interior for

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				withdrawal from locatable mineral entry. • Allowable Use: Close to mineral materials disposal. • Allowable Use: Close to nonenergy solid mineral leasing.
552.	*SALT DESERT SHRUB ECOSYSTEM ACEC/RESEARCH NATURAL AREA*			
553.	**Action:** No similar action in current RMPs.	**Action:** Manage 34,510 acres as the Salt Desert Shrub Ecosystem ACEC to protect federally threatened plant species: Colorado hookless cactus; the globally vulnerable and locally imperiled salt desert shrubland; and BLM-sensitive wildlife species, white-tailed prairie dog, burrowing owl, kit fox, ferruginous hawk, and pronghorn antelope. Management actions are as follows: • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes. • Provide such facilities as informational and interpretive signs, barricades, and fences, as needed to protect resources. • Manage for day use only: prohibit camping. • Prohibit open campfires; require use	**Action:** No similar action (Salt Desert Shrub Ecosystem is not proposed as an ACEC under Alternatives C and D; see Adobe Badlands ACEC).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		of stoves or grills. • Prohibit wood collecting. • Allowable Use: Close to coal leasing. • Manage with additional exceptions for ROW exclusion: ○ 0.25-mile ROW buffer zone along Highway 50 and 200 feet along existing roads ○ 0.25-mile ROW buffer zone along the south, southeast, and southwest eastern boundaries with private lands. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
554.	*SAN MIGUEL GUNNISON SAGE-GROUSE ACEC*			
555.	**Action:** No similar action in current RMPs.	**Action:** Manage 470 acres as the San Miguel Gunnison Sage-Grouse ACEC for greater protection and enhancement of Gunnison sage-grouse habitat and to reduce wildlife harassment by other users. • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes.	**Action:** No similar action (San Miguel Gunnison Sage-Grouse is not proposed as an ACEC under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Close to motorized and mechanized travel during strutting, nesting, and brood-rearing season (April 1 to July 15) to prevent disturbance to breeding sage-grouse. • Follow recommendations in San Miguel Basin Gunnison Sage-grouse Conservation Plan (San Miguel Basin Gunnison Sage-grouse Working Group 2009). Manage vegetation for optimal Gunnison sage-grouse habitat. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
556.	*SIMS-CERRO GUNNISON SAGE-GROUSE ACEC*			
557.	**Action:** No similar action in current RMPs.	**Action:** Manage 25,620 acres as the Sims-Cerro Gunnison Sage-Grouse ACEC for greater protection and enhancement of Gunnison sage-grouse habitat and to reduce wildlife harassment by other users. Management includes the following:	**Action:** No similar action (Sims-Cerro Gunnison Sage-Grouse is not proposed as an ACEC under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Manage as VRM Class III. • Manage vegetation for optimal Gunnison sage-grouse habitat. • Limit motorized and mechanized travel to designated routes. • Close to motorized and mechanized travel during strutting, nesting, and brood-rearing season (April 1 to July 15) to prevent disturbance to breeding sage-grouse. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • In cooperation with CPW, develop a Sims-Cerro Gunnison Sage-grouse Conservation Plan. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
558.	*TABEGUACHE PUEBLO AND TABEGUACHE CAVES ACEC*			
559.	**Action:** No similar action in current RMPs.	**Action:** Manage 26,400 acres in the area of Tabeguache Pueblos and Tabeguache Caves as an ACEC to protect unique cultural resource values and to protect the Tabeguache Caves. Management actions are as follows:	**Action:** No similar action (Tabeguache Pueblo and Tabeguache Caves is not proposed as an ACEC under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		• Manage 5,260 acres within the Tabeguache Area as VRM Class II. • Manage the remaining 21,140 acres as VRM Class III. • Limit motorized and mechanized travel to designated routes. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive sites. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC*. Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
560.	*WEST PARADOX ACEC*			
561.	**Action:** No similar action in current RMPs.	**Action:** Manage 5,190 acres as the West Paradox ACEC to protect unique vegetation communities and BLM sensitive plant and terrestrial wildlife species, including Paradox Valley lupine, Paradox breadroot, and peregrine falcon. Management actions are as follows: • Manage as VRM Class III. • Limit motorized and mechanized travel to designated routes. • Allowable Use: Close to rock climbing during peregrine falcon	**Action:** No similar action (West Paradox is not proposed as an ACEC under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		breeding season (March 1 to August 15) if they are present. • Provide such facilities as informational and interpretive signs, designated trail systems and camping areas, and restrooms, as needed for resource protection. • Provide adequate protection (signs, use stipulations, barricades, and fences, as needed) to protect sensitive species and their habitats. • Allow camping only in designated sites and areas. • Allowable Use: **STIPULATION** NSO-58/NGD-26: *Special Designation ACEC.* Prohibit surface occupancy and use and apply NGD restrictions in the ACEC. (Refer to Appendix B.)		
562.	**WILDERNESS AND WILDERNESS STUDY AREAS**			
563.	**GOAL:** Preserve the wilderness character of the Tabeguache Area.			
564.	**Objective:** Provide protection and management of the Tabeguache Area (8,060 acres) to maintain wilderness character and potential for inclusion in the National Wilderness Preservation System as directed by Congress in the Colorado Wilderness Act of 1993 (PL 103-77, August 13, 1993).			
565.	**Action:** Apply the following management actions to the Tabeguache Area (8,060	**Action:** Apply the following management actions to the Tabeguache Area (8,060 acres) (Figure 2-67, Appendix A):	**Action:** Apply the following management actions to the Tabeguache Area (8,060 acres) (Figure 2-67, Appendix A): • Same as Alternative A, plus:	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	acres) (Figure 2-67, Appendix A): • Manage as VRM Class I. • Close to motorized and mechanized travel. • Manage as ROW exclusion. • Closed to wood cutting and wood product sales and harvest • Allowable Use: Withdrawn from locatable mineral entry. • Allowable Use: Close to coal leasing. • Allowable Use: **NO LEASING** NL-17: *Tabeguache Area*. Close to fluid mineral leasing and geophysical exploration. (Refer to Appendix B; Figure 2-19, Appendix A.) • Allowable Use: Close to nonenergy solid mineral leasing. • Allowable Use: Close to mineral materials disposal.	• Same as Alternative A, plus: ○ Prohibit target shooting *(see Recreation section for more information)* ○ Allowable Use: **STIPULATION** SSR-58: *Tabeguache Area*. Apply SSR restrictions. (Refer to Appendix B; Figure 2-20, Appendix A.)	○ Allowable Use: **STIPULATION** SSR-58: *Tabeguache Area*. Apply SSR restrictions. (Refer to Appendix B; Figures 2-30 [Alternative C] and 2-31 [Alternative D], Appendix A.)	
566.	**GOAL:** Preserve the wilderness characteristics of WSAs.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
567.	**Objective:** Preserve wilderness characteristics in WSAs in accordance with nonimpairment standards, as defined in BLM Manual 6330, Management of Wilderness Study Areas until Congress either designates these lands as wilderness or releases them for other purposes.			
568.	**Action:** Manage the following WSAs according to BLM Manual 6330, Management of Wilderness Study Areas until Congress either designates them as wilderness or releases them for other uses (Figure 2-67, Appendix A): • Adobe Badlands (10,320 acres) • Camel Back (10,680 acres) • Dolores River Canyon (13,340 acres) • Needle Rock ISA (80 acres) • Sewemup Mesa (1,740 acres)			
569.	**Action:** Recommend 13,350 acres of the Dolores River Canyon WSA as suitable for wilderness designation under Section 603 of FLPMA (BLM 1985).	**Action:** No similar action; this action has been completed. *Note: The recommendation action in Alternative A was made over 20 years ago, and societal attitudes, relative rarity of wilderness resources, and conditions on the ground in the WSA may have changed since the original recommendation. The BLM has managed these lands for protection of wilderness characteristics for nearly 30 years.*		
570.	**Action:** Recommend 22,740 acres as unsuitable for wilderness designation under Section 603 of FLPMA: • Adobe Badlands WSA (10,320 acres; BLM 1989a) • Camel Back WSA (10,680 acres; BLM 1989a) • Sewemup Mesa WSA (1,740 acres; BLM 1991b)	**Action:** No similar action; this action has been completed. *Note: The recommendation action in Alternative A was made over 20 years ago, and societal attitudes, relative rarity of wilderness resources, and conditions on the ground in the WSAs may have changed since the original recommendation. The BLM has managed these lands for protection of wilderness characteristics for nearly 30 years.*		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
571.	**Action:** Apply the following management prescriptions to all WSAs: • Manage as VRM Class I. • Manage as ROW exclusion. • Closed to wood cutting and wood product sales and harvest. • Allowable Use: Close to coal leasing. • Allowable Use: Close to nonenergy solid mineral leasing. • Allowable Use: **NO LEASING/STIPULATION** NL-18/NGD-27: *WSAs*: Close to fluid mineral leasing and geophysical exploration and prohibit surface-disturbing activities. (Refer to Appendix B; Figures 2-19 [Alternative A], 2-20 and 2-29 [Alternative B], 2-22 and 2-30 [Alternative C], and 2-23 and 2-31 [Alternative D].)			
572.	**Action:** In addition to the above, no similar action.	**Action:** In addition to the above, apply the following management prescriptions to all WSAs: • Prohibit competitive events. • Prohibit target shooting *(see Recreation section for more information)*. • Allowable Use: Close to mineral materials disposal.	**Action:** In addition to the above, apply the following management prescription to all WSAs: • Allowable Use: Close to mineral materials disposal.	**Action:** In addition to the above, apply the following management prescriptions to all WSAs: • Prohibit competitive events. • Allowable Use: Close to mineral materials disposal.
573.	Allowable Use: Close Needle Rock ISA and a portion of Adobe Badlands WSA (6,380 acres [Adobe Badlands ACEC/Outstanding Natural Area and Needle Rock ACEC/Outstanding Natural Area]) to mineral materials disposal.	Allowable Use: No similar allowable use; see management prescriptions for all WSAs.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
574.	**Action:** Close WSAs to motorized and mechanized travel: • Adobe Badlands • Camel Back • Dolores River Canyon • Sewemup Mesa (BLM 2009a, 2010b) In the Dolores River Canyon WSA: • Prohibit motorized river activities. • Close ways (BLM 1985). Limit motorized and mechanized travel in Needle Rock ISA to the one existing county road (BLM 2010b). Issue special permits for vehicle use for administration of livestock grazing allotments in Sewemup Mesa WSA.	**Action:** Close WSAs to motorized and mechanized travel: • Adobe Badlands • Camel Back • Dolores River Canyon • Sewemup Mesa Limit motorized and mechanized travel in Needle Rock ISA to designated routes.		
575.	**GOAL:** No similar goal in current RMPs.	**GOAL:** Implement management strategies for lands within WSAs, should Congress release one or more of these areas from wilderness consideration.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
576.	**Objective:** No similar objective in current RMPs.	**Objective:** If Congress releases one or more WSAs from wilderness consideration, manage those lands consistent with underlying land use designations.		
577.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases one or more WSAs from wilderness consideration, update the wilderness characteristics inventory for lands that were formerly WSAs (FLPMA Section 201).		
578.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases Sewemup Mesa WSA from wilderness consideration: • Manage as VRM Class II. • Close to motorized travel, including over-the-snow travel. • Limit mechanized travel to designated routes. • Allowable Use: **NO LEASING/STIPULATION** NL-19/NGD-28: *Sewemup Mesa WSA if Released from Wilderness Consideration.* Close to fluid mineral leasing and geophysical exploration and apply NGD restrictions. (Refer to Appendix B.) • Allowable use: Close to nonenergy solid mineral leasing. • Allowable use: Close to mineral materials disposal. • Issue no SRPs for competitive events. • Prohibit wood cutting. • Open to livestock grazing. • Manage as ROW exclusion.	**Action:** If Congress releases Sewemup Mesa WSA from wilderness consideration, manage the lands consistent with the goals and objectives in the RMP for adjacent areas.	**Action:** If Congress releases Sewemup Mesa WSA from wilderness consideration: • Manage as VRM Class II. • Close to motorized travel, including over-the-snow travel. • Limit mechanized travel to designated routes. • Allowable Use: **NO LEASING/ STIPULATION** NL-19/ SSR-59: *Sewemup Mesa WSA if Released from Wilderness Consideration.* Close to fluid mineral leasing and geophysical exploration and apply SSR restrictions. (Refer to Appendix B.) • Allowable use: Close to nonenergy solid mineral leasing. • Allowable use: Close to

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				mineral materials. • Issue no SRPs for competitive events. • Prohibit wood cutting. • Open to livestock grazing. • Manage as ROW avoidance.
579.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases Dolores River Canyon WSA from wilderness consideration, manage the lands consistent with the Dolores River SRMA and Dolores Slickrock Canyon ACEC.	**Action:** If Congress releases Dolores River Canyon WSA from wilderness consideration, manage the lands for multiple uses consistent with the goals and objectives in the RMP.	**Action:** If Congress releases Dolores River Canyon WSA from wilderness consideration, manage the lands consistent with the Dolores River SRMA and Dolores River Slickrock Canyon ACEC.
580.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases Camel Back WSA from wilderness consideration, manage those lands consistent with Roubideau SRMA and Roubideau-Potter-Monitor ACEC.	**Action:** If Congress releases Camel Back WSA from wilderness consideration, manage those lands consistent with management prescriptions of adjacent public lands.	**Action:** If Congress releases Camel Back WSA from wilderness consideration, manage those lands consistent with Roubideau SRMA and Roubideau Corridors ACEC.
581.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases Adobe Badlands WSA from wilderness consideration, manage those lands consistent with Salt Desert Shrub ACEC.	**Action:** If Congress releases Adobe Badlands WSA from wilderness consideration, manage those lands consistent with Adobe Badlands ACEC.	**Action:** If Congress releases Adobe Badlands WSA from wilderness consideration, manage those lands consistent with Adobe Badlands ACEC.
582.	**Action:** No similar action in current RMPs.	**Action:** If Congress releases Needle Rock ISA from wilderness consideration, manage those lands consistent with Needle Rock ACEC.		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
583.	**WILD AND SCENIC RIVERS**			
584.	**GOAL:** Protect National Wild and Scenic Rivers System (NWSRS)-eligible segments in accordance with the Wild and Scenic Rivers Act and BLM guidance (BLM Manual 6400).	**GOAL:** Evaluate eligible river segments to determine suitability for inclusion in the NWSRS, protecting them in accordance with the Wild and Scenic Rivers Act and BLM guidance (BLM Manual 6400).		
585.	**Objective:** Preserve the preliminary classification of each eligible segment by protecting its free-flowing nature, water quality, and ORVs, pending congressional action.	**Objective:** Preserve the recommended classification of each suitable segment by maintaining the level of development allowed under the recommended classification. In addition, maintain the free-flowing condition, water quality, and ORVs associated with suitable segments.		
586.	**Action:** The following 29 stream segments are **eligible** for inclusion in the NWSRS (Figure 2-68, Appendix A). See Table 2-4 (Summary of Wild and Scenic River Study Segments (Alternatives A and B)) (a description of each segment is provided in Appendix P, Summary of Draft Wild and Scenic River Suitability Report): • Segments classified as wild:	**Action:** Determine that the following 29 stream segments are **suitable** for inclusion in the NWSRS (Figure 2-68, Appendix A). See Table 2-4 (Summary of Wild and Scenic River Study Segments (Alternatives A and B)) (a description of each segment is provided in Appendix P, Summary of Draft Wild and Scenic River Suitability Report): • Same as Alternative A.	**Action:** Determine that all 29 eligible stream segments are **not suitable** for inclusion in the NWSRS and release them from interim management protections afforded eligible segments.	**Action:** Determine that the following 16 stream segments are **suitable** for inclusion in the NWSRS (Figure 2-69, Appendix A). See Table 2-5 (Summary of Wild and Scenic River Study Segments (Alternative D)) (a description of each segment is provided in Appendix P, Summary of Draft Wild and Scenic River Suitability Report): • Segments classified as wild:

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	○ Monitor Creek ○ Potter Creek ○ Roubideau Creek Segment 1 ○ Dry Creek ○ Saltado Creek ○ San Miguel River Segment 2 ○ Tabeguache Creek Segment 1 ○ Dolores River Segment 1a ○ La Sal Creek Segment 3 • Segments classified as scenic: ○ Roubideau Creek Segment 2 ○ Deep Creek ○ West Fork Terror Creek ○ Beaver Creek ○ Naturita Creek ○ San Miguel River Segment 3 ○ Lower Dolores River ○ Ice Lake Creek Segment 2 ○ North Fork Mesa Creek ○ La Sal Creek Segment 2 ○ Lion Creek Segment 2			○ Monitor Creek ○ Potter Creek ○ Roubideau Creek Segment 1 ○ Saltado Creek ○ San Miguel River Segment 2 ○ Tabeguache Creek Segment 1 ○ Dolores River Segment 1a ○ La Sal Creek Segment 3 • Segments classified as scenic: ○ Lower Dolores River • Segments classified as recreational: ○ Beaver Creek ○ San Miguel River Segments 1, 3, 5, and 6 ○ Dolores River Segment 2 ○ La Sal Creek Segment 2 Determine that the following 13 stream segments are **not suitable** for inclusion in the NWSRS: • Dry Creek • Roubideau Creek Segment 2 • Deep Creek • West Fork Terror Creek

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	• Segments classified as recreational: ○ Gunnison River Segment 2 ○ San Miguel River Segments 1, 5, and 6 ○ Tabeguache Creek Segment 2 ○ Dolores River Segments 1b and 2 ○ La Sal Creek Segment 1 ○ Spring Creek			• Naturita Creek • Ice Lake Creek Segment 2 • Lion Creek Segment 2 • Gunnison River Segment 2 • Tabeguache Creek Segment 2 • Dolores River Segment 1b • North Fork Mesa Creek • La Sal Creek Segment 1 • Spring Creek For eligible streams in which only a portion was determined to be suitable, stream miles and acreage that are not within the mapped boundary of the suitable stream segment are determined to be **not suitable**. All stream miles and acreage determined to be **not suitable** are released from further protection under the provisions of the Wild and Scenic Rivers Act.
587.	**Action:** Establish the following interim protective	**Action:** Establish the following interim protective management guidelines for	**Action:** No similar action (there are not any suitable segments	**Action:** Establish the following interim protective management

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	management guidelines for all eligible segments pending congressional action (all interim protective management is subject to valid existing rights): • Approve no actions altering the free-flowing nature of eligible segments through impoundments, diversions that have the effect of impounding water, channeling, or riprapping. • Approve no action that would have an adverse effect on an eligible segment's identified ORV(s). Enhance identified ORV(s) to the extent practicable. • Approve no action that would modify an eligible segment or its corridor to the degree that its eligibility or tentative classification would be affected. • Approve no action that would diminish water	all suitable segments pending congressional action (all interim protective management is subject to valid existing rights): • The same management of eligible segments as described under Alternative A would be carried forward for suitable segments under Alternative B, plus: ○ Manage wild segments as VRM Class I. ○ Manage scenic segments as VRM Class II. ○ Manage recreational segments as VRM Class III. ○ Manage wild segments as ROW exclusion areas. ○ Manage scenic and recreational segments as ROW avoidance areas. ○ Allowable Use: **STIPULATION** NSO-59/NGD-29: *Special Designation WSR ("Wild").* No surface occupancy or use is allowed, and NGD restrictions are applied, within the WSR study corridor, as defined in Appendix B of the Uncompahgre Wild and Scenic River Suitability Report of segments determined have the	under this alternative).	guidelines for all suitable segments pending congressional action (all interim protective management is subject to valid existing rights): • The same management of eligible segments as described under Alternative A would be carried forward for suitable segments under Alternative D, plus: ○ Manage wild segments with scenic ORV or within a WSA or the Tabeguache Area as VRM Class I. ○ Manage wild segments without a scenic ORV and not within a WSA or the Tabeguache Area as VRM Class II. ○ Manage scenic segments as VRM Class II. ○ Manage recreational segments with a scenic ORV as VRM Class II. ○ Manage recreational segments without a scenic ORV according to the background VRM class in

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	quality to the point that the water quality would no longer support the ORV(s).	classification of "Wild" (Figures 2-20 and 2-29, Appendix A). ○ Allowable Use: **STIPULATION** CSU-53/SSR-60: *Special Designation WSR ("Scenic" or "Recreational").* Surface occupancy or use may be restricted and SSR restrictions applied within the WSR study corridor, as defined in Appendix B of the Uncompahgre Wild and Scenic River Suitability Report, of segments determined to have the classification of "Scenic" or "Recreational." (Refer to Appendix B; Figures 2-20 and 2-29, Appendix A). ○ Allowable use: Close wild segments to mineral material disposal. ○ Allowable use: Close wild segments to nonenergy solid mineral leasing. ○ Allowable use: Close wild segments to coal leasing. ○ Recommend to the Secretary of the Interior to withdraw wild segments from locatable mineral entry.		that area. ○ Manage wild segments as ROW exclusion areas. ○ Manage scenic segments as ROW avoidance areas. ○ Allowable Use: **STIPULATION** NSO-60: *Special Designation WSR ("Wild" or "Scenic").* Prohibit surface occupancy and use within the WSR study corridor, as defined in Appendix B of the Uncompahgre Wild and Scenic River Suitability Report, of segments determined to be suitable for inclusion in the National Wild and Scenic Rivers System with the classification of "Wild" or "Scenic." (Refer to Appendix B; Figure 2-23, Appendix A.) ○ Allowable Use: **STIPULATION** CSU-54: *Special Designation WSR ("Recreational").* Surface occupancy or use may be restricted within

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				the WSR study corridor, as defined in Appendix B of the Uncompahgre Wild and Scenic River Suitability Report, of segments determined to have the classification of "Recreational." (Refer to Appendix B; Figure 2-23, Appendix A.) ○ Allowable Use: **STIPULATION** SSR-61: *Special Designation WSR.* Apply SSR restrictions within the WSR study corridor, as defined in Appendix B of the Uncompahgre Wild and Scenic River Suitability Report. (Refer to Appendix B; Figure 2-31, Appendix A.) ○ Allowable use: Close to nonenergy solid mineral leasing ○ Allowable use: Close all segments to mineral materials disposal. ○ Allowable use: Close all segments to coal leasing.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				○ Recommend to the Secretary of the Interior to withdraw wild segments from locatable mineral entry.
588.	**NATIONAL TRAILS AND BYWAYS**			
589.	*NATIONAL TRAILS*			
590.	**GOAL:** Enhance, promote, and protect the scenic, natural, and cultural resource values associated with current and future designated National Scenic, Historic, and Recreation Trails.			
591.	**Objective:** No similar objective in current RMPs.	**Objective:** Identify and manage National Historic Trails. Identify the nature and purposes of National Historic Trails, and, to the greatest extent possible, manage the trails in a manner so as to safeguard the nature and purpose of the trail and in a manner that protects the values for which the trail was designated. Manage congressionally designated National Historic Trails in consideration of the developed trail-wide comprehensive administrative strategy.		
592.	**Action:** No similar action in current RMPs.	**Action:** Evaluate known historic trails and/or trail segments (e.g., Old Spanish Trail-northern branch, Ute Trail, Rivera Expedition trail, Dominguez/Escalante Trail, Loring Military Expedition Trail, and Gunnison Expedition Trail; (Figures 2-84 [Alternative B], 2-85 [Alternative C], and 2-86 [Alternative D], Appendix A)).		
593.	**Action:** No similar action in current RMPs.	**Action:** Establish the National Trail Management Corridor for the Old Spanish Trail. Class III inventory has identified the Old Spanish Trail corridor in the UFO as roughly centered along US Highway 50. The congressionally designated Old Spanish Trail route is based on completed field inventories; however, additional Class III inventory may be required to locate and document existing traces located outside the corridor on all BLM-administered parcels. Pursue partners for grant funding where practical to conduct surveys on adjacent lands with landowner permission. The National Historic Trail designation allows for small location changes without congressional authorization. If the location of the trail changes as a result of Class III inventory, then the management actions in this RMP would apply to the newly mapped		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		location(s) and may be modified to better address the inventory findings. That land no longer identified as trail location, as proven through the archaeological survey, would be managed for similar purposes and with similar VRM class to the adjacent public land.		
594.	**Action:** No similar action in current RMPs.	**Action:** Manage all National Trails, except for the Old Spanish National Historic Trail, as ROW avoidance areas (0.5-mile management corridor on either side of centerline). Manage the Old Spanish National Historic Trail as ROW avoidance (100-meter [328 feet] management corridor on either side of centerline of US Highway 50).	**Action:** Manage all National Trails as ROW avoidance areas (100-meter [328 feet] corridor). Class III cultural resource inventory will be required for all ROW applications within these corridors, with avoidance of existing traces being the preferred mitigation.	
595.	**Action:** No similar action in current RMPs.	**Action:** Manage all National Historic Trails as VRM Class II within 0.5-mile of either side of centerline.	**Action:** Manage all National Historic Trails as VRM Class III within 0.5-mile of either side of centerline.	**Action**: Manage all National Historic Trails (except the Old Spanish Trail) as VRM Class II within 0.5-mile of either side of centerline. Manage the Old Spanish Trail as VRM Class III within 0.5-mile of either side of the centerline of US Highway 50
596.	Allowable Use: Close all congressionally designated National Trails to coal leasing (43 CFR 3400.2[a][4]).	Allowable Use: Same as Alternative A, plus close all congressionally designated National Trails to mineral materials disposal and nonenergy solid mineral leasing (0.5-mile buffer).	Allowable Use: Same as Alternative A, plus close all National Trails to mineral materials disposal and nonenergy solid mineral leasing (50-meter [164 feet] buffer).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
597.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-61: *Special Designation Trail (Old Spanish National Historic Trail)*. Prohibit surface occupancy and use within 805 meters (0.50-mile) of the centerline of the following: Old Spanish National Historic Trail. (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: **STIPULATION** NSO-62: *Special Designation Trail (Old Spanish National Historic Trail)*. Prohibit surface occupancy and use within 50 meters (164 feet) of the centerline of the following: Old Spanish National Historic Trail. (Refer to Appendix B; Figure 2-22, Appendix A.)	Allowable Use: Same as Alternative B. (Refer to Appendix B; Figure 2-23, Appendix A.)
598.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** CSU-55: *Special Designation Trail (Old Spanish National Historic Trail)*. Surface occupancy or use may be restricted from 805 to 8,047 meters (0.5 to 5.0 miles) of the centerline of the following: Old Spanish National Historic Trail. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: **STIPULATION** CSU-56: *Special Designation Trail (Old Spanish National Historic Trail)*. Surface occupancy or use may be restricted from 50 to 8,047 meters (164 feet to 5.0 miles) of the centerline of the following: Old Spanish National Historic Trail. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required. (Refer to Appendix B; Figure 2-22, Appendix A.)	Allowable Use: Same as Alternative B. (Refer to Appendix B; Figure 2-23, Appendix A.)

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
599.	**Objective:** No similar objective in current RMPs.	**Objective:** Manage the Tabeguache and Paradox Trails to provide for the ever-increasing outdoor recreation needs of an expanding urban population and to promote the preservation of public access to, travel within, and enjoyment and appreciation of the scenic, natural, and cultural resources.		
600.	**Action:** No similar action in current RMPs.	**Action:** Proposed to the Secretary of Interior to designate the Tabeguache and Paradox Trails as National Recreation Trails, as described in the National Trails System Act of 1968 (Public Law 90-543; Figures 2-84 [Alternative B], 2-85 [Alternative C], and 2-86 [Alternative D], Appendix A).		
601.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-63: *Special Designation Trail (National Recreation Trails)*. Prohibit surface occupancy and use within 805 meters (0.50-mile) of the centerline of designated National Recreation Trails. (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: **STIPULATION** NSO-64: *Special Designation Trail (National Recreation Trails)*. Prohibit surface occupancy and use within 200 meters (656 feet) of the centerline of designated National Recreation Trails. (Refer to Appendix B; Figures 2-22 [Alternative C] and 2-23 [Alternative D], Appendix A.)	
602.	*NATIONAL AND BLM BYWAYS*			
603.	**GOAL:** Enhance, promote, and protect the scenic, natural, and cultural resource values associated with current and future designated byways.			
604.	**Objective:** No similar objective in current RMPs.	**Objective:** Support efforts of designated byway corridor management plans and provide assistance in the development of byway facilities: • Grand Mesa Scenic and Historic Byway • San Juan Skyway (National Scenic Byway and All-American Road) • Unaweep-Tabeguache Scenic and Historic Byway (Colorado Scenic and Historic Byway) • West Elk Scenic and Historic Byway (Colorado Scenic and Historic Byway) (Refer to Figures 2-84 [Alternative B], 2-85 [Alternative C], and 2-86 [Alternative D], Appendix A.)		

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	**Alternative A** *Current Management (No Action)*	**Alternative B**	**Alternative C**	**Alternative D** *Agency Preferred*
605.	**Action:** No similar action in current RMPs.	**Action:** Designate all National and BLM Byways as VRM Class II within 0.5-mile of either side of centerline.	**Action:** Designate all National and BLM Byways as VRM Class III within 0.25-mile of either side of centerline.	**Action:** Within 0.5-mile of either side of centerline, designate: • Grand Mesa Scenic Byway as VRM Class II • West Elk Scenic Byway, from Northeast UFO boundary to Gunnison County Road 12, as VRM Class II • Remaining portion of West Elk Scenic Byway as VRM Class III • San Juan Skyway as VRM Class III • Unaweep/Tabeguache Byway as VRM Class III
606.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-65: *Special Designation Byway (Scenic Byways)*. Prohibit surface occupancy and use within the viewshed of designated scenic byways up to a distance of 805 meters (0.50-mile). (Refer to Appendix B; Figure 2-20, Appendix A.)	Allowable Use: **STIPULATION** CSU-57: *Scenic Byways)*. Surface occupancy or use may be restricted within 402 meters (0.25-mile) of designated scenic byways. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be required to protect the scenic	Allowable Use: **STIPULATION** CSU-58: *Special Designation Byway (Scenic Byways)*. Surface occupancy or use may be restricted within 805 meters (0.50-mile) of designated scenic byways. Special design, construction, and implementation measures, including relocation of operations by more than 200 meters (656 feet), may be

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			(visual) values. (Refer to Appendix B; Figure 2-22, Appendix A.)	required to protect the scenic (visual) values. (Refer to Appendix B; Figure 2-23, Appendix A.)
607.	**WATCHABLE WILDLIFE VIEWING SITES**			
608.	**GOAL:** Provide opportunities for publics to see and enjoy native wildlife.			
609.	**Objective:** No similar objective in current RMPs.	**Objective:** Designate and provide information to the public on Watchable Wildlife Viewing Sites.	**Objective:** No similar objective. (Watchable Wildlife Viewing Sites are not considered under this alternative.)	**Objective:** Evaluate areas for possible designation as Watchable Wildlife Viewing Sites.
610.	**Action:** No similar action in current RMPs.	**Action:** Designate the following as Watchable Wildlife Viewing Sites; focus management on enhancing wildlife habitat in these areas and providing opportunities for the public to view and learn about the wildlife of these areas: • Uncompahgre Riverway • Billy Creek • San Miguel River ACEC (IBA) (Figure 2-70, Appendix A)	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	
611.	**Action:** Where feasible, complete wildlife habitat improvements to enhance wildlife viewing in association with cultural values	**Action:** Where feasible, complete wildlife habitat improvements to enhance fish/wildlife viewing opportunities, while maintaining protection of fish/wildlife.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	(emphasis area F; BLM 1985).			
612.	**Action:** No similar action in current RMPs.	**Action:** Manage 20 acres of Uncompahgre Riverway Watchable Wildlife Viewing Site to protect and enhance migratory and breeding bird and native fish habitat.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	
613.	**Action:** No similar action in current RMPs.	**Action:** Manage 2,990 acres of Billy Creek Watchable Wildlife Viewing Site, in coordination with CPW, to protect and enhance migratory and breeding bird and big game habitat.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	
614.	**Action:** No similar action in current RMPs.	**Action:** Manage 22,780 acres of San Miguel Watchable Wildlife Viewing Site to protect and enhance migratory and breeding bird and native fish habitat.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	
615.	**Action:** No similar action in current RMPs.	**Action:** In coordination with CPW and local wildlife-related organizations (e.g., Black Canyon Audubon, Colorado Breeding Bird Atlas, Colorado Natural Areas Program, and hunting groups), evaluate known wildlife concentration areas or areas with special wildlife interest for possible additional designation as Watchable Wildlife Viewing Sites.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	**Action:** Same as Alternative B.

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
616.	**Action:** No similar action in current RMPs.	**Action:** Provide such facilities as informational and interpretive signs, designated trail systems, and restrooms, as needed for enhanced visitor use, enjoyment, and safety. Provide adequate protection (e.g., signs, use stipulations, barricades, and fences), as needed to protect sensitive species and their habitats.	**Action:** No similar action (watchable wildlife viewing sites are not designated under Alternatives C and D).	**Action:** If watchable wildlife viewing sites are designated, same as Alternative B.
617.	**Social and Economic**			
618.	**NATIVE AMERICAN TRIBAL USES**			
619.	**GOAL:** Manage public lands in a manner that accommodates American Indian religious traditions, practices, and beliefs.			
620.	**Objective:** Consult on a government-to-government basis with all appropriate federally recognized tribes regarding developments or projects on public lands that may affect historic properties, sacred sites, traditional cultural properties, or traditional use areas of interest or concern to them.			
621.	**Action:** Follow current management practices, as guided by directives contained in BLM 8120, American Indian Religious Freedom Act (42 USC, 1996), Native American Graves Protection and Repatriation Act (25 USC, 3001), Executive Order 13007 (Indian Sacred Sites), and Executive Order 13084 (Tribal Consultation).			
622.	**Action:** During project planning, consult with tribes regarding visual resources in connection with Native American religious values and practices. If the visual resources in the project area are important to traditional and religious tribal values, consider modifying or mitigating the project. Consultations with tribes would include proposed programs of avoidance and mitigation, including off-site mitigation. If the project modification, mitigation, or treatment measures cannot be accomplished to the satisfaction of the concerned parties, consider canceling the project at the discretion of the BLM Authorized Officer.			
623.	**Action:** Continue and expand consulting and educational program partnerships with the Northern Ute Tribe, Southern Ute Tribe, and Ute Mountain Ute tribes.			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
624.	**Action:** Continue government-to-government consultation with Indian tribes to identify traditional cultural properties, sacred/religious sites, or traditional use areas through face-to-face meetings, letters, phone calls, emails, and on-site visits. If any areas are identified or become known through the Native American notification or consultation process, address their concerns through site- and project-specific modification and/or mitigation.			
625.	**Action:** Protect and preserve Native American cultural and sacred sites and Native American access to these sites whenever possible. Take no action that would adversely affect these areas or locations without consultation with the appropriate Native American tribes (Executive Orders 13007 and 13084).			
626.	**Action:** In cooperation with tribal entities, allow qualified Native Americans appropriate access to public lands in order to practice spiritual traditions and beliefs and to gather resources needed for these practices.			
627.	**PUBLIC HEALTH AND SAFETY**			
628.	**GOAL:** Manage public lands to reduce hazardous risks to protect lives, resources, and property. Enhance public health in cooperation with local communities.			
629.	**Objective:** No similar objective in current RMPs.	**Objective:** Reduce risks from potential hazard sites and pursue the reduction of hazards.		
630.	**Action:** Post caution signs for the public in the North Delta unexploded ordnance area.			
631.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: Continue to work with the Army National Guard to remedy unexploded ordnance in support of land use and management specified in this RMP.		
632.	**Action:** Require project proponents in the North Delta unexploded ordnance area to clear the affected project area on a project-specific basis. Clear and dispose of identified unexploded ordnance in accordance with applicable US Army policies and procedures.			
633.	Allowable Use: **LEASE NOTICE** LN-UFO-8/LN-1: *Unexploded Ordnance.* The lease area is known to contain unexploded ordnance. The Colorado National Guard and Army Reserve used the lease area as a practice area for military training in the past. Periodic surface searches for			

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
	ordnance may not have located and removed all of the ordnance. Prior to any new activity on the lease area, a survey for surface and subsurface unexploded ordnance is required to avoid impacts on health and safety. Lessees must contact the UFO prior to any surface activities associated with this lease. The lessee will be required to coordinate with the Colorado National Guard, Army Reserve, and the Colorado Department of Public Health and Environment to conduct additional surveys to ensure that there is no unexploded ordnance present on the proposed disturbance sites and appropriate actions are taken to be sure the sites are safe for use. The BLM may recommend modifications to exploration and development proposals to avoid impacts on health and safety. The lease holder agrees to indemnify the United States against any liability arising from the lease holder's and its agents' activities on the lease area.				
634.	**Action:** To the extent possible, conduct hazardous material response and reclaim sites in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR, 300) and the Comprehensive Environmental Response, Compensation, and Liability Act.				
635.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: Close the DOE Uranium Mill Tailings Remedial Action Area to mineral materials disposal.			
636.	Allowable Use: No similar allowable use in current RMPs.	Allowable Use: **STIPULATION** NSO-66/NGD-30: *DOE Uranium Mill Tailings Remedial Action Area*. Prohibit surface occupancy and use and surface-disturbing activities in the supplemental standard area around Uravan associated with the US DOE Uranium Mill Tailings Remedial Action Area. (Refer to Appendix B; Figures 2-20 and 2-29 [Alternative B], 2-22 and 2-30 [Alternative C], and 2-23 and 2-31 [Alternative D], Appendix A.)			
637.	Allowable Use: No similar allowable use in current RMPs.	**Alternative B:** Allowable Use: **STIPULATION** NSO-67: *Dwellings and High Occupancy Buildings*. Prohibit surface occupancy and use within 152 meters (500 feet) of occupied	**Alternative B.1** (North Fork area only): **STIPULATION** NSO-68: *Community Facilities*. Prohibit surface occupancy and use within: • 402 meters (0.25-mile) of	Allowable Use: No similar allowable use. (There would be no similar stipulations.)	Allowable Use: Same as Alternative B (Figure 2-23, Appendix A).

Table 2-2
Description of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B		Alternative C	Alternative D *Agency Preferred*
		dwellings and building units (as defined by the State of Colorado), or within 305 meters (1,000 feet) from high-occupancy buildings (as defined by the State of Colorado). (Refer to Appendix B; Figure 2-20, Appendix A.)	schools and community facilities: • North Fork Swimming Pool • Crawford School • Hotchkiss High School • North Fork Community Montessori School • North Fork Recycling Center (Refer to Appendix B; Figure 2-21, Appendix A.)		
638.	**Action:** No similar action.	**Action:** Manage new and abandoned mine lands projects to include road closures and rehabilitation to reduce active erosion.		**Action:** Manage abandoned mine lands projects to include rehabilitation to reduce active erosion.	**Action:** Manage new and abandoned mine lands projects to include rehabilitation to reduce active erosion. Consider closing routes as part of comprehensive travel management planning.
639.	**Action:** No similar action.	**Action:** Provide for public safety in the event of a burning or smoldering coal seam.			

Table 2-3
Renewable Energy Exclusion and Avoidance Areas[1]

Resource/Concern	Alternative A *(Current Management/ No Action)*	Alternative B	Alternative C	Alternative D *(Agency Preferred)*
ACECs	Follow the ROW management for the ACEC.	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative B
Within 0.25-mile of bank-full stage or within 100 meters (328 feet) of the 100-year floodplain (whichever is greatest) on the Gunnison, North Fork Gunnison, San Miguel, Uncompahgre, and Dolores Rivers	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative B
Within 325 feet of all perennial and intermittent waters and naturally occurring wetlands, springs, and seeps to protect riparian areas; if riparian area extends beyond 325 feet, extend restriction to include the entire riparian area.	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Avoid Solar: Exclude Hydropower: Avoid
Suitable Wild and Scenic River Segments (Eligible segments in alternative A)	Wind: Avoid Solar: Avoid Hydropower: Avoid	Wind: Exclude Solar: Exclude Hydropower: Exclude	No suitable segments in this alternative.	Same as Alternative B
Wilderness Study Areas and Tabeguache Area	Wind: Exclude Solar: Exclude Hydropower: Exclude	Same as Alternative A	Same as Alternative A	Same as Alternative A
Ecological emphasis areas	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Wind: Avoid Solar: Avoid Hydropower: Avoid
Within 200 meters (656 feet) of occupied habitat of federally listed, candidate, and proposed plant species	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Same as Alternative B
Within areas designated as critical habitat for federally listed, candidate, and proposed plant species	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Avoid Solar: Exclude Hydropower: Avoid

Table 2-3
Renewable Energy Exclusion and Avoidance Areas[1]

Resource/Concern	Alternative A *(Current Management/ No Action)*	Alternative B	Alternative C	Alternative D *(Agency Preferred)*
Within 1.0 mile of occupied federally listed fish habitat	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Avoid Solar: Exclude Hydropower: Exclude
Within known occupied habitat for federally listed wildlife and bird species	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Avoid
In all Gunnison sage-grouse breeding habitat (lek and non-lek) plus a 0.6-mile radius	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative B
Within 4.0 miles of an active lek or within mapped Gunnison sage-grouse nesting and early brood rearing habitat	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative C
Within Gunnison sage-grouse designated critical habitat	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Same as Alternative C
Within 0.25-mile of special status raptor nest sites and associated alternate nests	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Exclude Solar: Avoid Hydropower: Avoid
Within 0.25- to 1.0 mile of special status raptor nest sites	No specific management decisions	Wind: Exclude Solar: Avoid Hydropower: Avoid	No specific management decisions	Wind: Avoid Solar: Avoid Hydropower: Avoid
Within 0.25-mile of non-special status Raptors (*except kestrel*) active nest sites and associated alternate nests	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Exclude Solar: Avoid Hydropower: Avoid
Within 0.5-mile of bald eagle winter roost sites	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Exclude Solar: Avoid Hydropower: Avoid

Table 2-3
Renewable Energy Exclusion and Avoidance Areas[1]

Resource/Concern	Alternative A *(Current Management/ No Action)*	Alternative B	Alternative C	Alternative D *(Agency Preferred)*
Within bald eagle winter concentration areas	No specific management decisions	Wind: Exclude Solar: Avoid Hydropower: Avoid	No specific management decisions	Wind: Avoid Solar: Avoid Hydropower: Avoid
Within 0.25-mile of federally listed, BLM sensitive, and Colorado State Species of Concern bat species' maternity roost sites and winter hibernacula	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Wind: Exclude Solar: Avoid Hydropower: Avoid
Habitat for BLM Sensitive plant and animal species	No specific management decisions	Wind: Avoid Solar: Avoid Hydropower: Avoid	No specific management decisions	Same as Alternative B
Areas mapped as having soils with elevated levels of salinity/selenium	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative C
Slopes of 30 percent or greater	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	No specific management decisions	Wind: Avoid Solar: Avoid Hydropower: Avoid
Lands with Wilderness Characteristics	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Same as Alternative A	Same as Alternative B
National Historic Trails, within 0.5-mile buffer (Alternative B) or within 100 meter buffer (Alternatives C and D) on either side of centerline	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative C
National and State Scenic Byways, within 0.50-mile (Alternatives B and D) or within 0.25-mile (Alternative C) of the byway	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Wind: Avoid Solar: Avoid Hydropower: Avoid
VRM Class I	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Same as Alternative B	Same as Alternative B

Table 2-3
Renewable Energy Exclusion and Avoidance Areas[1]

Resource/Concern	Alternative A *(Current Management/ No Action)*	Alternative B	Alternative C	Alternative D *(Agency Preferred)*
VRM Class II	No specific management decisions	Wind: Exclude Solar: Exclude Hydropower: Exclude	Wind: Avoid Solar: Avoid Hydropower: Avoid	Same as Alternative C
Total Acres – Open	Wind: 561,200 Solar: 561,200 Hydropower: 561,200	Wind: 34,040 Solar: 34,040 Hydropower: 34,040	Wind: 369,970 Solar: 369,970 Hydropower: 369,970	Wind: 229,290 Solar: 229,290 Hydropower: 229,290
Total Acres – Avoid (Includes other ROW Avoidance)	Wind: 29,460 Solar: 29,460 Hydropower: 29,460	Wind: 123,610 Solar: 128,400 Hydropower: 128,400	Wind: 261,280 Solar: 261,280 Hydropower: 261,280	Wind: 320,350 Solar: 279,890 Hydropower: 298,790
Total Acres – Exclude (Includes other ROW Exclusion)	Wind: 85,140 Solar: 85,140 Hydropower: 85,140	Wind: 518,150 Solar: 513,360 Hydropower: 513,360	Wind: 44,550 Solar: 44,550 Hydropower: 44,550	Wind: 126,160 Solar: 166,620 Hydropower: 147,720

[1]An area restricted by "Exclusion" is closed to the type of renewable energy project.
An area restricted by "Avoidance" allows some use and occupancy of BLM-administered lands while protecting identified resources or values. These areas are potentially open to renewable energy projects, but the restriction allows the BLM to require special constraints, or the activity can be shifted to protect the specified resource or value.
Notes: Geothermal development would follow stipulations shown under Fluid Minerals. Solar energy projects are allowed for fewer than 20 megawatts only.

Table 2-4
Summary of Wild and Scenic River Study Segments (Alternatives A and B)

River or Creek	Total Segment Length (miles)	Length on BLM Land (miles)	Total Wild and Scenic River Study Corridor (acres)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
Gunnison River Segment 2	0.4	0.4	130	90	Recreational	Fish
Monitor Creek	9.4	9.4	2,730	2,610	Wild	Fish, Vegetation
Potter Creek	9.8	9.8	2,880	2,830	Wild	Fish, Vegetation
Roubideau Creek Segment 1	10.7	10.0	2,850	2,700	Wild	Recreational, Wildlife, Cultural, Vegetation
Roubideau Creek Segment 2	7.6	3.5	2,200	1,330	Scenic	Wildlife, Vegetation
Deep Creek	2.6	0.6	810	130	Scenic	Fish
West Fork Terror Creek	1.2	0.5	390	150	Scenic	Fish
Beaver Creek	14.3	14.2	4,290	3,710	Scenic	Vegetation
Dry Creek	10.5	10.4	2,730	2,640	Wild	Scenic, Geologic
Naturita Creek	25.0	10.0	6,420	3,240	Scenic	Fish
Saltado Creek	5.6	4.1	1,760	1,450	Wild	Vegetation
San Miguel River Segment 1	27.2	17.3	8,440	6,680	Recreational	Scenic, Recreational, Wildlife, Historic, Vegetation, Paleontology
San Miguel River Segment 2	4.0	3.6	1,260	1,110	Wild	Scenic, Recreational, Wildlife, Vegetation
San Miguel River Segment 3	7.3	5.3	2,290	1,880	Scenic	Recreational, Fish, Wildlife, Vegetation
San Miguel River Segment 5	14.0	2.6	4,270	2,660	Recreational	Recreational, Fish, Historic, Vegetation

Table 2-4
Summary of Wild and Scenic River Study Segments (Alternatives A and B)

River or Creek	Total Segment Length (miles)	Length on BLM Land (miles)	Total Wild and Scenic River Study Corridor (acres)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
San Miguel River Segment 6	3.2	2.3	990	810	Recreational	Recreational, Fish, Historic, Vegetation
Tabeguache Creek Segment 1	3.6	3.6	1,080	1,080	Wild	Vegetation
Tabeguache Creek Segment 2	11.6	7.9	2,970	2,480	Recreational	Cultural, Vegetation
Lower Dolores River	10.5	6.9	2,910	1,990	Scenic	Scenic, Recreational, Geologic, Fish, Wildlife
North Fork Mesa Creek	8.5	5.8	2,170	1,740	Scenic	Vegetation
Dolores River Segment 1a *(portion within the Dolores River Canyon WSA)*	8.7	8.7	1,880	1,880	Wild	Recreational, Scenic, Fish, Wildlife, Geology, Ecologic, Archaeology
Dolores River Segment 1b *(portion from the Dolores River Canyon WSA to Bedrock)*	3.2	0.9	950	460	Recreational	Recreational, Scenic, Fish, Wildlife, Geology, Ecologic, Archaeology
Dolores River Segment 2	11.5	5.4	3,240	1,820	Recreational	Scenic, Recreational, Geologic, Fish, Wildlife, Vegetation
Ice Lake Creek Segment 2	0.6	0.3	180	100	Scenic	Scenic
La Sal Creek Segment 1	4.8	0.6	1,350	720	Recreational	Fish, Vegetation
La Sal Creek Segment 2	4.5	3.8	1,170	1,030	Scenic	Fish, Vegetation

Table 2-4
Summary of Wild and Scenic River Study Segments (Alternatives A and B)

River or Creek	Total Segment Length (miles)	Length on BLM Land (miles)	Total Wild and Scenic River Study Corridor (acres)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
La Sal Creek Segment 3	3.4	3.4	910	900	Wild	Scenic, Recreational, Fish, Cultural, Vegetation
Lion Creek Segment 2	1.6	1.3	490	400	Scenic	Vegetation
Spring Creek	2.7	1.5	830	630	Recreational	Vegetation

Sources: BLM 2010d; BLM and Forest Service 2007

Table 2-5
Summary of Wild and Scenic River Study Segments (Alternative D)

River or Creek	Total Segment Length (miles)	Length on BLM Land (miles)	Total Wild and Scenic River Study Corridor (acres)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
Monitor Creek	9.4	9.4	2,540	2,540	Wild	Fish, Vegetation
Potter Creek	9.8	9.8	2,810	2,810	Wild	Fish, Vegetation
Roubideau Creek Segment 1	10.0	10.0	2,680	2,680	Wild	Recreational, Wildlife, Cultural, Vegetation
Beaver Creek	14.3	14.2	4,170	3,640	Recreational	Vegetation
Saltado Creek	5.6	4.1	1,640	1,340	Wild	Vegetation
San Miguel River Segment 1	27.2	17.3	8,360	6,680	Recreational	Scenic, Recreational, Wildlife, Historic, Vegetation, Paleontology
San Miguel River Segment 2	4.0	3.6	1,260	1,100	Wild	Scenic, Recreational, Wildlife, Vegetation
San Miguel River Segment 3	4.5	4.5	1,350	1,350	Recreational	Recreational, Fish, Wildlife, Vegetation
San Miguel River Segment 5	7.5	1.3	2,340	1,740	Recreational	Recreational, Fish, Historic, Vegetation
San Miguel River Segment 6	2.1	2.1	390	390	Recreational	Recreational, Fish, Historic, Vegetation
Tabeguache Creek Segment 1	3.4	3.4	1,010	1,010	Wild	Vegetation
Lower Dolores River	4.2	4.2	630	630	Scenic	Scenic, Recreational, Geologic, Fish, Wildlife

Table 2-5
Summary of Wild and Scenic River Study Segments (Alternative D)

River or Creek	Total Segment Length (miles)	Length on BLM Land (miles)	Total Wild and Scenic River Study Corridor (acres)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
Dolores River Segment 1a	8.7	8.7	1,950	1,950	Wild	Recreational, Scenic, Fish, Wildlife, Geology, Ecologic, Archaeology
Dolores River Segment 2	5.3	5.3	1,230	1,230	Recreational	Scenic, Recreational, Geologic, Fish, Wildlife, Vegetation
La Sal Creek Segment 2	3.3	3.3	790	790	Recreational	Fish, Vegetation
La Sal Creek Segment 3	3.4	3.4	800	800	Wild	Scenic, Recreational, Fish, Cultural, Vegetation

Sources: BLM 2010d; BLM and Forest Service 2007

2.7 SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)* Resources	Alternative B	Alternative C	Alternative D *Agency Preferred*
1.	**AIR QUALITY AND CLIMATE**			
2.	Potential impacts on air quality due to increased oil and gas and solid mineral development as well as predicted increases in OHV use may occur. Impacts on air quality include potential increases in concentrations of ozone forming pollutants, visibility degradation, fugitive dust, and greenhouse gases.	Potential impacts on air quality are likely to be the lowest for this alternative due to the combination of implementation of the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H), restrictions and stipulations on solid and fluid mineral leasing and development, and emission control strategies.	This alternative assumes the maximum level of reasonably foreseeable development for oil and gas predicted over the life of the plan. Potential impacts on air quality are likely to be greatest for this alternative due to the potential for increased oil and gas and solid mineral development. However, Alternative C also includes implementation of the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H) and emission control strategies, which would be effective at minimizing emissions.	Potential impacts on air quality would be managed more effectively compared to Alternative A due to the implementation of the Colorado BLM Comprehensive Air Resource Protection Protocol (Appendix H) and associated strategies. Restrictions and stipulations related to solid mineral leasing and development would result in reduced impacts on air quality from these sources.
3.	**SOILS AND GEOLOGY**			
4.	Adhering to BLM Colorado Public Land Health Standards would ensure a baseline level of soil health and provide protection against soil erosion, compaction, contamination, and vegetation removal. There would continue to be	Compared with Alternative A, the BLM would implement more actions to protect and monitor soils and geology. More areas would be closed to livestock grazing (10 times more acres than under Alternative A), reducing the impacts noted in	Compared with Alternative A, 62 percent more acres would be closed to livestock grazing, reducing impacts from livestock grazing in those areas. NGD restrictions would be applied on 42,660 acres, and SSR restrictions would be	Alternative D provides greater protection to soils by protecting riparian and perennial streams, imposing management measures to control saline and selenium levels in soils, and directing the BLM to manage lands to

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	17,260 acres closed and 658,540 acres open to livestock grazing. Improper grazing management could result in accelerated erosion rates, localized compaction, and disturbance to biological soil crusts. NSO stipulations would continue to be applied on 24,890acres of BLM surface/federal mineral estate to protect soils and geology resources either directly or indirectly. There would be no SSR restrictions and, thus, no protections from these measures. Continuing to allow dispersed camping, overnight use, and recreational mining in all areas would subject soils to erosion, compaction, degradation of biological soil crust, and vegetation removal.	Alternative A. NGD restrictions would be applied on 445,720 acres, the most under any alternative, providing the greatest protection from surface-disturbing activities. SSR restrictions would be applied on 230,020 acres, the least under any alternative, to protect soil resources. Motorize use would be reduced from Alternative A, resulting in fewer impacts on soil resources. Alternative B would not manage any areas as open to cross-country travel within the North Delta OHV Area, protecting soils in that area. Closing several areas surrounding water bodies to dispersed camping, overnight use, and recreational mining would protect soils in these sensitive areas.	applied on 241,400 acres, providing less protection for soil resources than Alternatives B or D. Cross-country travel within the North Delta OHV Area would be allowed on 39 percent fewer acres than under Alternative A, protecting fragile soils in a portion of the area.	improve water quality and to promote the delisting of state-impaired water bodies in areas where BLM management actions are contributing to impaired water quality. Under Alternative D, the BLM would close 4 times more acres to livestock grazing than under Alternative A, reducing impacts from livestock grazing in those areas. NGD restrictions would be applied on 36,180 acres, fewer than Alternatives B and C. SSR restrictions would be applied on 512,570 acres, the most of any alternative, providing the greatest protection for soil resources. Impacts from dispersed camping, overnight use, and recreational mining would be similar to Alternative B. No acres would be open to cross-country travel within the North Delta OHV Area, protecting the fragile soils from motorized use.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
5.	**WATER RESOURCES**			
6.	The BLM would continue to apply NSO stipulations on 24,890acres to protect water resources either directly or indirectly. There would be no SSR restrictions and, thus, no protections from these measures. The BLM would continue general activities to maintain or improve water quality, natural stream morphologic conditions, water resources sustainability (water quantity), groundwater aquifer properties, and natural stream hydrographs. The North Delta OHV Area would continue to be open to cross-country travel, which could continue to degrade and contaminate downslope waterways during and after precipitation. Alternative A outlines the fewest restrictions on fluid mineral leasing, forest harvest, recreation, and livestock grazing, but would still continue to reduce impacts on water	The BLM would restrict surface-disturbing activities by applying NGD restrictions on 445,720 acres and SSR restrictions on 230,020 acres, providing protection for water resources. Alternative B also includes specific protections for perennial streams. Specific actions would maintain or improve water quality, natural stream morphologic conditions, sustainability of water resources (water quantity), groundwater aquifer properties, and natural stream hydrographs. The North Delta OHV Area would be closed to cross-country motorized travel, protecting downslope waters from saline and selenium runoff. Fewer areas would be open to fluid mineral leasing, forest harvest, recreation, and livestock grazing, reducing impacts on water quality, channel stability, and watershed health. Lands designated as ACECs and managed to protect wilderness	Under Alternative C, NGD restrictions would be applied on 42,660 acres, and SSR restrictions would be applied on 241,400 acres, providing the least protection for water resources. Impacts from fluid minerals would be similar to Alternative A. More lands would be open to forest harvest, fewer lands would be open to grazing, and more restrictions on recreation would be applied than under Alternative A, result would be varying levels of protection for water resources.	The BLM would restrict surface-disturbing activities by applying NGD restrictions on 36,180 acres and SSR restrictions on 512,570 acres, providing protection for water resources. Specific protections for surface water supply stream segments and domestic water wells would protect water resources. Alternative D provides greater protections to water quality than Alternative A, including protecting riparian and perennial streams, implementing management measures to control saline and selenium levels in soils, and managing lands to improve water quality and to promote the delisting of state-impaired water bodies in areas where BLM management actions are contributing to impaired water quality. Fewer areas would be open to fluid mineral leasing, forest harvest, recreation, and livestock grazing, reducing

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	quality, channel stability, and watershed health.	characteristics would provide additional protection for water resources.		impacts on water quality, channel stability, and watershed health.
7.	**VEGETATION**			
8.	*VEGETATION – UPLANDS*			
9.	ROW activities, mineral and energy development, forest harvest, recreation (especially motorized use), and livestock grazing are primary land uses that could impact vegetation. Land use restrictions designed to protect vegetation and plant communities would be relatively limited and generally handled with design features and mitigation measures at the project level.	Management under Alternative B would have an ecological focus, with existing uses geared toward ensuring the protection of natural values. This focus would improve and protect vegetation communities. Alternative B would emphasize use of fire over mechanical treatments, which could limit vegetation improvement and restoration. Alternative B provides the most restrictions on land use (i.e., the most acres covered by NSO, NGD, and CSU) and the fewest areas open to mineral and energy development, forest harvest, recreation (especially motorized use), and livestock grazing, providing the greatest protections of vegetation. These restrictions would limit or modify uses in special vegetation or habitat types. Such use restrictions would reduce	Impacts from Alternative C would be similar to Alternative B, but emphasis would be on managing vegetation for commodities and resource uses, as well as maintaining vegetation conditions. As a result, there would be fewer opportunities for resource protection, vegetation improvement, and restoration. Fewer restrictions (e.g., NSO, NGD, and CSU) and ROW exclusion areas, which reduce surface-disturbing activities, would result in less protection for vegetation and could limit improvements to native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Fewer ACECs and ecological emphasis areas would be	Management would emphasize balancing resources and resource uses while sustaining and enhancing ecological integrity across the landscape. The BLM would implement protective management measures for vegetation and stipulations and restrictions to reduce impacts from resource uses. The BLM would apply more restrictions on surface-disturbing activities (e.g., NSO, NGD, and CSU) and fewer areas would be open to mineral and energy development, forest harvest, recreation (especially motorized use), and livestock grazing compared with Alternative A, reducing impacts related to vegetation disturbance, changes in condition, and fragmentation. Lands designated as ACECs,

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		damage to the condition of native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Likewise, use restrictions would minimize connectivity loss and would be more likely to retain existing age class distribution within these specific areas.	designated. No lands would be managed to protect wilderness characteristics.	ecological emphasis areas, and managed to protect wilderness characteristics would increase protection of vegetation resources.
10.	*VEGETATION – RIPARIAN*			
11.	Riparian and aquatic zones would be protected on 15,350 acres. There would be some riparian vegetation management to restore and enhance riparian vegetation, which would maintain or improve riparian vegetation conditions and hydrologic functionality. Increased visitation could result in impacts within the San Miguel SRMA. The San Miguel River ACEC and along 29 river segments managed as eligible for inclusion in the NWSRS provide additional protections for riparian vegetation.	Under Alternative B, the BLM would close the major river corridors in the planning area to fluid mineral leasing (26,990 acres of BLM surface/ federal mineral estate and 1,060 acres of split-estate) and would also apply NGD restrictions and manage the areas as ROW avoidance. NSO and NGD restrictions would be applied within 660 feet (63,540 acres of BLM surface/federal mineral estate and 2,530 acres of split-estate) of perennial and intermittent waters and naturally occurring wetlands, springs, and seeps. The following restrictions would also be applied: ROW exclusion within	The BLM would require some restrictions within riparian areas, though fewer than Alternative B. The BLM would apply CSU and SSR to the major river corridors in the planning area (26,990 acres of BLM surface/ federal mineral estate and 1,060 acres of split-estate) and within 325 feet of perennial streams (26,050 acres of BLM surface/ federal mineral estate and 12,730 acres of split-estate). CSU and SSR restrictions would also be applied within 100 feet of perennial and intermittent waters and naturally occurring wetlands, springs, and seeps	Protections from restrictions would be similar to, but slightly less than, those described for Alternative B. The BLM would apply NSO and SSR to major river corridors (26,990 acres of BLM surface/ federal mineral estate and 1,060 acres of split-estate) and within 325 feet of perennial and intermittent waters and naturally occurring wetlands, springs, and seeps (26,050 acres of BLM surface/ federal mineral estate and 12,730 acres of split-estate). The following restrictions would also be applied: ROW avoidance around major river corridors, within 325 feet of

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		325 feet of perennial streams; ROW exclusion within 100 feet of riparian and wetland areas, seeps, and springs; mineral materials disposal closures within 500 feet of riparian areas; wood products collection and harvest and other plant products collection closures within 100 feet of riparian areas;. This would protect riparian vegetation condition and hydrologic functionality, as well as reducing impacts from surface-disturbing activities. Vegetation treatments in riparian areas would be limited, reducing the potential for achieving vegetation objectives and desired conditions in certain areas. Increased visitation could result in impacts on riparian areas within the Dolores River Canyon and San Miguel SRMAs. ACECs on 55,910 acres of riparian areas and along 29 river segments determined suitable for inclusion in the NWSRS would provide additional protections for riparian vegetation.	(10,280 acres of BLM surface/ federal mineral estate and 70 acres of split-estate). The BLM would also limit mineral materials disposal, wood products collection and harvest, and other plant products collection within riparian areas. Riparian areas within the Dolores River Canyon and San Miguel River Corridor ERMA could be impacted by increased visitation in the same was as under Alternative B. However, because ERMAs would be managed commensurate with other resource needs, it may be easier for the BLM to modify recreation activities to protect riparian vegetation under this alternative than under alternatives where these areas are managed as SRMAs. ACEC management would be similar to Alternative A, though there would be fewer protections in certain areas. No river segments would be managed as eligible or suitable for inclusion in the NWSRS.	perennial streams, and within 100 feet of riparian and wetland areas, seeps, and springs; closure to mineral materials disposal, wood products collection and harvest, and other plant products collection within 100 feet of riparian areas. Impacts from SRMA management would be the same as those described for Alternative B. ACECs on 31,500 acres of riparian areas and along 16 river segments determined suitable for inclusion in the NWSRS would provide additional protections for riparian vegetation.

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
12.	*VEGETATION – WEEDS*			
13.	Management for weeds would continue per BLM regulations. Over time, recreation would have increasing impacts on the spread of weeds.	Soil and water protections would decrease the potential for the spread of weeds. All quarry pits would be managed as weed free for A, B, and C state-listed noxious weeds and BLM weed species of concern. Recreation management within SRMAs could concentrate weed populations and make them easier to manage.	The increased disturbance associated with Alternative C would result in the greatest potential for the introduction and spread of weeds. All quarry pits would be managed as weed free for A and B state-listed noxious weed species.	Impacts from weed management would be similar to those described for Alternative B. All quarry pits would be managed as weed free for A, B, and C state-listed noxious weed species.
14.	**FISH & WILDLIFE**			
15.	Alternative A management direction for fish and wildlife focuses more on single-species management and provides less direction on protecting species and habitat diversity, intact ecosystems, and ecosystem processes. Continuing current management would result in potential for direct and indirect impacts on fish and wildlife species and their habitats. Land use restrictions designed to protect fish and wildlife and their habitat would be limited and would generally be handled with design features and	Alternative B would create the most ecological emphasis areas (12), covering the most area (242,580 acres), and would provide the greatest protections from use impacts, with 186,070 acres of ROW exclusion and 207,320acres with NSO stipulations. As a consequence, compared with Alternative A, this alternative would have reduced impacts on most fish and wildlife species. Within these special areas, it would provide the greatest protections for wildlife and reduced habitat fragmentation.	In general, Alternative C provides the least protection of the action alternatives for aquatic and terrestrial wildlife by emphasizing resource uses. Alternative C would create 2 ecological emphasis areas, covering 24,150 acres, with no ROW exclusion areas, and with ROW avoidance areas and CSU/SSR stipulations throughout the ecological emphasis areas. Alternative C would have reduced impacts on most fish and wildlife species, compared with Alternative A, but is the least protective of	Alternative D would provide substantial protection and enhancement of fish and wildlife populations and their habitats. Alternative D would create 12 ecological emphasis areas, covering 177,700 acres, with no ROW exclusion areas, and with ROW avoidance areas and CSU/SSR stipulations throughout the ecological emphasis areas. ROW avoidance areas provide less protection for ecological emphasis areas than ROW exclusion areas, because ROWs would be allowed in

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	mitigation measures at the project level. No ecological emphasis areas would be proposed, making it more difficult to effectively and efficiently manage for wildlife.	Healthier vegetation for fish and wildlife would be more resistant to invasive weeds and drought conditions. Alternative B provides the most restrictions on minerals, ROW, trails and travel management, and other surface-disturbing activities. Alternative B would also create the most SRMAs, which would generally provide more protection for fish and wildlife from impacts of recreational use. As a consequence, impacts on fish and wildlife from these uses would be least for this alternative.	the action alternatives. Among the action alternatives, Alternative C provides the least restrictions on minerals, ROWs, trails and travel management, and other surface-disturbing activities. This alternative provides the most ERMAs for recreation management, which would result in increased impacts on most fish and wildlife species and their habitats from recreation because activities would be less controlled in key or sensitive habitats or seasons. Overall, this alternative provides restrictions similar to Alternative A. As a consequence, impacts on fish and wildlife from these uses would be greatest among the action alternatives and similar to Alternative A.	ecological emphasis areas with siting restrictions to reduce impacts on fish and wildlife. Despite this, Alternative D would reduce detrimental impacts on most fish and wildlife species as compared with Alternative A. Overall, Alternative D provides more restrictions than Alternative A on minerals, ROWs, trails and travel management, and other surface-disturbing activities. As a consequence, Alternative D would generally cause fewer impacts on fish and wildlife than Alternative A.
16.	**SPECIAL STATUS SPECIES**			
17.	*SPECIAL STATUS SPECIES – GENERAL*			
18.	Alternative A provides overall direction to maintain or improve habitat for special status species, but it relies on	Under Alternative B, the BLM would implement protective management measures for fish, wildlife, and plants, and	Impacts from Alternative C would be similar to Alternative B. However, Alternative C would emphasize managing	Alternative D's overall management direction is similar to Alternative B, with additional direction to promote

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	outdated conservation priorities and practices. Alternative A lacks recognition of the importance of landscape-scale conservation to protect and enhance habitat quality and patterns that preserve ecosystem functions and allow for climate change. As a result, Alternative A would generally result in greater habitat fragmentation and loss of population connectivity for special status species, compared with other alternatives. Land use restrictions designed to protect special status species and their habitat would be relatively limited, and would generally be handled with design features and mitigation measures at project level.	stipulations and restrictions to reduce impacts from resource uses, which would protect special status species populations and habitats. There would be 12 ecological emphasis areas covering 242,580 acres, including 186,070 acres of ROW exclusion areas and 56,490 acres of ROW avoidance areas. NSO stipulations would be applied on 207,320acres, and CSU stipulations would be applied on 35,250 acres of ecological emphasis areas. Ecological emphasis areas and ACECs with ROW exclusion and NSO restrictions would result in the greatest protection among any alternatives for special status fish and wildlife in these more-sensitive areas. These protections would provide the most intact natural landscapes, the greatest amount of corridor conservation for species movements, and the greatest resiliency against climate change or other long-term changes. Overall, there would be more restrictions (e.g., NSO, NGD,	vegetation for commodities and resource uses, as well as maintaining vegetation conditions. As a result, there would be less opportunity for resource protection. Under Alternative C, two ecological emphasis areas (24,150 acres) would be ROW avoidance areas, with CSU and SSR restrictions applied. Occupied habitat of known populations of federally listed species would be ROW avoidance areas. These protections would cover a smaller area than under Alternative B. Overall, there would be fewer restrictions (e.g., NSO, NGD, CSU, and TL; ROW avoidance and exclusion areas) to reduce or limit surface-disturbing activities would reduce protections for special status species.	ecosystem integrity and protect and restore ecosystem processes. As a result, Alternative D would reduce adverse impacts on special status species, compared with Alternative A, and would provide beneficial impacts through active management to restore and enhance habitats. Under Alternative D, the BLM would manage 12 ecological emphasis areas (177,700 acres), with ROW avoidance and CSU and SSR restrictions applied. Impacts are similar to those described for Alternative B, although across fewer acres and with less-protective stipulations (i.e., CSU versus NSO). Overall, there would be more restrictions (e.g., NSO, NGD, and CSU), and fewer areas would be open to mineral and energy development, forest harvest, recreation (especially motorized use), and livestock grazing than Alternatives A and C, providing protection to special status species over a greater area.

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		and CSU), and fewer areas would be open to mineral and energy development, forest harvest, recreation (especially motorized use), and livestock grazing than Alternative A, reducing impacts related to disturbance from casual use, disturbance from permitted activities, and changes to habitat condition.		
19.	*SPECIAL STATUS PLANTS*			
20.	Two ACECs (6,580 acres), Adobe Badlands and Fairview South, would continue to be managed to protect significant resource values, including special status plants (Colorado hookless cactus, clay-loving wild buckwheat, and Adobe Hills beardtongue.).	Alternative B would require an NSO in federally listed and candidate plant species' occupied and historic habitat and closure of all federally threatened, endangered, proposed, and candidate plant species' occupied habitat to mineral materials disposal and nonenergy solid mineral leasing. Seven ACECs (92,900 acres) would be designated to protect special status and rare plants (Colorado hookless cactus, clay-loving wild buckwheat, Adobe Hills beardtongue, Colorado desert parsley, good-neighbor bladderpod, kachina daisy, Naturita milkvetch, Paradox	Alternative C would close all federally threatened, endangered, and proposed plant species' occupied habitat to mineral materials disposal and nonenergy solid mineral leasing. Up to 10 percent of sensitive plant populations could be damaged, injured, or removed. There would be no stipulations to protect federally listed or candidate species. Impacts from ACEC management would be the same as described for Alternative A. Impacts on clay-loving wild buckwheat in the Kinikin Hills ERMA would be similar to, but	Impacts from closure on mineral materials disposal and nonenergy solid mineral leasing would be the same as those described for Alternative C. Four ACECs (25,480) would be designated to protect special status and rare plant species (Colorado hookless cactus, clay-loving wild buckwheat, Adobe Hills beardtongue, kachina daisy, Naturita milkvetch, and Grand Junction milkvetch). Impacts on clay-loving wild buckwheat from recreation in the Kinikin Hills ERMA would be similar to those described for Alternative B. However,

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		Valley lupine, Paradox breadroot, and Grand Junction milkvetch), the most of any alternative. OHVs would be limited to designated trails on portions of the Kinikin Hills SRMA, where there are clay-loving wild buckwheat populations.	greater than, those described for Alternative B due to the proximity of the Kinikin Hills ERMA.	because ERMAs would be managed commensurate with other resource needs, it may be easier for the BLM to modify recreation activities to protect riparian vegetation under this alternative than under Alternative B.
21.	*SPECIAL STATUS FISH AND WILDLIFE*			
22.	Alternative A does not provide direction to remove nonnative trout to protect native cutthroat trout populations. For Gunnison sage-grouse, some restrictions would apply in sage-grouse winter habitats and within 0.25-mile of leks. Some special status nesting raptors would be protected by NSO and TL stipulations. For other special status species, Alternative A does not provide adequate management guidance or protective stipulations.	Alternative B provides direction to remove nonnative trout to protect native cutthroat trout populations. For Gunnison sage-grouse, a range of stipulations would increase protection for all seasonal habitats compared with Alternative A. Alternative B would have the lowest likelihood of disease transmission between domestic sheep and desert bighorn sheep. Stipulations would also be applied to protect Canada lynx, special status raptors, prairie dogs, kit foxes, sensitive bats, and waterfowl and shorebirds to the greatest extent of any of the alternatives.	Alternative C, like Alternative A, does not provide direction to remove nonnative trout to protect native cutthroat trout populations. For Gunnison sage-grouse, stipulations would provide some protection for key habitats but none in winter habitat. Alternative C would manage to reduce the likelihood of disease transmission between domestic sheep and desert bighorn sheep, although to a lesser extent than Alternative B. Stipulations would also be applied to protect special status raptors, prairie dogs, kit foxes, sensitive bats, and waterfowl	For all special status species, management and impacts would be similar to, though less protective than, Alternative B. Removal of nonnative trout would be the same as Alternative B. For Gunnison sage-grouse, stipulations would provide protection from surface occupancy and site disturbance in all seasonal habitats. Alternative D would reduce the likelihood of disease transmission between domestic sheep and desert bighorn sheep to a greater extent than Alternative C but to a lesser extent than Alternative B.

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			and shorebirds, though to a lesser extent than Alternative B.	Stipulations would also be applied to protect Canada lynx, special status raptors, prairie dogs, kit foxes, sensitive bats, and waterfowl and shorebirds.
23.	**WILD HORSES**			
24.	Under all alternatives, the BLM would continue to maintain Naturita Ridge as a herd area and would not reintroduce wild horses to the area. The area would be available for other uses.			
25.	**WILDLAND FIRE ECOLOGY AND MANAGEMENT**			
26.	Vegetation management and weed treatments would result in a long-term decrease in standing vegetation and modify the composition and structure of vegetation communities across the planning area, which would decrease the intensity of wildland fires. However, over the short term, vegetation treatments can increase the amount of downed vegetation in treated areas, thereby raising the risk of high-intensity wildfires until the downed vegetation decays. The extent of planned ignitions and mechanical treatments would be altered in design and potentially limited in the 66,250 acres of VRM Class I and II	Increased fuel loading and potential for more costly fires could occur as a result of a reduction in mechanical treatments under this alternative. Specific restrictions include less use of mechanical hazardous fuels treatments in special status species habitat and when restoring terrestrial wildlife habitat. Emphasizing prescribed fire over mechanical treatments would likely increase the number of acres mitigated against fire, but it could also increase the chance of invasive species. Actions to fully meet or exceed BLM Colorado Public Land Health Standards would lower the risk of impacts from large wildfires and move more areas to fire	Alternative C would emphasize forage-producing vegetation treatments, which could reduce the potential for high intensity wildfires. In addition, this alternative would be the most permissive in regard to fuels treatments in riparian areas and upland vegetation communities and wildlife habitat restoration. Emphasizing mechanical treatments (as opposed to prescribed fire) would likely result in slightly fewer acres mitigated against fire, but this could also decrease the chance of invasive species outcompeting native vegetation post-treatment Impacts from ACEC management would be similar	Compared with Alternative A, the increased use of planned and unplanned fires as well as mechanical treatments to meet resource objectives under Alternative D would, in the long term, further decrease fire intensity and fuel loading. Alternative D would emphasize a balanced approach to modifying fuels complexes with slightly fewer acres mitigated against fire and a decreased chance of invasive species outcompeting native vegetation, post-treatment as compared with Alternative B. The types of impacts from VRM actions would be the same as those described under Alternative A, but VRM Class I

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	lands, and 30,000 acres as ACECs, although lack of development in these areas may reduce the risk of human-caused ignition. Areas are not closed to dispersed camping or overnight use, which results in potential for human-caused ignition. Alternative A would have the greatest potential for human-caused fire from recreational vehicles because it includes the fewest travel restrictions.	regime condition class 1. The extent of planned ignitions and mechanical treatments would be altered in design and potentially limited in the 229,800 acres of VRM Class I and II lands (3 times more acres than under Alternative A), 42,150 acres managed for wilderness characteristics, and 215,840 acres of ACECs (7 times more than under Alternative A and the largest area of any alternative). Under Alternative B.1, VRM Class I and II lands would be managed on 235,520 acres (3 times more acres than under Alternative A, and slightly more than Alternative B). Alternative B would have the most restrictions on dispersed camping and close the most areas to overnight camping, reducing the risk for human-caused ignitions. Impacts from comprehensive motorized and mechanized travel management would be similar to those described under Alternative A; however lack of areas open to cross-country motorized and	to those described under Alternative A. The types of impacts from visual resources management actions would be the same as those described under Alternative A, but VRM Class I and II lands would be managed on 75,480 acres (14 percent more acres than under Alternative A). The restrictions on camping (dispersed and overnight use) would reduce the risk for human-caused ignitions from Alternative A, although not as much as the other action alternatives. The types of impacts from comprehensive motorized and mechanized travel management would be as described under Alternative A, but increased in intensity (16,070 acres open to cross-country motorized and mechanized travel). Lack of prohibition on surface-disturbing activities during times of high winds would result in an increased risk of human-caused ignitions in those areas.	and II lands would be managed on 158,980 acres (2 times more acres than under Alternative A). The types of impacts from ACEC management would be the same as those described under Alternative A, but they would occur over 51,320 acres (71 percent more than under Alternative A). The restrictions on camping (dispersed and overnight use) would reduce the risk for human-caused ignitions from Alternative A, although not as much as Alternative B. Travel management restrictions on OHVs and open areas would reduce the risk of human-caused ignitions as described in Alternative B.

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		mechanized travel would result in fewer opportunities for unplanned ignition. Designated routes and prohibiting surface-disturbing activities as needed during times of high winds would reduce the risk of human-caused ignitions in those areas.		
27.	**CULTURAL RESOURCES**			
28.	Impacts on resources could occur from authorized surface-disturbing events, unregulated events, and natural events, all of which could impact the integrity of cultural resources. Natural and unregulated events (such as wildfires, illegal artifact collection, and unregulated OHV usage) would create unmitigated impacts. Authorized events (such as oil and gas development and vegetation management) could result in the discovery of additional resources.	Impacts would be similar to Alternative A. Alternative B emphasizes the retention of relatively unmodified landscapes by decreasing areas of authorized surface-disturbing activities, such as increased areas of NSOs and greater use of travel management plans. This alternative provides the most protection from special designations. The BLM would manage four ACECs specifically for the protection of cultural resources and eight stream segments with cultural or historical ORVs would be determined suitable for inclusion in the NWSRS.	Impacts would be similar to Alternative A. Alternative C emphasizes the management of cultural resources on a site-by-site basis as needed for authorized surface-disturbing events.	Impacts would be similar to Alternative A. Alternative D would emphasize a balance of economic and environmental outcomes. Some areas would emphasize the retention of relatively unmodified landscapes by decreasing areas of surface-disturbing activities. Other areas would focus on the management of cultural resources on a site-by-site basis. This alternative provides less protection from special designations that Alternative B, but more than Alternatives A and C. The BLM would manage two ACECs specifically for the

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				protection of cultural resources and six stream segments with cultural or historical ORVs would be determined suitable for inclusion in the NWSRS.
29.	**PALEONTOLOGICAL RESOURCES**			
30.	Continued management of VRM Class I and II areas, ROW exclusion areas, areas closed to fluid mineral leasing and saleable minerals, areas withdrawn from locatable mineral entry, the Tabeguache Area, WSAs, and ACECs would directly protect paleontological resources by prohibiting or severely restricting surface-disturbing activities. Paleontological resources would continue to be directly protected via the paleontological resources lease notification, which requires an inventory be performed by an accredited paleontologist approved by the BLM Authorized Officer before surface-disturbing activities are authorized in Class I and II	The same programs noted under Alternative A would likely directly protect paleontological resources by prohibiting or severely restricting surface-disturbing activities that could damage or destroy paleontological resources. Additionally, NGD and SSR restrictions would protect paleontological resources in a similar manner to NSO and CSU stipulations. Stipulations would provide greater protection for paleontological resources by covering a larger area than under Alternative A. There are approximately 386,230 more acres of PFYC 4 and 5 areas covered by NSO stipulations (402,010 acres under Alternative B.1) and 471,580 more acres covered by CSU stipulations (the	The same programs noted under Alternative A would likely directly protect paleontological resources by prohibiting or severely restricting surface-disturbing activities that could damage or destroy paleontological resources. Additionally, NGD and SSR restrictions would protect paleontological resources in a similar manner to NSO and CSU stipulations. Unlike Alternative A, there are no stipulations that directly protect fossil resources, resulting in a loss of direct protection for these resources. NSO stipulations would provide less protection for paleontological resources than under Alternative A. There are approximately 12,060 acres of PFYC 4 and 5 areas covered by	The same programs noted under Alternative A would likely directly protect paleontological resources by prohibiting or severely restricting surface-disturbing activities that could damage or destroy paleontological resources. Additionally, NGD and SSR restrictions would protect paleontological resources in a similar manner to NSO and CSU stipulations. Unlike Alternative A, there are no stipulations that directly protect fossil resources, resulting in a loss of direct protection for these resources. Stipulations would provide greater protection for paleontological resources by covering a larger area than under Alternative A. There are approximately 141,870 more

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Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	Paleontological Areas. Stipulations would continue to provide indirect protection to paleontological resources by restricting or prohibiting surface-disturbing activities. For example, NSO stipulations would protect approximately 23,360 acres of PFYC 4 and 5 areas, and CSU stipulations would protect 111,960 acres of PFYC 4 and 5 areas. The 41,670 acres of SRMAs that overlap PFYC 4 and 5 areas would continue to generally have a protective effect on paleontological resources due to restrictions on surface-disturbing activities.	same under Alternative B.1) than under Alternative A. The 197,890 acres of SRMAs that overlap PFYC 4 and 5 areas would continue to generally have a protective effect on paleontological resources due to restrictions on surface-disturbing activities.	NSO stipulations. However, protections from CSU stipulations would increase as compared to Alternative A: there would be134,050 more acres covered by CSU stipulations than under Alternative A. Alternative C has 166,410 acres of PFYC 4 and 5 within ERMAs; the type of impacts would be the same as under Alternative B.	acres of PFYC 4 and 5 areas covered by NSO stipulations and 263,460 more acres covered by CSU stipulations than under Alternative A. The 173,940 acres of SRMAs that overlap PFYC 4 and 5 areas would continue to generally have a protective effect on paleontological resources due to restrictions on surface-disturbing activities.
31.	**VISUAL RESOURCES**			
32.	Approximately 7,860 acres lack a visual resource inventory (VRI) class (these lands are part of the Curecanti National Recreation Area and are managed by the National Park Service). They are almost entirely managed as VRM Class III. Without a visual resource inventory, it is difficult to	As described under Alternative A, approximately 7,860 acres lack a VRI class and would be managed as VRM Class III. There would be no lands in the planning area that lack a VRM class. Most (132,610 acres) of the VRI Class II lands are managed as VRM Class II or III. Virtually the	As described under Alternative A, approximately 7,860 acres lack a VRI class and would be managed as VRM Class III. As described under Alternative B, there would be no lands in the planning area that lack a VRM class. Alternative C assigns VRM Class II	Similar to Alternative A, approximately 7,860 acres lack a VRI class and would be managed as VRM Class III. As described under Alternative B, there would be no lands in the planning area that lack a VRM class. Alternative D assigns VRM Class I and II

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	identify if VRM Class III management objectives would be appropriate for these lands. Approximately 47 percent of the planning area lacks a VRM class, making it possible for activities to degrade visual resources. Most (117,810 acres) of the VRI Class II lands are VRM Class III or undesignated. Most (303,670 acres) of the VRI Class III lands are VRM Class III or undesignated. Most (171,010 acres) of the VRI Class IV lands are VRM Class III or undesignated. In those areas managed for a VRM of a lower class than the VRI, it is expected that scenic resources would be degraded. Activities that involve surface disturbance, such as motorized travel, vegetation treatments, utility corridors, and mineral development, would affect visual resources. For utility corridors, Alternative A is the only alternative with lands lacking a VRM class.	same number of acres of VRI Class II lands are managed as VRM Class II or III under Alternative B.1. Most (253,460 acres) of the VRI Class III lands are VRM Class III. Under Alternative B.1, 247,380 acres of VRI Class III lands would be managed as VRM Class III. Most (161,470 acres) of the VRI Class IV lands are VRM Class II or III (the same under Alternative B.1). Alternative B is more protective than Alternative A, though slightly less protective than Alternative B.1. Activities that involve surface disturbance, such motorized travel, vegetation treatments, utility corridors, and mineral development, would affect visual resources. For utility corridors, Alternative B allows for the most VRI Class II, III, and IV lands to be protected due to management with more protective VRM class management objectives. For lands open to fluid mineral leasing, subject to standard terms and conditions, Alternative B is the only alternative that allows	management to more VRI Class II lands than Alternative A. Alternative C assigns VRM Class I or III management to all of the VRI Class III lands. Alternative C is more protective than Alternative A. Activities that involve surface disturbance, such motorized travel, vegetation treatments, utility corridors, and mineral development, would affect visual resources. For utility corridors, Alternative C allows for the most VRI Class II lands to be degraded due to management with less protective VRM class management objectives. For lands open to fluid mineral leasing, subject to standard terms and conditions, Alternative C is the only alternative that allows for no VRI classes to be managed with more protective VRM class management objectives. For lands open to fluid mineral leasing, subject to CSU, Alternative C allows for the	management to more VRI Class II lands than Alternative A. Alternative D assigns VRM Class I, II, or III management to almost all of the VRI Class III lands. Alternative D is more protective than Alternative A. Activities that involve surface disturbance, such motorized travel, vegetation treatments, utility corridors, and mineral development, would affect visual resources. For utility corridors, Alternative D allows for the fewest VRI Class II lands to be degraded due to management with less protective VRM class management objectives. For lands open to fluid mineral leasing, subject to standard terms and conditions, Alternative D is slightly more protective of visual resource conditions than Alternative B and C. For lands open to fluid mineral leasing, subject to CSU, Alternative D allows for the most VRI Class II lands to be

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	For lands open to fluid mineral leasing, subject to standard terms and conditions, Alternative A allows for the most VRI Class II and IV lands to be protected due to management with more protective VRM class management objectives. It also allows for the most VRI Class II and III lands to be degraded due to management with less protective VRM class management objectives. It is also the only alternative with lands lacking a VRM class. For lands open to fluid mineral leasing, subject to CSU, Alternative A allows for the fewest VRI Class II lands to be degraded due to management with less protective VRM class management objectives. It is also the only alternative with lands lacking a VRM class.	for no VRI classes to be managed with less protective VRM class management objectives. This would keep visual resources on inventoried lands from degrading. For lands open to fluid mineral leasing, subject to CSU, Alternative B protects the most VRI Class III and IV lands due to management with more protective VRM class objectives.	most VRI Class II lands to be degraded due to management with less protective VRM class management objectives.	protected due to management with more protective VRM class management objectives.
33.	**LANDS WITH WILDERNESS CHARACTERISTICS**			
34.	Under Alternative A, the BLM would not manage any lands to protect wilderness characteristics and current	Under Alternative B, the BLM would manage all lands found to have wilderness characteristics to protect wilderness	Under Alternative C, the BLM would not manage any lands to protect wilderness characteristics. Impacts would	Under Alternative D, the BLM would manage 44 percent of lands found to have wilderness characteristics to protect

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	management provides the least amount of incidental protection to lands with wilderness characteristics. Current management led to current conditions that include wilderness characteristics existing in seven areas within the decision area, and conditions would likely persist in many of these areas under Alternative A. Wilderness characteristics in at least some areas that currently possess wilderness characteristics could degrade under this alternative. Some lands with wilderness characteristics are protected from fluid mineral leasing by CSU (4 percent) or TL (68 percent) stipulations, although these stipulations provide less protection than NSO stipulations, which overlap 35 percent of lands with wilderness characteristics. 47 percent of lands with wilderness characteristics are managed according to VRM Class III objectives, which would allow landscape	characteristics. This alternative would offer the most protection to those areas via restrictions on land uses.	be similar to Alternative A, but this alternative would offer slightly more incidental protection from the management of other resources. More lands with wilderness characteristics would be protected from fluid mineral leasing than Alternative A by CSU (56 percent) or TL (81 percent) stipulations, although these stipulations provide less protection than NSO stipulations, which overlap only 3 percent of lands with wilderness characteristics More lands with wilderness characteristics would be protected from land use authorizations as ROW avoidance areas (33 percent), and from other surface-disturbing activities by SSR restrictions (21 percent). In addition, 97 percent of lands with wilderness characteristics would be managed according to VRM Class III or IV objectives, which would allow landscape modifications that	wilderness characteristics. These lands would be protected in a similar manner as under Alternative B except that NSO stipulations would apply instead of closure to fluid mineral leasing, SSR restrictions would apply instead of NGD restrictions, and some lands would be managed as ROW avoidance areas instead of ROW exclusion areas. Of the lands not managed to protect their wilderness characteristics, most lands would be protected from fluid mineral leasing by CSU stipulations (72 percent) and from such land use restrictions as ROW avoidance areas (74 percent). In addition, 71 percent of lands with wilderness characteristics not managed for their protection would be managed according to VRM Class III or IV objectives, which would allow landscape modifications that could impair the naturalness of the area.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	modifications that could impair the naturalness of the area. The remaining lands would not have a VRM classification, which would allow landscape modifications that could impair the naturalness of the area.		could impair the naturalness of the area. The remaining lands would be managed according to VRM Class II objectives, providing some insurance that the naturalness will be protected in those areas.	
35.	**Resource Uses**			
36.	**FORESTRY AND WOODLAND PRODUCTS**			
37.	No significant commercial harvest is anticipated over the life of the RMP. Under Alternative A, 168,910 acres are open to forest product harvest and 110,160 acres are closed to harvest to protect special designation areas (including the Tabeguache Area, WSAs, and some ACECs) to protect water quality as well as provide the desired visitor experience in the San Miguel SRMA. Forest product harvest could be impacted on the 372,240 acres open to forest use that overlap TLs, particularly if overlapping TLs provide a narrow window during which harvest would be allowed.	No significant commercial harvest is anticipated over the life of the RMP. Under Alternative B, 397,160 acres would be closed to wood product sales and harvest to protect special designation areas, specific SRMAs and water quality (more than three times the acres closed under Alternative A). In addition to the closures discussed under Alternative A, there would be closures in areas to protect sensitive resources such as ecological emphasis areas, fragile soils or steep slopes, ancient woodlands, riparian areas, federally threatened or endangered species habitat, and rare vegetation. As a result, additional acres would be	No significant commercial harvest is anticipated over the life of the RMP. Under Alternative C, 44,530 acres would be closed to wood product sales and harvest (40 percent fewer acres than Alternative A). Closures include the Tabeguache Area, WSAs, and Fairview South ACEC. In total, 631,270 acres would be managed to provide minor wood products (noncommercial saw timber), some of which would be closed due to overlap with special resource areas. Though more acres are managed for wood product harvest under this alternative than under	No significant commercial harvest is anticipated over the life of the RMP. Under Alternative D, 281,390 acres would be closed to wood product sales and harvest (2.5 times more than under Alternative A). Closures include special designation areas (i.e., specific ACECs, lands with wilderness characteristics, Tabeguache Area, WSAs) and sensitive resource areas (e.g., steep slopes, ecological emphasis areas, riparian areas, ancient woodlands, rare vegetation). Closures under Alternative D would limit forest product harvest but would likely improve forest and woodland

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		unavailable for harvest. Woodland health is likely to improve in the long term due to protection of soils and sensitive habitat. Approximately 278,640 acres would be managed to provide minor wood products (noncommercial saw timber). Though more acres are managed for wood product harvest under this alternative than under Alternative A, Alternative B allows the harvest of minor wood products only. Impacts from closure of commercial saw timber harvest are likely minimal due to the lack of current and projected commercial harvest demand, as well as limited acres occupied by such resources. Forest product harvest could be impacted on the 278,640 acres open to forest use that overlap TLs, particularly if overlapping TLs provide a narrow window during which harvest would be allowed.	Alternative A, Alternative C allows the harvest of minor wood products only. Under this alternative, due to few closures, woodland product harvest would be least restricted for personal use, but forest health is less likely to improve or remain stable in the long term. Forest product harvest could be impacted on the 474,930 acres open to forest use that overlap TLs, particularly if overlapping TLs provide a narrow window during which harvest would be allowed.	health in the long term, as described under Alternative B. Approximately 394,530 acres would be managed to provide minor wood products (noncommercial saw timber) under Alternative D. Forest product harvest could be impacted on the 394,340 acres open to forest use that overlap TLs, particularly if overlapping TLs provide a narrow window during which harvest would be allowed.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
38.	**LIVESTOCK GRAZING**			
39.	This alternative includes the largest area open to livestock grazing (658,540 acres) and the highest level of permitted AUMs (38,364). In general, Alternative A also has the fewest surface use restrictions that would limit range improvements and livestock management. As a result permittees would have the greatest flexibility for management Under Alternative A, special vegetation treatments are authorized on a case-by-case basis. No ecological emphasis areas would be established under this alternative. Current management actions to maintain or improve land health for allotments would remain in place. Trends described for forage and water conditions in Chapter 3 would continue. Limitations on grazing for soil and water protection would affect few acres and have	This alternative would provide the fewest acres open to grazing, 510,070 acres (approximately 23 percent fewer acres than under Alternative A). In addition, permitted AUMs would be reduced to 29,862 (approximately 22 percent fewer than Alternative A). In general, restrictions on grazing and adjustments to management practices would be the most extensive under this alternative, leading to the greatest limitations on livestock management options of all the alternatives. Any additional forage would not be allocated for livestock, eliminating the potential for adjustments to increase AUMs. Furthermore, managing vegetation structure for maximum naturalness would preclude vegetation treatments solely for forage improvement, which could reduce AUMs or limit livestock dispersal options. Approximately 394,540 acres would be closed to sheep and	Alternative C would slightly reduce areas open to grazing compared with Alternative A. Approximately 647,900 acres of allotments would be open to grazing (approximately 2 percent fewer acres than under Alternative A). Similarly, permitted AUMs would be slightly reduced to 37,926 (a 1 percent reduction in AUMs). A total of 27,900 acres would be closed to all classes of livestock grazing (nearly twice as many acres as under Alternative A). Management strategies would emphasize increasing available forage and stocking rates where appropriate, while maintaining land health standards. Additional forage under this alternative would be allocated to domestic livestock, and AUMs could be increased. This alternative is more likely to increase flexibility for livestock management in the long term. In addition, construction, modification, or removal of range	Alternative D would reduce areas open to grazing compared to Alternative A. Approximately 611,560 acres would be open to grazing (approximately 7 percent fewer acres than under Alternative A). Similarly, permitted AUMs would be slightly reduced to 36,424 (approximately 5 percent fewer than under Alternative A). A total of 32,560 acres would be closed to all classes of livestock grazing to protect steep slopes. Under Alternative D, management strategies would emphasize improving rangeland health and forage quality. As a result, short-term impacts on permittees could increase if additional management actions are needed to implement an improved grazing strategy. In the long term, however, land heath and forage base is likely to improve, benefitting permittees.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	minimal impacts. Management for special status species habitat would continue to result in potential restrictions on known, mapped habitat. Timing limitations for wildlife protection would restrict surface disturbing and could impact ability to construct range improvements management. No specific RMP management actions are in place to prohibit domestic sheep grazing in adjacent or occupied bighorn sheep habitat. Livestock would continue to be impacted by recreation, particularly in SRMAs on 22,570 acres, where changes in grazing management could be required to reduce user conflicts.	goat grazing. The cost to permittees associated with conversion of permits to cattle could be prohibitive and could result in a major change to the operation or the hardship of finding grazing lands (private or public) to replace the area lost. Impacts from recreation are possible on 171,580 acres open to grazing within SRMAs (8 times more than under Alternative A).	improvements would be allowed if compatible with other resource uses. Management for vegetation would emphasize resource production needs and fuels reduction; there would be less focus on resource protection and improvement or restoration of vegetation under Alternative C. As a result, this alternative would have the fewest limitations on manipulation of forage for livestock purposes. Management for special status species habitat would continue to result in potential restrictions on known, mapped habitat. Timing limitations to protect wildlife would restrict surface-disturbing activities and could impact the ability to construct range improvements. Minimal restrictions on range improvements could result from restriction on surface use for soil protection, but to a lesser degree than under any other alternative.	Additional forage under this alternative would be allocated to domestic livestock, wildlife, land health, or a combination of these, allowing for flexibility in livestock management while improving land health conditions. In addition, construction, modification, or removal of range improvements would be allowed if compatible with other resource uses. This would allow permittees additional flexibility while increasing management options. Activities next to public water supplies would be restricted, however, grazing would not be expressly prohibited and impacts on grazing would be reduced compared to other action alternatives. Special status species protection would result in 1,050 acres closed to grazing as well as 10,580 acres of mapped special status species habitat open to grazing with potential for limitations. Timing limitations for wildlife protection would restrict

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			Prohibiting grazing adjacent to public water supplies would affect approximately 3,990 acres. As in Alternative B, domestic goat and sheep grazing would be restricted to minimize disease transmission, but Alternative C would not specifically close existing domestic sheep allotments and would allow for greater flexibility in management. Under Alternative C, no SRMAs would be established. ERMAs would be established on 199,250 acres open to livestock grazing. In contrast to SRMAs, ERMA management emphasizes multiple use and impacts on livestock from recreation are likely to be reduced compared with a SRMA, due to the management focus on interdisciplinary objectives rather than specifically on recreation.	surface-disturbing activities and could impact the ability to construct range improvements. Stipulations to protect soil resources could limit range improvements on steep slopes and management options on soils high in salinity and selenium, with potential costs to permittees. Restrictions on domestic sheep grazing would be based on the probability of interaction assessment; decisions would be made based on site-specific needs. Additional costs or management requirements would be limited to those allotments where an adverse impact on bighorn sheep is likely. Under Alternative D, SRMAs would be established, with impacts similar to those described under Alternative A but occurring over a larger area (four times more than under Alternative A).

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
40.	**COAL**			
41.	Under Alternative A, there would be fewer restrictions on coal development than the action alternatives. However, a smaller coal development potential area would continue to constrain the amount of acreage suitable for coal development. There would continue to be 980 acres within the Nucla-Naturita coal field with a TL stipulation that precludes surface-disturbing activities (e.g., surface mining) during certain times of the year, reducing the area available for surface mining operations. Coal production is expected to remain the same across all alternatives.	The coal development potential area would to 421,500 acres, resulting in a larger area available to coal development. Closures would also increase, prohibiting development in portions of areas such as WSAs, and the Grand Mesa, Somerset, and Tongue Mesa coal fields. A TL stipulation would preclude surface mining operations in the Nucla-Naturita coal field during certain times of the year. Coal production is expected to remain the same across all alternatives.	Increased coal development potential area would be the same size as Alternative B. Compared with Alternative B, a smaller portion of the Grand Mesa, Somerset, and Tongue Mesa coal fields would be closed to development. A TL stipulation would preclude surface mining operations on 17,480 of 19,500 acres in the Nucla-Naturita coal field during certain times of the year. Coal production is expected to remain the same across all alternatives.	Increased coal development potential area would be the same size as Alternative B. Compared with Alternatives B and C, a smaller portion of the Grand Mesa, Somerset, and Tongue Mesa coal fields would be closed to development. A TL stipulation would preclude surface mining operations in the Nucla-Naturita coal field during certain times of the year. Coal production is expected to remain the same across all alternatives.
42.	**FLUID MINERALS** *(Oil and Gas and Geothermal Resources)*			
43.	871,810 acres (95 percent) of federal fluid mineral estate would remain open to oil and gas and geothermal leasing, and 44,220 acres (5 percent) would remain closed.	**Alternative B:** Increased restrictions on development when compared with Alternative A. 696,450 acres (76 percent) of the federal fluid mineral estate would	Increased restrictions on development when compared with Alternative A. 871,810 acres (95 percent) of federal fluid mineral estate would be open to future oil	Increased restrictions on development when compared with Alternative A. 865,970 acres (95 percent) of federal fluid mineral estate would be open to future oil and

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	NSO, CSU, and TL stipulations restrict future exploration and development activities by identifying where surface-disturbing activities may not occur, the manner in which they may be implemented, and when they may occur. 459,650 acres have higher development potential for conventional oil and gas and would remain open to leasing, 25,390 acres (6 percent) of which have NSO stipulations, 126,650 acres (28 percent) are open with a CSU stipulation, and 319,050 acres (69 percent) have higher development potential and no NSO or CSU stipulations. 282,650 acres (61 percent) are open with a TL. 456,190 acres have development potential for coalbed natural gas and would remain open to leasing, 5,460 acres (1 percent) of which has NSO stipulations, 15,010 acres (3 percent) are open with a CSU stipulation, and 437,750 acres (96 percent) have development potential and no	be open to future oil and gas and geothermal leasing, a 20 percent decrease from Alternative A. Approximately 186,700 acres (20 percent) would be closed (5 times more acres than under Alternative A). NSO, CSU, and TL stipulations restrict future exploration and development activities by identifying where surface-disturbing activities may not occur, the manner in which they may be implemented, and when they may occur. Approximately 24 percent of the area with geothermal resource potential would be closed to geothermal leasing. Approximately 65 percent of the geothermal potential area open to leasing would be subject to NSO stipulations. 369,600 acres have higher development potential for conventional oil and gas and would remain open to leasing, 219,610 acres (59 percent) of which would have an NSO stipulation, 372,860 acres (99	and gas and geothermal leasing (the same as Alternative A), and 44,220 acres (5 percent) would be closed (the same as Alternative A). NSO, CSU, and TL stipulations restrict future exploration and development activities by identifying where surface-disturbing activities may not occur, the manner in which they may be implemented, and when they may occur. Approximately four percent of the area with geothermal resource potential would be closed to geothermal leasing. Approximately 3 percent of the geothermal potential area open to leasing would be subject to NSO stipulations. 459,650 acres have higher development potential for conventional oil and gas and would remain open to leasing, 11,210 acres (2 percent) of which would have an NSO stipulation, 182,140 acres (40 percent) would be open with a CSU stipulation, and 257,420	gas and geothermal leasing (1 percent fewer acres than under Alternative A), and 50,060 acres (5 percent) would be closed (13 percent more acres than under Alternative A). NSO, CSU, and TL stipulations restrict future exploration and development activities by identifying where surface-disturbing activities may not occur, the manner in which they may be implemented, and when they may occur. Approximately four percent of the area with geothermal resource potential would be closed to geothermal leasing. Approximately 28 percent of the geothermal potential area open to leasing would be subject to NSO stipulations. 455,370 acres have higher development potential for conventional oil and gas and would remain open to leasing, 110,830 acres (24 percent) of which would have an NSO stipulation, 202,180 acres (44 percent) would be open with a

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	NSO or CSU stipulations. 232,570 acres (51 percent) are open with a TL.	percent) would be open with a CSU stipulation, and 480 acres (less than one percent) of which would have neither NSO nor CSU stipulations. 369,420 acres (nearly 100 percent) would be open with a TL. 392,080 acres have development potential for coalbed natural gas and would remain open to leasing, 250,060 acres (64 percent) of which would have an NSO stipulation and 412,490 acres (98 percent) would be open with a CSU stipulation. There would be 4,420 acres (1 percent) with development potential open to leasing without NSO or CSU stipulations. 391,880 acres (nearly 100 percent) would be open with a TL. **Alternative B.1** (North Fork area): Increased restrictions on development when compared with Alternative A. 635,190 acres (69 percent) of federal fluid mineral estate would be open to future oil and gas leasing, a 27 percent decrease	acres (56 percent) have higher development potential and no NSO or CSU stipulations. 340,010 acres (74 percent) would be open with a TL. 456,220 acres have development potential for coalbed natural gas and would remain open to leasing, 12,810 acres (3 percent) of which would have an NSO stipulation, 253,470 acres (56 percent) would be open with a CSU stipulation, and 81,880 acres (18 percent) has development potential and no NSO or CSU stipulations. 246,010 acres (54 percent) would be open with a TL.	CSU stipulation, and 198,360 acres (44 percent) have higher development potential and no NSO or CSU stipulations. 455,370 acres (100 percent) would be open with a TL. 452,330 acres have development potential for coalbed natural gas and would remain open to leasing, 87,420 acres (19 percent) of which would have an NSO stipulation, 271,820 acres (60 percent) would be open with a CSU stipulation. There would be no acres with development potential open to leasing without NSO or CSU stipulations. 452,330 acres (100 percent) would be open with a TL.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		from Alternative A. Approximately 280,840 acres (31 percent) would be closed (6 times more acres than under Alternative A). NSO, CSU, and TL stipulations restrict future oil and gas exploration and development activities by identifying where surface-disturbing activities may not occur, the manner in which they may be implemented, and when they may occur. Analysis of leasing decisions for geothermal resources is the same as Alternative B. 344,020 acres have higher development potential for conventional oil and gas and would remain open to leasing, 214,850 acres (62 percent) of which would have an NSO stipulation, 343,480 acres (nearly 100 percent) would be open with a CSU stipulation, and 480 acres (less than 1 percent) have higher development potential and no NSO or CSU stipulations. 346,340 acres (100 percent) would be open with a TL.		

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		329,280 acres have development potential for coalbed natural gas and would remain open to leasing, 222,880 acres (68 percent) of which would have an NSO stipulation, 322,320 acres (98 percent) would be open with a CSU stipulation, and 4,430 acres (1 percent) have higher development potential and no NSO or CSU stipulations. 329,200 acres (nearly 100 percent) would be open with a TL.		
44.	**LOCATABLE MINERALS, MINERAL MATERIALS, & NONENERGY LEASABLE MINERALS**			
45.	*LOCATABLE MINERALS*			
46.	Impacts of withdrawals and areas petitioned for withdrawal with gypsum and gold potential would continue to be negligible. If 12,350 acres petitioned for withdrawal in the uranium/ vanadium potential area are withdrawn, the uranium/ vanadium potential area would be reduced by six percent, pending resolution of the required mining claim validity exams.	Limiting the availability of locatable minerals on 399,770 acres (7 times more acres than under Alternative A), including recommending to withdraw 37,010 acres of open and active mining claims, would result in the most restrictive alternative for gypsum, uranium/vanadium, and placer gold mining.	Under Alternative C, there are fewer limitations on availability of locatable minerals (39,310 acres; 29 percent fewer acres than under Alternative A) than any of the alternatives. About 460 acres of open and active mining claims are within the area to be recommended for withdrawal. Restrictions for gypsum, uranium/vanadium, and placer gold mining would apply to a smaller area than under Alternatives B and D.	Under Alternative D, there are fewer limitations on availability of locatable minerals (83,940 acres; 1.5 times more acres than under Alternative A) than Alternative B. Restrictions for gypsum, uranium/vanadium, and placer gold mining would apply to a smaller area than under Alternative B. Of these minerals, gypsum would be the most-impacted: 73 percent of the potential area would be recommended for withdrawal.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
47.	*MINERAL MATERIALS*			
48.	Constraints and closures would cover the smallest area of any alternative, resulting in the fewest restrictions on the disposition of mineral materials.	The largest area would be closed to the disposition of mineral materials (568,270 acres) with SSR and TL stipulations on the 327,920 acres open to the disposition of mineral materials where development would be constrained.	TL stipulation constraints (558,320 acres) and closures (58,610 acres) would, combined, cover a smaller area than under Alternatives B and D.	Under Alternative D, there would be fewer closures than Alternatives B and C, but up to 756,760 acres where development would be seasonally constrained by a TL stipulation (the greatest constraints of any alternative).
49.	*NONENERGY SOLID LEASABLE MINERALS (e.g., sodium and potassium)*			
50.	The Tabeguache Area and WSAs could continue to be closed to the leasing of nonenergy solid minerals, precluding future mining in these areas.	Alternative B would have the largest area closed to the leasing of nonenergy solid minerals (396,400 acres). There would be 499,790 acres open to the leasing of nonenergy solid minerals, with SSR restrictions on 487,610 acres. TL stipulations on an additional 289,400 acres open to leasing where development would be seasonally constrained.	Closures (57,390 acres) and TL stipulation constraints (560,540 acres) would, combined, cover a smaller area than under Alternatives B and D.	Under Alternative D, there would be fewer closures (170,490 acres) than Alternatives B and C, but up to 725,700 acres where development would be seasonally constrained by a TL stipulation (the greatest constraints of any alternative).
51.	**RECREATION AND VISITOR SERVICES**			
52.	Certain parts of the planning area, such as Spring Creek and the Jumbo Mountain receive heavy recreation use that currently falls under undesignated recreation management area management. Not providing special recreation management for	Alternative B attempts to identify the areas that will continue to require or will be most likely to require management actions to support recreation and the attainment of outcome-focused objectives. Eleven SRMAs would be managed to protect and enhance a targeted set of	Twelve ERMAs would be managed to support principal recreation activities. There would be no SRMA management, so recreation outcomes would not be protected under this alternative. Over time, outcomes desired by current	Seven SRMAs would provide long-term protection of targeted recreation outcomes in those areas. In general, desired future recreation setting characteristics would largely be realized through less-restrictive management actions. Four ERMAs would support

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	these areas would likely inhibit desired opportunities, outcomes, and experiences and would result in user conflict and displacement. Similar impacts would be expected where outdated management plans for popular areas, such as Dry Creek, North Delta, Burn Canyon, and the Paradox Valley, fail to provide adequate management direction for emerging recreation trends and increased visitation. These impacts would likely become significant in certain areas over the life of the plan. Allowing recreational shooting (except in developed recreation sites) and recreational mining without restrictions would provide recreation opportunities but could increase surface disturbance and visitor conflicts in specific areas with frequent use.	activities, experiences, benefits, and desired recreation setting characteristics. Management actions from other resource programs generally facilitate SRMA objectives. Managing zero acres as open for cross-country motorized travel would have a long-term direct effect by eliminating this type of recreation in the North Delta OHV area. Prohibiting target shooting in certain areas (see Table 2-2) would reduce opportunities for this activity but would increase public safety in many parts of the decision area by focusing target shooting in appropriate locations.	visitors, service providers, and affected communities may become unavailable. However, ERMA management would protect a variety of recreation opportunities. Recreation management actions to protect and provide recreation (e.g., trail design, construction, maintenance, and access points) would help mitigate conflict among user groups and with important biological resources. Compared to Alternative A, more recreation opportunities would be lost in the long term by prohibiting target shooting within or toward developed recreation sites, and by prohibiting recreational mining in developed recreation sites. However, this could maintain naturalness in specific areas where these activities would no longer occur and would increase the quality of other recreation opportunities.	principal recreation activities. Managing zero acres as open for cross-country motorized travel would result in impacts similar to those under Alternative B. There would be more long-term loss of recreation opportunities than under Alternative A by prohibiting recreational mining and target shooting within and near developed recreation sites and roads, near residences, in the North Delta OHV area, and in specific ACECs and SRMAs. However, this could also result in the potential for maintaining naturalness in localized areas where these activities would no longer occur and could increase the quality of other recreation opportunities.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
53.	**COMPREHENSIVE TRAVEL AND TRANSPORTATION MANAGEMENT**			
54.	The degree of impact on travel would be lowest under Alternative A because of fewer land use restrictions for the protection of sensitive resources. Except for Alternative D, Alternative A would limit the most acreage to existing or designated routes (611,090 acres, 90 percent of the decision area).	Alternative B includes the most limitations on and closures to motorized and mechanized vehicle use for resource protection. Therefore, this alternative would cause the greatest adverse impacts on access opportunities for motorized vehicle use. Alternative B closes the most areas to motorized travel (114,970 acres). Alternative B would have no areas open to cross-country motorized travel.	Alternatives C would have the least amount of restrictions on travel, and, therefore, slightly less impact than Alternative B. Alternative C would have the most acres open to cross-country motorized travel (16,070 acres) and the fewest acres closed to motorized travel (45,170 acres).	Alternative D would have slightly less restriction, and therefore slightly greater impact, than Alternative B. Alternative D limits the most acreage to designated routes (617,240 acres, 91 percent of the decision area). Alternative D would have no areas open to cross-country motorized travel.
55.	**LANDS AND REALTY**			
56.	Continuing to manage 85,080 acres as ROW exclusion areas would prohibit ROW development in these areas. There would continue to be no ROW avoidance areas. Alternative A would continue to manage 56,150 acres as closed to motorized travel. This creates areas that cannot be accessed readily, thereby creating areas that are off limits to some types of land uses, such as ROWs.	ROW exclusion and avoidance areas would have impacts similar to those under Alternative A, except that there would be 431,040 acres of ROW exclusion areas (5 times more than under Alternative A) and 195,460 acres of ROW avoidance areas. Alternative B would manage 114,970 acres as closed to motorized travel. Impacts are similar to those identified under Alternative A, but there would be twice as many acres closed to motorized travel.	ROW exclusion and avoidance areas would have impacts similar to Alternative A, except that the BLM would manage 44,550 acres as ROW exclusion areas (48 percent fewer acres than under Alternative A) and 210,390 acres as ROW avoidance areas. Alternative C would manage 45,170 acres as closed to motorized travel. Impacts are similar to those identified under Alternative A, but there would be a 20 percent	ROW exclusion and avoidance areas would have impacts similar to Alternative A, except that there would be 53,700 acres of ROW exclusion areas (37 percent fewer than Alternative A) and 276,500 acres of ROW avoidance areas (the greatest acreage under all of the alternatives). Alternative D would manage 58,560 acres as closed to motorized travel. Impacts are similar to those identified under Alternative A, but there would

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
			decrease in the areas closed to motorized or mechanized travel.	be a 4 percent increase in the areas closed to motorized travel.
57.	*UTILITY CORRIDORS*			
58.	Utility corridors would continue to occupy 297,930 acres in area. Collocating utilities within designated corridors would reduce land use conflicts in other locations by grouping similar facilities and activities in specific areas and away from conflicting developments and activities. It would also clarify the preferred locations for utilities and simplify processing on BLM-administered lands. However, designation of corridors could limit options for ROW design plans and selection of more-preferable locations.	Corridors totaling 64,300 acres for utilities would be managed for under Alternative B. Impacts would be the same as identified under Alternative A, but within a smaller area.	Impacts from utility corridors would be the same as those identified under Alternative B, except that only the West-wide Energy Corridor would be designated, a smaller area than Alternative B.	Impacts from utility corridors would be the same as those identified under Alternative B.
59.	*LAND TENURE ADJUSTMENTS*			
60.	Under Alternative A, 9,850 acres would remain available for land disposal. This would result in more contiguous public lands within the planning area and accommodate resource management. Land	Alternative B identifies 2,650 acres for land disposal (7,200 acres fewer than under Alternative A). Impacts would be similar to those identified under Alternative A, but less consolidation of BLM-	Impacts would be the same as Alternative A, except no lands are identified for acquisition and there would be no benefit to access for manageability through acquisition.	Alternative D identifies 1,930 acres for land disposals (7,920 fewer acres than under Alternative A). Impacts would the same as those described under Alternative A, but less consolidation of BLM-

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	disposals near cities or towns could accommodate community expansion needs by enabling lands to be used for public purposes. Disposal would also reduce isolated tracts, thus increasing land management efficiency. Most lands identified for disposal are south and west of Paonia, south of Montrose, and northwest and southeast of Norwood. Land acquisitions would improve access and manageability.	administered land would occur. Most lands identified for disposal are south of Montrose and northwest of Norwood. Land acquisitions would improve access and manageability.		administered land would occur. Most lands identified for disposal are south of Montrose and northwest of Norwood. Land acquisitions would improve access and manageability.
61.	**RENEWABLE ENERGY**			
62.	Managing 85,140 acres as exclusion areas for wind, solar, and hydropower would continue to prohibit renewable energy development in this area. A significant area containing no VRM class objectives, as well as VRM Class III and IV management (totaling 609,550 acres), would continue to allow for renewable energy ROW authorizations.	Alternative B would implement the most restrictions of any alternative. Managing 518,150 acres (518,490 acres under Alternative B.1) as exclusion areas for wind and 513,360 acres (513,700 acres under Alternative B.1) as exclusion areas for solar and hydropower would result in the largest area off-limits to renewable energy development. Likewise, aside from Alternative B.1, the fewest acres would be managed as VRM Class III or IV (445,920 acres) where	Alternative C would implement the fewest restrictions of any alternative. Managing 44,550 acres as exclusion areas for wind, solar, and hydropower would result in the smallest area off-limits to renewable energy development. There would be few restrictions on the 600,320 acres managed as VRM Class III or IV. Alternative C would be more supportive of biomass production than Alternative A.	Alternative D would be slightly less restrictive than Alternative A. There would be 126,160 acres of exclusion areas for wind, 166,620 acres of exclusion areas for solar, and 147,720 acres of exclusion areas for hydropower off-limits to ROW applications. There would be 516,820 acres managed as VRM Class III and IV, where restrictions would be less likely. Alternative D would be the

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		restrictions would be less likely. Under Alternative B.1, 439,630 acres would be managed as VRM Class III or IV. Alternative B would be more supportive of biomass production than Alternative A.		most supportive of biomass production.
63.	Special Designations			
64.	**AREAS OF CRITICAL ENVIRONMENTAL CONCERN**			
65.	Impacts on values of existing ACECs would continue from authorized land uses, including grazing, recreation, and motorized use. Restrictions on authorized land uses within these ACECs would protect their relevant and important values. Values in areas identified as potential ACECs that are not existing ACECs would continue to be impacted by authorized land uses including grazing, recreation, motorized use, utility development, and energy, and mineral development.	Fewer impacts on relevant and important values would occur compared with Alternative A because more areas would be designated as ACECs (7 times the acres under Alternative A). Increased restrictions on authorized land uses within these ACECs would protect their relevant and important values. Impacts on values on the 770 acres identified as potential ACECs not proposed for designation would be similar to those under Alternative A, but would occur over a smaller area. Restrictions on authorized land uses in these areas would increase compared with Alternative A.	The BLM would designate the same ACECs as under Alternative A, except for Tabeguache Creek. More impacts on relevant and important values would occur because the BLM would reduce restrictions on authorized land uses. Impacts on values in areas identified as potential ACECs not proposed for designation would be similar to those under Alternative A, but restrictions on authorized land uses would increase.	Fewer impacts on relevant and important values would occur compared with Alternative A because more areas would be designated as ACECs (71 percent more acres than under Alternative A). Restrictions on authorized land uses within these ACECs would protect their relevant and important values in a manner similar to Alternative A. Impacts on values in areas identified as potential ACECs not proposed for designation would be similar to those under Alternative A but would occur over a smaller area. Restrictions on authorized land uses in these areas would increase compared with Alternative A.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
66.	**WILDERNESS AND WILDERNESS STUDY AREAS**			
67.	*TABEGUACHE AREA*			
68.	The BLM would not permit any actions that would impair the wilderness character of the Tabeguache Area. Such impacts would only occur from activities associated with valid existing rights or special provisions (e.g., livestock grazing).	Alternative B would provide the maximum level of protection for wilderness character for the Tabeguache Area. In addition to impacts experienced under Alternative A, management of lands with wilderness characteristics, ACECs, SRMAs, and ecological emphasis areas and WSR protection would provide management complementary to the protection of wilderness character both adjacent to and overlapping the Tabeguache Area. Such management could heighten protection within the Tabeguache Area and further ensure the integrity of wilderness character. Recreational impacts on wilderness character under Alternative B would be reduced by the prohibition of competitive events and target shooting in the Tabeguache Area, preserving opportunities for solitude and naturalness and undeveloped character.	Impacts would be similar to Alternative A.	Impacts would be similar to Alternative A.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
69.	*WILDERNESS STUDY AREAS*			
70.	Alternative A would allow resource uses in the WSAs that maintain each area's suitability for preservation as wilderness and protects the viability of current wilderness characteristics. Additional protection for naturalness would be provided by closing Needle Rock ISA and a portion of the Adobe Badlands WSA to mineral materials disposal. If Congress were to release WSAs from wilderness consideration, some protection would be afforded for wilderness characteristics due to overlapping special designations. Specifically, a portion of the Abode Badlands WSA (6,380 acres) would be encompassed in the Adobe Badlands ACEC, and segments eligible for inclusion in the National Wild and Scenic River System overlap with portions of the Dolores River Canyon WSA (La Sal Creek Segment 3 and Dolores River Canyon Segment 1a) and Camelback	Alternative B would provide the maximum level of protection for wilderness characteristics of all WSAs. Management of ACECs, SRMAs, ecological emphasis areas, WSRs, and lands with wilderness characteristics would provide management complementary to the protection of wilderness characteristics both adjacent to and overlapping WSAs. All WSAs under Alternative B would be closed to mineral material disposal, providing protection for all wilderness characteristics. If any WSAs were released from wilderness consideration and managed as open to leasing, mineral entry and development, or mineral material sales, there could be impacts on wilderness characteristics from surface disturbance caused by mineral exploration and development. Recreational impacts on wilderness characteristics under	Alternative C would provide the fewest adjacent or overlapping special designation areas, so incidental impacts from special designation areas on WSAs would be minimized and surface disturbance could be more likely to occur in areas released from wilderness consideration. All WSAs would be closed to mineral materials disposal, as described under Alternative B.	Under Alternative D solitude and primitive and unconfined recreation would be enhanced by the prohibition of competitive events. As described under Alternative B, management for areas with wilderness characteristics would provide protection of wilderness characteristics in areas next to current WSAs. This is only applicable for the Camel Back WSA Adjacent (6,950 acres) under Alternative D. Impacts from rivers suitable for inclusion in the NWSRS would be as described under Alternative B. All WSAs under Alternative D would be closed to mineral material disposal, with impacts as described under Alternative B.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	WSA (Roubideau Creek Segment 1).	Alternative B would be reduced by prohibiting competitive events and target shooting in all WSAs, preserving opportunities for solitude and preserving naturalness.		
71.	**WILD AND SCENIC RIVERS**			
72.	There are 29 stream segments identified as eligible for inclusion in NWSRS. The BLM would not authorize any action that would adversely affect the free-flowing condition, water quality, ORVs, or tentative classifications of the segments. Potential impacts on WSR values would be minimized where other special management designations overlap a stream segment.	All stream segments would be determined suitable for inclusion in NWSRS. In addition to protections afforded the eligible segments under Alternative A, the BLM would apply land use restrictions to protect the suitable segments under Alternative B. This alternative provides the most protection of any alternative to the free-flowing condition, water quality, tentative classification, and ORVs of the segments.	Alternative C offers the least amount of protection for the 29 eligible segments. All eligible segments would be determined not suitable for inclusion in the NWSRS and would not be managed to protect their free-flowing condition, water quality, tentative classification, and ORVs. This could result in a potential long-term impact to the free-flowing condition, water quality, tentative classification, and ORVs. While the BLM would not be obligated to protect the ORVs, free-flowing condition, or tentative classification of the segments, the river segments could still receive indirect protection from other resource management actions.	Alternative D offers more protection to eligible segments than Alternative C but less than Alternatives A and B. Under Alternative D, 16 segments would be determined suitable for inclusion in the NWSRS. In addition to protections afforded the eligible segments under Alternative A, the BLM would apply land use restrictions to protect the suitable segments under Alternative D. The remaining 13 eligible segments would be determined not suitable for inclusion in the NWSRS. Impacts would be similar to Alternative C, although more incidental protection would be afforded under this alternative.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
73.	**NATIONAL TRAILS AND BLM BYWAYS**			
74.	*NATIONAL TRAILS*			
75.	No impacts on the Old Spanish Trail from mining coal. Portions of the Paradox Trail near Nucla could be directly impacted by activities related to mining (such as surface disturbance) over the long term. Indirect impacts are visual resource impacts from mining that could alter the scenic values of the trail. No special restrictions for surface occupancy or fluid mineral leasing surrounding the Old Spanish, Tabeguache, and Paradox trails, which could result in impacts on visual resources or setting for the trail. Visual resource management could impact natural scenic qualities of trails. Development may be permitted that could impact scenic qualities of the trail. The Old Spanish, Tabeguache, and Paradox trails are all within areas not managed as	No impacts on the Old Spanish Trail from mining coal. The Tabeguache Trail is also in an area unacceptable to coal leasing. Portions of the Paradox Trail near Nucla are within areas acceptable to coal leasing; some trail sections could be directly impacted in the short and long term by activities related to mining (such as surface disturbance). Indirect impacts would include visual resource impacts that could alter the scenic values of the trail in the long term. Applying NSO stipulation (0.5-mile buffer) and CSU stipulation (0.5- to 5-mile buffer) on either side of the Old Spanish Trail would provide more protection from surface-disturbing activities than under Alternative A. If the Tabeguache and Paradox trails were designated as National Recreation Trails, applying NSO stipulation (0.5-mile buffer) on either side of these trails would provide more protection from	No impacts on the Old Spanish Trail from mining coal. The Tabeguache and Paradox Trails are in areas acceptable to coal leasing; some trail sections could be directly impacted in the short and long term by activities related to mining (such as surface disturbance). Indirect impacts include visual resource impacts that could alter the scenic values of the trail in the long term. Applying NSO and CSU stipulations (50-meter buffer) on either side of the Old Spanish Trail would provide more protection from surface-disturbing activities than under Alternative A, but less than Alternative B. If the Tabeguache and Paradox trails were designated, applying NSO stipulation (200-meters [656-foot] buffer) on either side of these trails would provide more protection from surface-disturbing activities	No impacts on the Old Spanish Trail from mining coal. The Tabeguache Trail is also in an area unacceptable to coal leasing. Portions of the Paradox Trail are within areas acceptable to coal leasing; some trail sections could be directly impacted in the short and long term by activities related to mining (such as surface disturbance). Indirect impacts would include visual resource impacts that could alter the scenic values of the trail in the long term. The same NSO and CSU stipulations as Alternative B would be applied to the Old Spanish Trail and would result in the same impacts. If the Tabeguache and Paradox trails were designated as National Recreation Trails, the same NSO stipulation as Alternative C would be applied and would result in the same impacts.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	recreation management areas. Recreation settings and opportunities would be impacted by other uses, and current opportunities and recreation settings could change over the long term.	surface-disturbing activities than under Alternative A. In areas of NGD and SSR, national trails would also be less impacted in the short and long term by controlling surface-disturbing activities. Visual impacts would be the same as Alternative A. Increased recreation management in SRMAs could provide additional opportunities for activities and experiences for national trail users. Potential listing of the Tabeguache and Paradox trails as a National Recreation Trail could increase recreational use of these trails, thus providing the potential for greater opportunities for interpretation and education, while also increasing pressure on trail resources.	than under Alternative A, but less than Alternative B. Alternative C would have would have fewer areas of NGD and SSR, resulting in less protection from surface disturbance and development impacts then Alternative B. Less restrictive visual resource management would result in increased impacts from development. Recreation management in ERMAs would result in similar impacts as Alternative A. Like Alternative B, potential listing of the Tabeguache and Paradox trails as a National Recreation Trail would result in the same impacts.	Most of the Old Spanish, Tabeguache, and Paradox Trails would be in areas of SSR, resulting in more opportunities for protection from surface disturbance and development impacts. Similar to Alternative C, less restrictive visual resource management would result in increased impacts from development. Recreation management in SRMAs and ERMAs would result in impacts similar to Alternatives B and C. Like Alternative B, potential listing of the Tabeguache and Paradox trails as a National Recreation Trail would result in the same impacts.
76.	*NATIONAL AND BLM BYWAYS*			
77.	By not establishing additional BLM byways, resources along those roads would not receive public recognition and traffic would not increase at levels	No new BLM byways would be established. Impacts would be the same as those under Alternative A.	No new BLM byways would be established. Impacts would be the same as those under Alternative A.	No new BLM byways would be established. Impacts would be the same as those under Alternative A.

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Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	commensurate with an official byway. Areas of less restrictive visual resource management would result in development that could attract attention. Portions of the Unaweep-Tabeguache Byway and San Juan Skyway would run through the San Miguel SRMA, and driving for pleasure combined with SRMA visitation could lead to an increase in use. Portions of the Unaweep-Tabeguache Byway and West Elk Loop are in areas managed as ROW exclusion areas, eliminating impacts from development in these areas. Efforts to protect scenic ORVs along eligible WSR segments would benefit scenic values of the byways by prohibiting or limiting most surface-disturbing activities.	All national and BLM byways would be managed as VRM Class II within 0.5-mile of either side of the centerline. By designating the area around byways as VRM Class II, opportunities to protect viewsheds would be greater than under Alternative A. An NSO stipulation would apply to fluid mineral leasing within a half-mile of scenic byways. Potential impacts from these uses would be less than under Alternative A. Potential impacts from SRMAs would be the same as Alternative A. Scenic touring would be a targeted activity in these SRMAs. More ROW avoidance and exclusion areas would provide more protections from development then Alternative A. Overall, additional stipulations (NSO and CSU for fluid minerals, and NGD and SSR for other surface-disturbing activities) under Alternative B would provide greater protection of ORVs along byways than under Alternative A.	All national and BLM byways would be managed as VRM Class III within a 0.25-mile of either side of centerline. This would result in less protection of scenic values than Alternative B. A CSU stipulation would apply to fluid minerals within a 0.25-mile of scenic byways. The less restrictive stipulation and smaller buffer area would not provide as much protection to viewsheds as Alternative B. Potential impacts from ERMAs would be the same as impacts on SRMAs under Alternative A. Most areas would be managed as ROW avoidance areas and would provide more protections from development then Alternative A. All eligible stream segments would be found not suitable. Therefore, opportunities to protect scenic values associated with the eligible segments along this byway would be less than under Alternative A.	Byways would be managed as VRM Class II or III. Impacts would vary depending on classification and would be similar to Alternatives B and C. A CSU stipulation would apply to fluid minerals within a 0.5-mile of scenic byways. The less restrictive stipulation and smaller buffer area would not provide as much protection to viewsheds as Alternative B. Potential impacts from ERMAs would be the same as impacts on SRMAs under Alternative A. Potential impacts on byways related to ROW activities are similar to Alternative C. However, expanded areas of avoidance could provide more opportunities to preserve values. Protection ORVs along the Unaweep-Tabeguache Byway are similar to those under Alternative B. However, the Naturita Creek segment would be determined to be not suitable, so ORV protective measures would not apply. Like

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
				Alternative B, additional stipulations would provide greater protection of ORVs than under Alternative A.
78.	**WATCHABLE WILDLIFE VIEWING SITES**			
79.	There are no watchable wildlife viewing sites under Alternative A. Visitors have to create their own opportunities to view wildlife, but the associated interpretation and education is lacking. Visitors are not directed to these areas for the purpose of viewing wildlife, so visitors may not know that they are good locations. Wildlife viewing takes place across the decision area as opportunities arise, but is lower quality that provided for under Alternative B.	Under Alternative B, three watchable wildlife viewing sites would provide targeted opportunities for wildlife interpretation and education, enhancing public wildlife viewing experiences as a result. The watchable wildlife areas would also direct resources for watching wildlife to areas most suitable for this activity, thereby improving the chances of viewing wildlife. In addition, wildlife habitat improvements in the watchable wildlife areas would encourage more wildlife to frequent the area.	Impacts would be similar to Alternative A except that there would be fewer restrictions on recreation within potential watchable wildlife viewing sites than the other alternatives which may decrease opportunities for wildlife viewing by disturbing wildlife or their habitat.	Impacts would be similar to Alternative A.
80.	**Support**			
81.	**NATIVE AMERICAN TRIBAL USES**			
82.	There would be no immediate impacts from the goals, objectives, and allocations noted in the alternatives, though there may be direct impacts associated with some future management actions. Impacts are difficult to quantify because the locations of sacred sites in the planning area are unknown and planning-level alternatives typically do not identify specific areas for surface-disturbing activities.			

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
83.	**PUBLIC HEALTH AND SAFETY**			
84.	Hazardous materials threaten public health and safety directly through potential exposure to a hazardous substance and indirectly through potential contamination of water, soil, and air. Risks described in existing conditions from the unexploded mines, abandoned mines, recreation on public lands, and hazardous fuels treatments, would continue to be present. Target shooting would continue to be prohibited on developed recreational sites (2,070 acres), providing a minimal level of protection for the public from injury gunfire. Specific protection measures for municipal water supplies are limited to the water supply for the town of Norwood, so there is some potential for contamination of water supplies by development related to mining and oil, gas, and geothermal exploration.	Impacts would be similar to A with the following exceptions: Target shooting would be prohibited on 248,130 acres, providing the maximum level of protection from injury and damage to facilities from gunfire across all alternatives. All municipal water supplies classified by the State of Colorado, as well as groundwater wells and springs used for public water supply, would be protected from contamination with a no leasing (fluid minerals) restriction, as well as an NGD restrictions for other activities providing enhanced protection in comparison with Alternative A. Under Alternative B.1, all municipal water supplies classified by the State of Colorado, as well as domestic water wells and private water systems, would be protected from contamination with a no leasing (oil and gas) restriction. The area closed to leasing surrounding these sites is smaller than under Alternative B	Impacts would be similar to A with the following exceptions: Target shooting would be prohibited within and towards developed recreational sites, providing a similar level of protection from injury by gunfire to Alternative A, but less than under Alternative B. All municipal water supplies classified by the State of Colorado, as well as groundwater wells and springs used for public water supply would be similar to Alternative B, but would have an additional CSU stipulation and additional protective measures between 1,000 and 2,640 feet from the water would be maintained, providing enhanced protection.	Impacts would be similar to A with the following exceptions: Target shooting would be prohibited on 67,740 acres, providing more protection from injury and damage to facilities by gunfire than Alternative A or C, but less than Alternative B. Municipal water supplies classified by the State of Colorado, as well as groundwater wells and springs used for public water supply, would be protected from contamination with a no leasing restriction for the first 1,000 feet from the water supply, with a CSU stipulation and additional protective measures between 1,000 and 2,640 feet. Management of active and abandoned mine lands to reduce active soil erosion through rehabilitation would be similar to Alternative B, but additionally provides for the possible closure of routes as a part of a comprehensive travel management plan

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		but would still provide enhanced protection compared with Alternative A. The surface occupancy and surface-disturbing activities on a 20-acre site near Uravan would be prohibited resulting in the reduction of risk from exposure to uranium and vanadium caused by earth-disturbing activities. Management of new and abandoned mine lands to include road closure and soil stabilization reduce risk by reducing exposure to these areas through inhibiting access.		
85.	**SOCIOECONOMICS**			
86.	*Note: Dollar amounts and employment numbers provided below represent the quantifiable economic impacts based on the level of activity predicted by alternative in the year 2032. These numbers are estimates based on best available data and should be utilized only for comparison of impacts by alternative. Refer to Section 4.6.3 for detailed assumptions and methodology utilized in economic modeling.*			
87.	Under Alternative A, livestock grazing is estimated to generate between $55.2 million and $91.3 million in total spending, between $7.5 million and $12.8 million in labor income, and would create between 889 and 1,579 full-time equivalent jobs over the 20-year lifespan of the plan, depending on the level of	Under Alternative B, livestock grazing would generate between $42.5 million and $68.6 million in total spending, between $5.3 million and $8.7 million in labor income, and would create between 529 and 869 full-time equivalent jobs over the 20-year lifespan of the plan, depending on	Under Alternative C, livestock grazing would generate between $56.6 million and $88 million in total spending, between $7.3 million and $11.5 million in labor income, and would create between 759 and 1,232 full-time equivalent jobs over the 20-year lifespan of the plan, depending on the level of	Under Alternative D, livestock grazing would generate between $52.3 million and $86.9 million in total spending, between $7.2 million and $12.3 million in labor income, and would create between 854 and 1,527 full-time equivalent jobs over the 20-year lifespan of the plan, depending on the level of

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
	permitted AUMs. Under Alternative A, recreation spending would generate $5.7 million dollars in total spending, $1.8 million in labor income, and 69 full-time equivalent jobs over the 20-year lifespan of the plan. Due to minimal restrictions within high-potential areas under this alternative, fluid mineral development is more likely to meet levels predicted in the RFD (BLM 2012d), and economic impacts would be increased. Under Alternative A, the economic effects from coal production would generate $11.1 billion in total spending, $7.8 billion in labor income, and would create 50,350 full-time equivalent jobs over the 20-year lifespan of the plan.	the level of permitted AUMs. Economic effects from recreation spending would be similar but slightly less than Alternative A. Motorized use is anticipated to be slightly less under this alternative, while non-mechanized use may increase. Additional stipulations could increase the costs for fluid mineral development, leading to additional contributions to the local economy per well, but overall economic contributions are likely to be reduced as compared to Alternative A. The economic effects from coal production would be the same as Alternative A. Under Alternative B.1, impacts would be similar to those discussed under Alternative B; however, additional oil and gas closures (NL) in the North Fork area (104,750 acres, 75 percent of the North Fork area) and stipulations (NSO on 27,280 acres, 20 percent of the North Fork area) on oil and gas development under Alternative	permitted AUMs. Economic effects from recreation spending would be similar but slightly greater than Alternative A. Motorized use is anticipated to increase slightly under this alternative, while non-mechanized use may decrease. Fewer stipulations and closures for fluid mineral development, as compared with other action alternatives, could decrease costs for developers and encourage development. The economic effects from coal production would be the same as Alternative A.	permitted AUMs. Economic effects from recreation spending would be similar to, but slightly greater than, Alternative A. Both motorized and non-motorized used may increase slightly over the long-term due to increased resource available and protection for both user types. Alternative D would be more restrictive to fluid mineral development than Alternative A because a larger percentage of the planning area would be unavailable for leasing, and fewer acres would be open to leasing without stipulations. Associated costs for development would be increased above that in Alternative A. The economic effects from coal production would be the same as Alternative A.

Table 2-6
Summary of Environmental Consequences of Alternatives A, B/B.1, C, and D

Line #	Alternative A *Current Management (No Action)*	Alternative B	Alternative C	Alternative D *Agency Preferred*
		B.1 would increase restrictions on development and costs to developers, further reducing economic contributions from the oil and gas industry in the planning area and in the North Fork area in particular. These additional stipulations on oil and gas development are intended to increase protection of local water sources for North Fork Valley residents and to maintain water quality for local agricultural operations. Protecting these resources would likely maintain and enhance quality of life for area residents (North Fork Heart and Soul 2014). Additionally, as discussed in **Chapter 4, Section 4.6.3**, Socioeconomics, *Nature and Type of Effects*, agriculture is of local economic importance for farms and agritourism; therefore, maintaining water quality would protect these economic sectors from potential development impacts.		

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Affected Environment

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
ACEC	area of critical environmental concern
ATV	all-terrain vehicle
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BOR	United States Department of the Interior, Bureau of Reclamation
CARMMS	Colorado Air Resources Management Modeling Study
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CPW	Colorado Parks and Wildlife
CSU	controlled surface use
decision area	public lands and federal mineral estate managed by the United States Department of the Interior, Bureau of Land Management
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973
federal mineral estate	subsurface mineral estate administered by the United States Department of the Interior, Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fire management plan
Forest Service	United States Department of Agriculture, Forest Service
FWFMP	Federal Wildland Fire Management Policy
GIS	Geographic Information Systems
IMPLAN	impact analysis for planning (model)
IMPROVE	Interagency Monitoring of Protected Visual Environments
ISA	instant study area
NCA	National Conservation Area
NEPA	National Environmental Policy Act of 1969
NGD	no ground disturbance
NHPA	National Historic Preservation Act of 1966
NL	no leasing
North Fork area	North Fork Alternative Plan area (63,390 acres of BLM-administered surface estate and 159,820 acres of federal mineral estate) (Figure 2-1)
NPS	United States Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic Rivers System

	Full Phrase
OHV	off-highway vehicle
ORV	outstandingly remarkable value
PFC	proper functioning condition
PFYC	Potential Fossil Yield Classification
PILT	payment in lieu of taxes
planning area	Uncompahgre Field Office boundary, including all lands, regardless of land ownership, except the Gunnison Gorge NCA Planning Area and the Dominguez-Escalante NCA
$PM_{2.5}$	particulate matter smaller than 2.5 microns in effective diameter
PM_{10}	particulate matter smaller than 10 microns in effective diameter
RMA	recreation management area
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SRMA	special recreation management area
SRP	special recreation permit
SSR	site-specific relocation
TL	timing limitation
UFO	Uncompahgre Field Office
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface

CHAPTER 3
AFFECTED ENVIRONMENT

The purpose of this chapter is to describe the existing biological, physical, and socioeconomic characteristics of the Uncompahgre resource management plan (RMP) planning area (planning area), including human uses that could be affected by implementing the alternatives described in **Chapter 2** (Alternatives). This chapter includes a discussion of resources, resource uses, special designations, support functions, and social and economic conditions. Each topic area includes an introduction, followed by a description of current conditions and characterization. Characterization includes the indicators, which assess the resource condition, and trends, which express the direction of change between the present and some point in the past.

Certain types of resources that may be present in the RMP planning area, such as cave and karst resources, are not addressed in this RMP because issues relating to the management of these resources were not identified during scoping by the public or by the United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM). These resources do not require specific management direction at this time. Information from broad-scale assessments was used to help set the context for the planning area. The information and direction for BLM resources and resource uses has been further broken down into fine-scale assessments and information. The level of information presented in this chapter is commensurate with and sufficient to assess potential effects discussed in Chapter 4, based on the alternatives presented in **Chapter 2**.

Acreage figures and other numbers used are approximate projections; readers should not infer that they reflect exact measurements or precise calculations. Acreages were calculated using Geographic Information Systems (GIS) technology, and there may be slight variations in total acres between resources.

The planning area includes all lands, regardless of jurisdiction, within the planning area boundaries. However, the BLM makes decisions on only those lands and federal mineral estate that it administers (the decision area). The Gunnison Gorge National Conservation Area (NCA) is covered under a separate RMP/environmental impact statement (EIS), and the Dominguez-

Escalante NCA will also be covered under a separate RMP/EIS, rather than under this Uncompahgre RMP/EIS.

3.1 RESOURCES

This section contains a description of the biological and physical resources of the planning area and follows the order of topics addressed in Chapter 2, as follows:

- Air quality
- Climate
- Geology and soils
- Water resources
- Vegetation
- Fish and wildlife
- Special status species
- Wild horses
- Wildland fire ecology and management
- Cultural resources
- Paleontological resources
- Visual resources
- Lands with wilderness characteristics

3.1.1 Air Quality

Meteorological and topographical characteristics within the planning area and the surrounding lands affect the transport, deposition, and dispersion of emissions within the planning area and region. The effects of both emissions and management decisions within the area influence air quality throughout the area, not just within the planning area boundaries. This section describes the existing air quality within the planning area.

Current Conditions

The federal and state governments have established ambient air quality standards for six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter smaller than 10 microns in effective diameter (PM_{10}), particulate matter smaller than 2.5 microns in effective diameter ($PM_{2.5}$), and sulfur dioxide. The US Environmental Protection Agency (EPA) also regulates emissions of oxides of nitrogen, and volatile organic compounds. These compounds are precursors for producing photochemical smog (ozone) and secondary particulate matter. Ozone, including its oxides of nitrogen and volatile organic compound precursors, $PM_{2.5}$, and sulfur dioxide, are considered regional air pollutants, typically affecting air quality on a regional scale.

Pollutants such as carbon monoxide and lead are considered local, typically accumulating close to their emission sources. PM_{10} can be considered both a regional and local air pollutant, depending on the particular circumstance. In addition, long-range transport of nitrogen dioxide,

PM_{10}, $PM_{2.5}$, and sulfur dioxide can contribute to regional visibility degradation, as well as atmospheric deposition at sensitive areas many miles downwind of individual emission sources, such as national parks and wilderness areas.

Existing Air Pollutant Emissions

Air quality in the planning area is affected primarily by emissions from agricultural, biogenic, mobile, and industrial sources, which are quantified on a countywide basis. **Table 3-1** (Average Annual Air Pollutant Emissions (2008)) shows the average annual regional air pollutant emissions for five counties in and around the planning area.

Table 3-1
Average Annual Air Pollutant Emissions (2008)

County	Emissions (tons per year)					
	CO[1]	NOx[2]	PM_{10}	$PM_{2.5}$	SO_2[3]	VOCs[4]
Delta	10,342	1,490	2,156	813	52	13,131
Gunnison	18,553	1,308	2,739	1,202	79	24,466
Montrose	12,985	3,297	3,716	1,011	1,327	24,733
Ouray	3,434	403	1,107	263	12	6886
San Miguel	6,016	1003	1,425	352	15	12721

Source: EPA 2012a
[1]carbon monoxide
[2]oxides of nitrogen
[3]sulfur dioxide
[4]volitile organic compounds

Existing Air Quality Concentrations

Existing air quality conditions in the planning area can be characterized through use of monitoring data collected in the region. Carbon monoxide, PM_{10}, and $PM_{2.5}$ are the only air pollutants within the planning area monitored by the Colorado Department of Public Health and the Environment Air Pollution Control Division, at sampling locations in Delta and Telluride, Colorado. PM_{10}, $PM_{2.5}$, and carbon monoxide are monitored north of the planning area in Grand Junction, Colorado. Carbon monoxide, nitrogen dioxide, PM_{10}, and ozone are measured south of the planning area on the Southern Ute Reservation, one mile northeast of Ignacio, and $PM_{2.5}$ is measured north of the planning area at the Greasewood Pipeline Hub in Rio Blanco County; both of these sites are representative of regional rural concentrations. Lead has been measured in the Denver metropolitan area for several years by the Colorado Department of Public Health and the Environment. In addition, the Colorado Department of Public Health and the Environment began monitoring ozone in Cortez, Palisade, and Rifle, Colorado, during 2008. Ozone is also monitored in the Weminuche Wilderness located south of the planning area. As part of the Clean Air Status and Trends Network program[1], the EPA measures gaseous ozone and sulfur dioxide at the Rocky Mountain Biological Laboratory in Gothic, Colorado (approximately 20 miles east of the northeastern portion of the planning area). Over the course

[1] Found online at http://www.epa.gov/castnet/

of the week, air is drawn at a controlled flow rate through a three-stage filter pack mounted atop a ten-meter (33-foot) tower to collect particulate and gaseous air pollutants.

$PM_{2.5}$, including speciated chemicals such as lead and sulfur dioxide, are also sampled at the Aspen Mountain Ski Area in Pitkin County in the White River National Forest by the Interagency Monitoring of Protected Visual Environments (IMPROVE) Program.

Because most of the planning area is rural, actual air quality is likely to be cleaner than that measured in towns and cities, especially the Denver metropolitan area. The entire planning area is classified as attainment or unclassified, with the exception of the Telluride PM_{10} Attainment/Maintenance Area, indicating current compliance with all applicable National Ambient Air Quality Standards. The Telluride Attainment/Maintenance Area includes the Town of Telluride, the Town of Mountain Village, and portions of San Miguel County within three miles of Telluride, which are within the Telluride airshed. At one time Telluride was in violation of PM_{10} air quality standards, primarily due to smoke emissions from local wood stoves. Those emissions have been reduced so that the town is now in compliance. The Telluride area was redesignated to attainment status by the EPA in 2001, and the area continues to demonstrate compliance with the PM_{10} National Ambient Air Quality Standards. Proposed direct- or authorized-use BLM activities within the Telluride PM_{10} maintenance area must be structured to comply with EPA General Conformity Regulations. None of the site-specific air quality monitoring stations in the planning area has measured an exceedance of National Ambient Air Quality Standards in the past five years.

Table 3-2 (Applicable Ambient Air Quality Standards and Existing Representative Pollutant Concentrations for the Planning Area) provides a summary of recent representative pollutant concentrations measured in the planning area and at nearby sites.

Air Quality-Related Values

Visibility

Visibility can be expressed in terms of deciviews, a measure of perceived changes in visibility. A deciview is a change in visibility just perceptible to an average person, which is approximately a 10-percent change in light extinction. To estimate potential visibility impairment, monitored aerosol concentrations are used to reconstruct visibility conditions for each day monitored. These daily values are then ranked from clearest to haziest and divided into three categories to indicate the mean visibility for all days (average), the 20 percent of days with the clearest visibility (20 percent clearest), and the 20 percent of days with the worst visibility (20 percent haziest). Visibility can also be defined by standard visual range measured in miles, and is the farthest distance at which an observer can see a black object viewed against the sky above the horizon; the larger the standard visual range, the cleaner the air.

Since 1980, the IMPROVE program has measured visibility in national parks and wilderness areas. IMPROVE helps federal land managers from the BLM, US DOI National Park Service (NPS), US Department of Agriculture (USDA), Forest Service (Forest Service), US DOI Fish and Wildlife Service (USFWS), and EPA, as well as regional-state organizations, protect visibility at 156 Class I airsheds (national parks and wilderness areas), as required by the Clean Air Act of 1977. These areas are accorded strict levels of air quality protection, including limits on visibility impacts.

Table 3-2
Applicable Ambient Air Quality Standards and Existing Representative Pollutant Concentrations for the Planning Area

Pollutant	Background Levels(1)	Averaging Time	National Ambient Air Quality Standards		Colorado Ambient Air Quality Standards
			Standard	Primary or Secondary	
Carbon Monoxide (3)	1 - 3 ppm	1-hour(1)	35 ppm	P	--
Carbon Monoxide (3)	1 - 2 ppm	8-hour(1)	9 ppm	P	--
Lead	0.006 µg/m³	Rolling 3-month average	0.15 µg/m³	P,S	--
Nitrogen Dioxide (4)	0.025 - 0.05 ppm	1-hour(12)	0.1 ppm	P	--
Nitrogen Dioxide (4)	0.002 - 0.007 ppm	Annual	0.053 ppm	P,S	--
PM_{10} (5)	28 - 83 µg/m³	24-hour(2)	150 µg/m³	P,S	--
PM_{10} (5)	12 - 37 µg/m³	Annual	--	--	--
$PM_{2.5}$ (6)	11 - 19 µg/m³	24-hour(8)	35 µg/m³	P,S	--
$PM_{2.5}$ (6)	4 - 8 µg/m³	Annual(9)	12/15 µg/m³	P,S	--
Ozone (7)	0.076 - 0.081 ppm	1-hour	--	--	--
Ozone (7)	0.066 - 0.074 ppm	8-hour(10)	0.070 ppm	P,S	--
Sulfur Dioxide	0.009 ppm	1-hour(11)	0.075 ppm	P	--
Sulfur Dioxide	0.009 ppm	3-hour(1)	0.5 ppm	S	700(1)
Sulfur Dioxide	0.002 ppm	24-hour(1)	0.14 ppm	P12	--
Sulfur Dioxide	0.001 ppm	Annual	0.03 ppm	P12	--

Sources: Background pollutant data from Colorado Department of Public Health and Environment 2012a, National Ambient Air Quality Standards (EPA 2015a), and Colorado Ambient Air Quality Standards (Colorado Department of Public Health and Environment 2013)
(1) Not to be exceeded more than once per year
(2) Not to be exceeded more than once per year on average over 3 years
(3) Carbon monoxide data reflects the range of maximum ambient air pollutant concentrations monitored in urban and rural areas
(4) Nitrogen dioxide data reflects range of maximum ambient air pollutant concentrations monitored in urban and low- and high-altitude rural areas
(5) PM_{10} data reflects the range of maximum ambient air pollutant concentrations monitored in the following areas: Montrose, Delta, Telluride, outside Telluride, Hotchkiss, Olathe, Paonia, and rural Ute County
(6) $PM_{2.5}$ data reflects the range of maximum air pollutant concentrations monitored in Delta, Telluride, and in a rural area
(7) Ozone data reflects the range of maximum air pollutant concentrations monitored in urban and low- and high-altitude rural areas
(8) 98th percentile averaged over 3 years
(9) Annual mean averaged over 3 years
(10) On October 1, 2015, the EPA revised the National Ambient Air Quality Standards for 8-hour ozone concentrations from 75 parts per billion to 70 parts per billion. The effective date of the revised National Ambient Air Quality Standards is December 28, 2015 (EPA 2015b).
(11) 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
(12) The 24-hour and annual National Ambient Air Quality Standards remain in effect in Colorado until 1 year after the area is designated for the June 22, 2010 (1-hour) standard. Designations for the 1-hour sulfur dioxide National Ambient Air Quality Standard in Colorado have not occurred.
Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

There are six IMPROVE stations in Colorado, but none within the Uncompahgre Field Office (UFO). The Forest Service operates a IMPROVE monitors at the Weminuche Wilderness Area in the San Juan National Forest, located south of the planning area, and at the White River National Forest in Pitkin County, northeast of the planning area. The Black Canyon of the Gunnison National Park, Maroon Bells-Snowmass Wilderness Area, and West Elk Wilderness Area are Class I airsheds located partially (but not entirely) inside the UFO planning area. Other nearby Class I airsheds include Arches National Park (45 kilometers [28 miles] from the UFO), La Garita Wilderness (40 kilometers [25 miles] from the UFO), and Weminuche Wilderness Area (20 kilometers [12 miles] from the UFO). The Colorado National Monument, a Class II airshed located 35 kilometers (22 miles) from the planning area near Grand Junction, is also afforded special air quality protection.

Atmospheric Deposition

Atmospheric deposition refers to processes in which air pollutants are removed from the atmosphere and deposited into terrestrial and aquatic ecosystems. Air pollutants can be deposited by either wet precipitation (via rain or snow) or dry (gravitational) settling of particles and adherence of gaseous pollutants to soil, water, and vegetation. Much of the concern about deposition surrounds the secondary formation of acids and other compounds from emitted nitrogen and sulfur species such as nitrogen oxides and sulfur dioxide, which can contribute to acidification of lakes, streams, and soils and affect other ecosystem characteristics, including nutrient cycling and biological diversity.

Substances deposited include:

- Acids such as sulfuric and nitric, sometimes referred to as acid rain
- Air toxics, such as pesticides, herbicides, and volatile organic compounds
- Heavy metals, such as mercury
- Nutrients, such as nitrates and ammonium

Rain, snow, cloud water, particle settling, and gaseous pollutants complicate the accurate measurement of atmospheric deposition. Deposition varies with precipitation and other meteorological variables such as temperature, humidity, winds, and atmospheric stability, which, in turn, vary with elevation and time.

Atmospheric deposition is primarily monitored through the National Atmospheric Deposition Network/National Trends Network and the Mercury Deposition Network. The closest regional National Atmospheric Deposition Network/National Trends Network site monitoring atmospheric deposition is the Gothic site located in Gunnison County at the Rocky Mountain Biological Laboratory. Other regional sites include those at Mesa Verde National Park in the southwest corner of Colorado and Molas Pass in the San Juan National Forest.

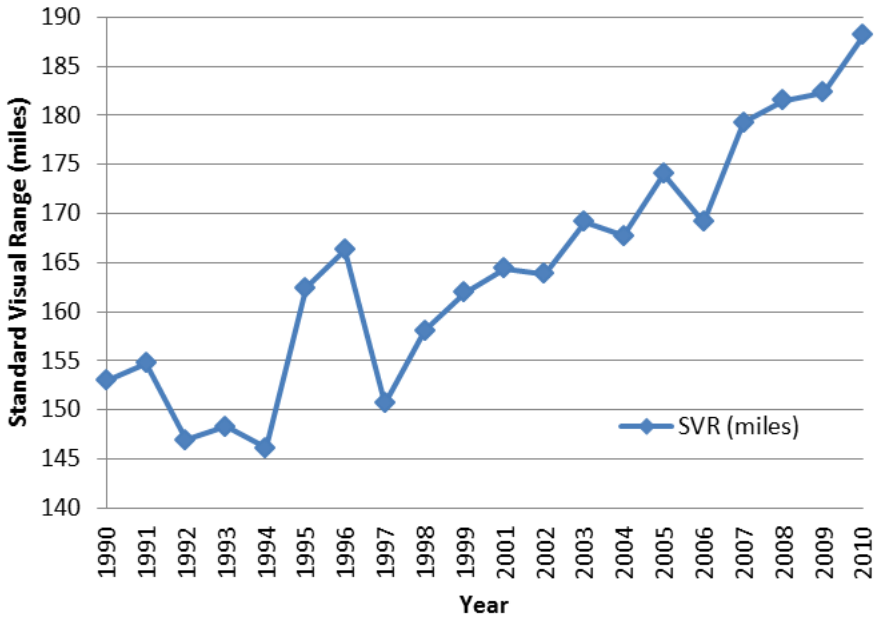
Trends

Visibility Trends

An environmental concern in the United States is the improvement and maintenance of visibility conditions, especially in national parks, recreation areas, wilderness areas, and national forests. The Black Canyon of the Gunnison Wilderness Area is located within the planning area; however, there is no IMPROVE monitor at that location. The IMPROVE monitor located within the Weminuche Wilderness Area to the south is the closest to and considered to be the most representative of the Black Canyon Wilderness Area. Another IMPROVE monitor is located at the White River National Forest in Pitkin County, northeast of the planning area. Visibility data from both sites are given to provide a comprehensive representation of visibility conditions in the planning area.

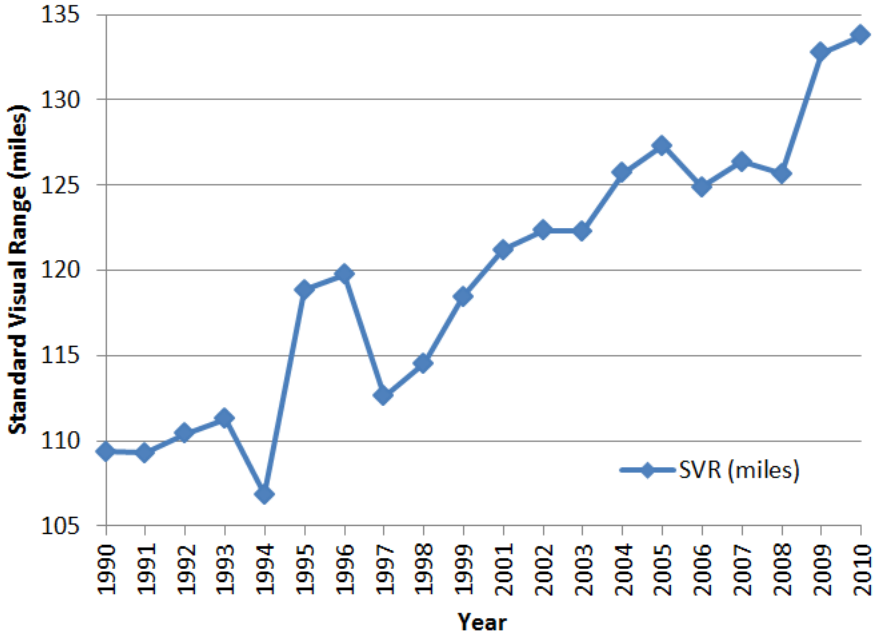
Diagram 3-1 (Standard Visual Range for 20th% Cleanest Days, Weminuche Wilderness Area IMPROVE Site), **Diagram 3-2** (Standard Visual Range for 20th% Middle Days, Weminuche Wilderness Area IMPROVE Site), and **Diagram 3-3** (Standard Visual Range for 20th% Worst Days, Weminuche Wilderness Area IMPROVE Site) show visibility estimates for the 20th percent cleanest days, 20th percent median days, and 20th percent worst visibility days at the Weminuche Wilderness area IMPROVE site for the period 1990-2010. These data indicate excellent visibility conditions with a trend toward improved visual range during this period.

Diagram 3-1
Standard Visual Range for 20th% Cleanest Days, Weminuche Wilderness Area IMPROVE Site



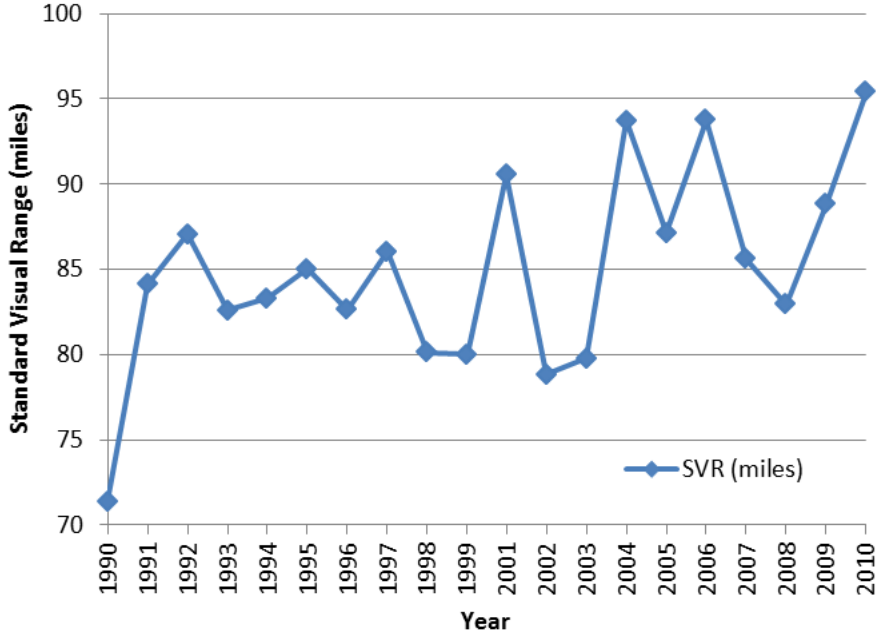
Source: Visibility Information Exchange Web System 2012

Diagram 3-2
Standard Visual Range for 20th% Middle Days, Weminuche Wilderness Area IMPROVE Site



Source: Visibility Information Exchange Web System 2012

Diagram 3-3
Standard Visual Range for 20th% Worst Days, Weminuche Wilderness Area IMPROVE Site



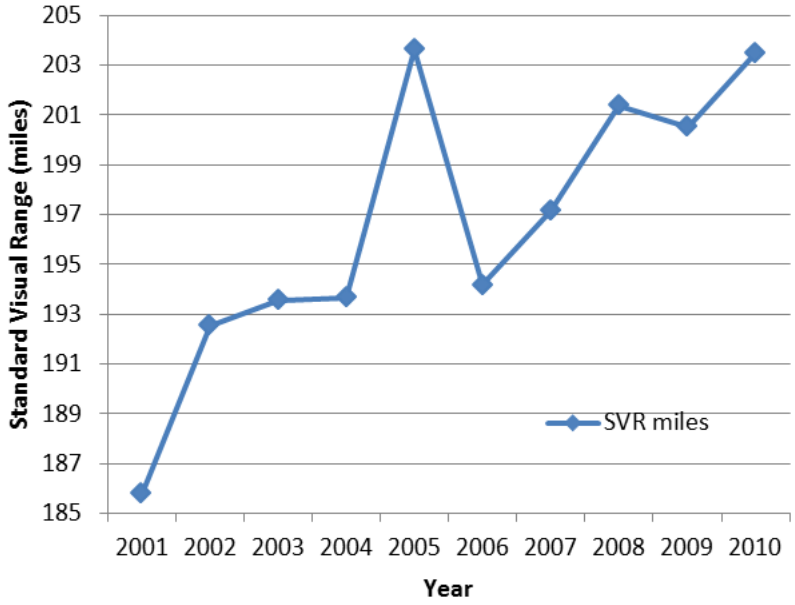
Source: Visibility Information Exchange Web System 2012

Diagram 3-4 (Standard Visual Range for 20th% Cleanest Days, White River National Forest IMPROVE Site), **Diagram 3-5** (Standard Visual Range for 20th% Middle Days, White River National Forest IMPROVE Site), and **Diagram 3-6** (Standard Visual Range for 20th% Worst Days, White River National Forest IMPROVE Site) show visibility estimates for the 20% percent cleanest days, 20th percent median days, and 20th percent worst visibility days, respectively, at the White River National Forest IMPROVE site, for the period 2000-2010. These data also indicate excellent visibility in the region with a trend toward improved visual range during this period.

Atmospheric Deposition Trends

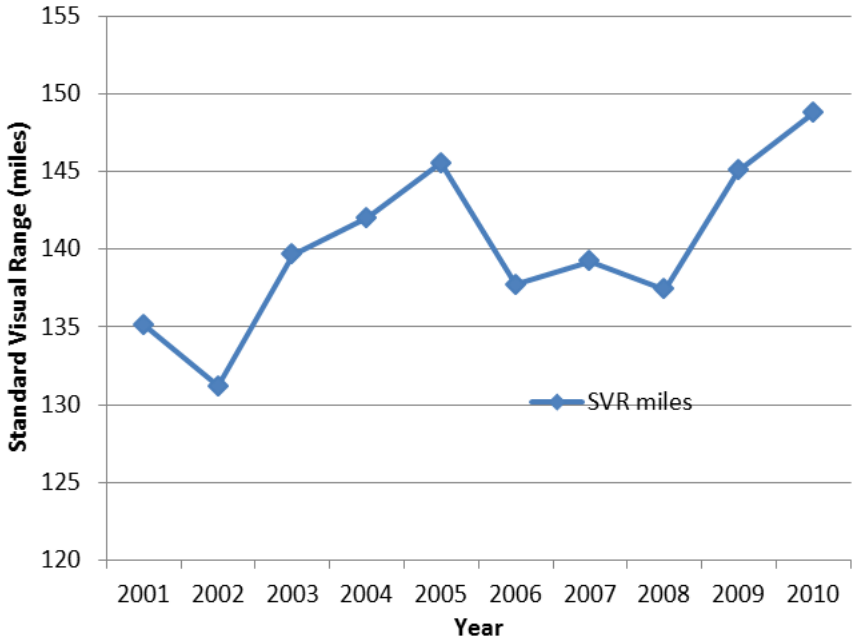
The Clean Air Status and Trends Network/National Atmospheric Deposition Network/National Trends Network monitoring site located nearest the planning area is the Gothic site (GTH161) located in northern Gunnison County within the Gunnison Field Office. **Diagram 3-7** (Total Annual Wet and Dry S Deposition (kilograms per hectare per year) at the Gothic Clean Air Status and Trends Network Program Site) provides the total annual (wet and dry) sulfur deposition (kilograms per hectare per year). **Diagram 3-8** (Total Annual Wet and Dry N Deposition (kilograms per hectare per year) at the Gothic Clean Air Status and Trends Network Program Site) shows the total annual (dry and wet) nitrogen deposition for 1990 through 2010 for the Gothic site. Over this period, sulfur deposition trended downward, and there were no discernible trends in nitrogen deposition.

Diagram 3-4
Standard Visual Range for 20th% Cleanest Days, White River National Forest IMPROVE Site



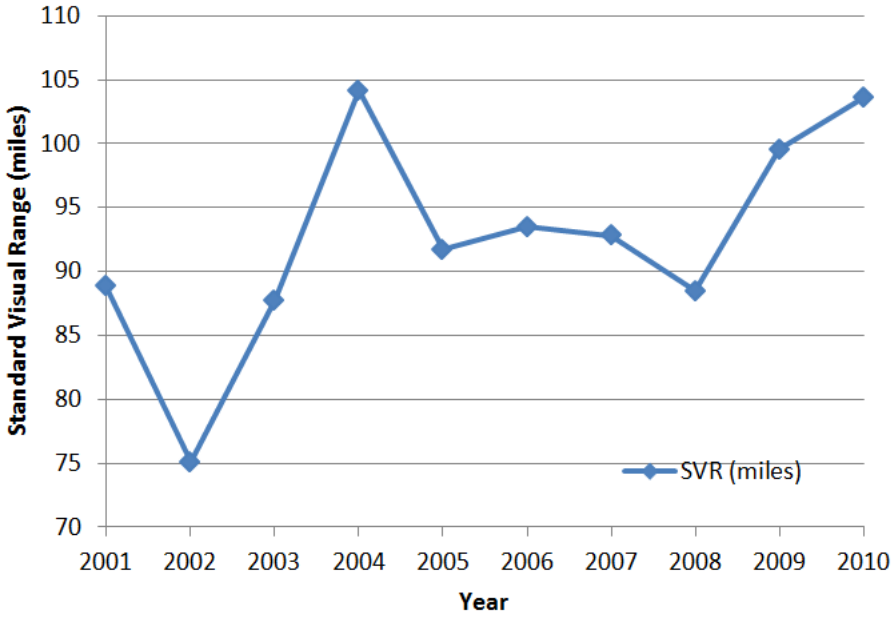
Source: Visibility Information Exchange Web System 2012

Diagram 3-5
Standard Visual Range for 20th% Middle Days, White River National Forest IMPROVE Site



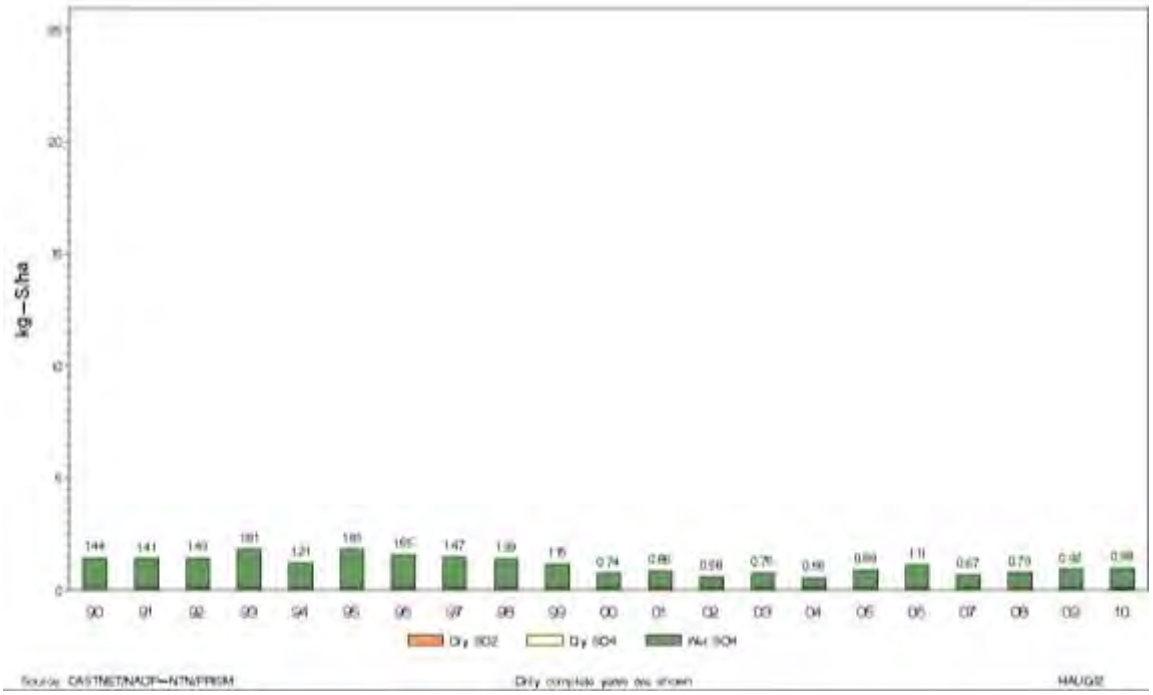
Source: Visibility Information Exchange Web System 2012

Diagram 3-6
Standard Visual Range for 20th% Worst Days, White River National Forest IMPROVE Site



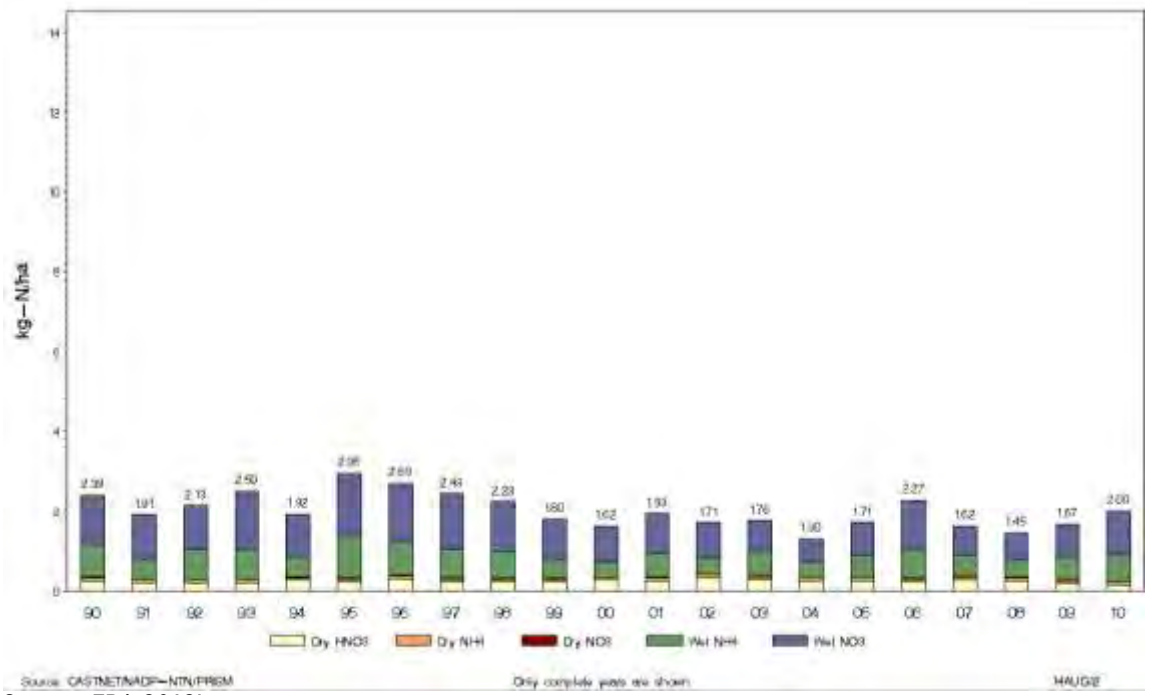
Source: Visibility Information Exchange Web System 2012

Diagram 3-7
Total Annual Wet and Dry S Deposition (kilograms per hectare per year) at the Gothic Clean Air Status and Trends Network Program Site



Source: EPA 2012b

Diagram 3-8
Total Annual Wet and Dry N Deposition (kilograms per hectare per year) at the Gothic Clean Air Status and Trends Network Program Site



Source: EPA 2012b

3.1.2 Climate

Current Conditions

The planning area is located in a high plateau continental region of mesas, mountains, and high desert. The climate is characterized by dry, sunny days and clear nights with extreme daily temperature changes. **Table 3-3** (Climate Summary from Stations within the Planning Area) provides a summary of weather records from seven National Cooperative Observer Network weather stations in the planning area compiled by the Western Regional Climatic Center.

Table 3-3
Climate Summary from Stations within the Planning Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Cimarron, Colorado (Elevation: 6,900 Feet)							Period of Record: 9/1951–5/2012						
Average Maximum Temperature (°F)	33.9	38.3	47.9	58.7	69.2	80.2	85.3	82.9	75.3	64.1	47.6	35.1	59.9
Average Minimum Temperature (°F)	0.5	6.0	16.7	24.2	30.8	36.7	43.8	43.0	34.2	24.4	15.2	3.8	23.3
Average Total Precipitation (Inches)	1.13	0.89	1.00	1.01	1.04	0.83	1.24	1.48	1.53	1.33	0.99	0.98	13.45
Average Total Snow Fall (Inches)	14.2	12.4	11.0	4.5	0.6	0.0	0.0	0.0	0.0	0.8	7.7	13.7	64.9
Average Snow Depth (Inches)	4	6	2	0	0	0	0	0	0	0	0	3	1
Montrose 2, Colorado (Elevation: 5,690 Feet)							Period of Record: 10/1895–9/2012						
Average Maximum Temperature (°F)	37.9	43.9	53.1	62.5	72.4	83.2	88.6	85.7	78.0	65.7	50.4	39.2	63.4
Average Minimum Temperature (°F)	13.6	19.7	26.6	34.0	42.2	49.8	55.7	54.0	45.7	35.1	24.0	15.3	34.6
Average Total Precipitation (Inches)	0.57	0.53	0.72	0.85	0.87	0.52	0.87	1.23	1.10	1.03	0.65	0.65	9.60
Average Total Snow Fall (Inches)	6.5	4.5	3.9	1.9	0.1	0.0	0.0	0.0	0.0	0.7	2.7	6.9	27.2
Average Snow Depth (Inches)	1	0	0	0	0	0	0	0	0	0	0	1	0
Norwood, Colorado (Elevation: 7,020 Feet)							Period of Record: 4/1924–8/2008						
Average Maximum Temperature (°F)	37.4	41.5	48.6	58.0	68.1	78.7	83.9	80.7	73.4	62.1	48.0	38.7	59.9
Average Minimum Temperature(°F)	9.6	14.6	21.8	28.3	35.9	43.7	50.0	48.9	41.8	31.9	20.5	11.9	29.9
Average Total Precipitation (Inches)	0.95	0.93	1.14	1.22	1.12	0.78	1.86	1.96	1.77	1.59	1.11	0.97	15.41

Table 3-3
Climate Summary from Stations within the Planning Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Total Snow Fall (Inches)	12.7	10.5	9.8	5.3	0.8	0.0	0.0	0.0	0.1	2.3	7.7	10.9	60.2
Average Snow Depth (Inches)	4	3	1	0	0	0	0	0	0	0	1	2	1
Paonia 1 SW, Colorado (Elevation: 5,580 Feet) Period of Record: 1/1893–9/2012													
Average Maximum Temperature (°F)	38.6	44.9	53.9	63.0	73.0	83.6	89.2	86.5	78.1	66.6	52.4	40.2	64.2
Average Minimum Temperature (°F)	13.8	20.4	27.5	33.9	41.6	49.3	56.1	54.7	46.8	36.5	26.1	16.2	35.2
Average Total Precipitation (Inches)	1.20	1.19	1.46	1.34	1.37	0.75	1.07	1.33	1.48	1.60	1.26	1.33	15.39
Average Total Snow Fall (Inches)	11.9	9.0	6.3	2.4	0.2	0.0	0.0	0.0	0.1	0.8	4.7	11.9	47.1
Average Snow Depth (Inches)	4	3	0	0	0	0	0	0	0	0	0	2	1
Ridgway Colorado (Elevation: 7,000 feet) Period of Record: 5/1982–5/2012													
Average Maximum Temperature (°F)	39.6	42.8	50.5	57.5	67.8	78.2	82.9	80.6	73.6	62.0	48.6	38.9	60.3
Average Minimum Temperature (°F)	5.2	11.2	19.4	26.2	33.0	38.5	45.2	44.2	35.6	25.2	16.3	6.6	25.5
Average Total Precipitation (Inches)	0.86	0.88	1.48	1.52	1.53	1.02	2.02	2.18	1.79	1.56	1.36	0.94	17.13
Average Total Snow Fall (Inches)	12.6	13.2	17.1	8.1	1.6	0.0	0.0	0.0	0.2	3.8	13.0	15.2	84.9
Average Snow Depth (Inches)	4	4	2	0	0	0	0	0	0	0	1	3	1
Telluride, Colorado (Elevation: 8,800 feet) Period of Record: 12/1900–11/2008													
Average Maximum Temperature (°F)	37.2	39.5	43.3	52.0	61.8	72.3	76.9	74.2	68.8	59.1	46.5	38.1	55.8
Average Minimum Temperature (°F)	5.2	8.4	14.2	22.7	29.9	35.5	41.5	40.9	34.3	25.5	14.9	6.8	23.3
Average Total Precipitation (Inches)	1.63	1.69	2.16	2.20	1.76	1.16	2.44	2.91	2.13	1.92	1.55	1.54	23.09
Average Total Snow Fall (Inches)	27.6	25.4	30.9	21.1	6.5	0.7	0.0	0.0	1.0	9.0	20.6	24.2	167.0
Average Snow Depth (Inches)	13	16	12	3	0	0	0	0	0	0	3	8	5

Table 3-3
Climate Summary from Stations within the Planning Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Uravan, Colorado (Elevation: 5,010 feet)							Period of Record: 11/1960–5/2012						
Average Maximum Temperature (°F)	42.7	49.8	58.9	67.7	78.5	89.4	95.6	92.4	83.8	71.4	55.2	43.3	69.1
Average Minimum Temperature (°F)	15.5	22.3	29.2	35.7	44.6	52.4	59.6	58.3	48.5	37.0	26.6	17.9	37.3
Average Total Precipitation (Inches)	0.86	0.78	1.01	0.98	0.92	0.49	1.18	1.36	1.47	1.47	1.00	0.99	12.54
Average Total Snow Fall (Inches)	3.8	1.3	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.8	4.2	11.1
Average Snow Depth (Inches)	1	0	0	0	0	0	0	0	0	0	0	1	0

Source: Western Regional Climatic Center 2012

Throughout much of the planning area, average daily winter temperatures range from a low of around 10°F to a high of nearly 40°F. During summer, average daily temperatures range from around 50°F up to 90°F. Higher-elevation locations are cooler, with extreme minimum temperatures approaching negative 40°F. Lower-elevation locations are warmer, with extreme maximum temperatures near 110°F.

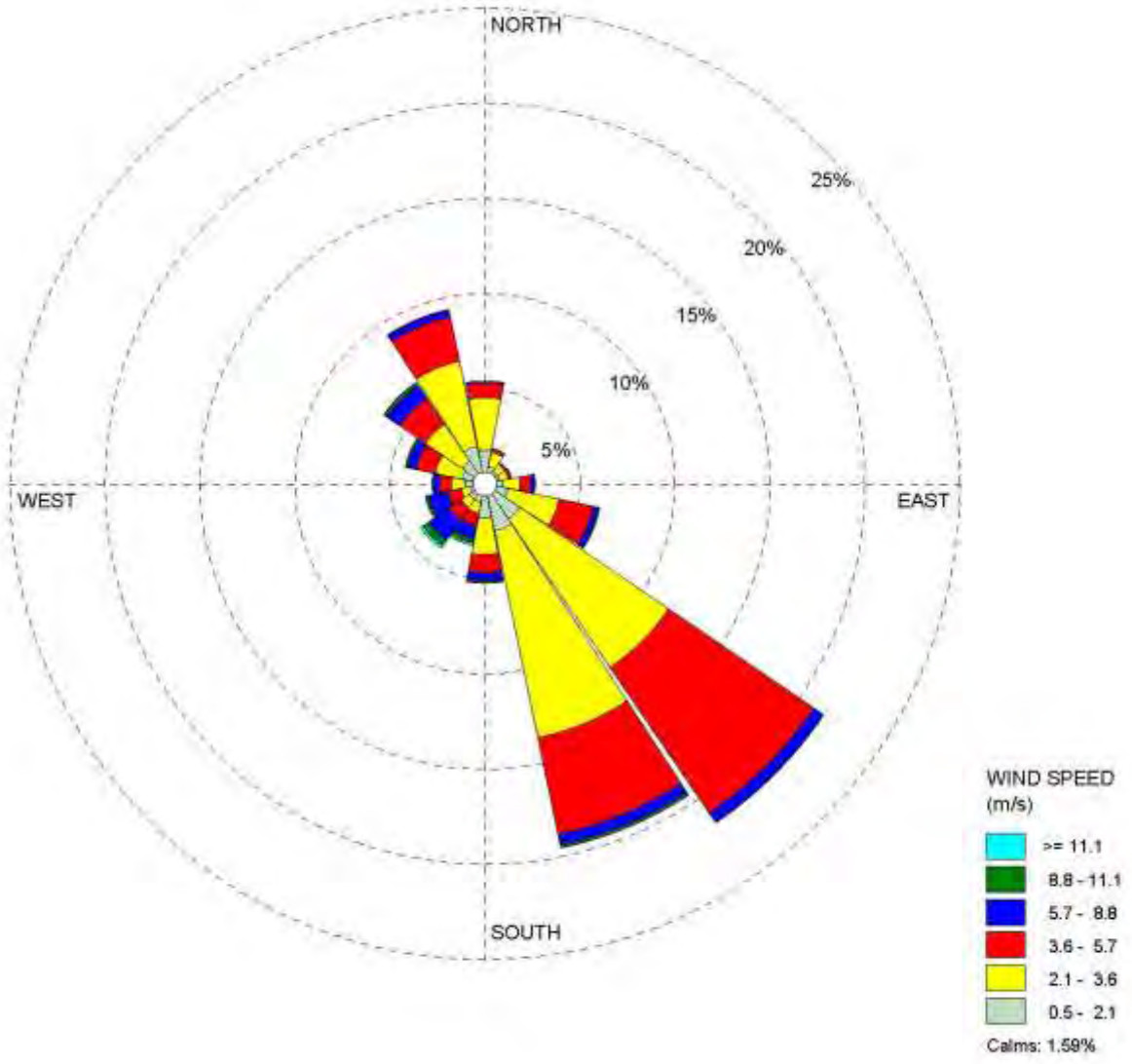
Monthly precipitation is relatively uniform, with minimum precipitation typically occurring during June, followed by a period of maximum precipitation caused by summer convective thunderstorms. Higher-elevation monthly precipitation is more uniform but contains less moisture in mid-winter snow. Snowfall typically occurs from November through April (October through May at higher elevations), with light accumulation. However, mountain snowpack can become quite deep and remain well into spring. In general, total accumulated precipitation throughout the planning area was low in 2000, 2002, and 2003, which were among the ten driest years on record, with 2006 and 2007 among the ten wettest years on record.

Winds are influenced by the complex terrain and valleys and vary at locations throughout the planning area. A wind rose illustrating wind distributions at Montrose, Colorado, which is located in a valley near the center of the planning area, is provided in **Diagram 3-9** (Wind Rose. Montrose, Colorado, 2005 – 2009). As indicated by **Diagram 3-9**, the prevailing wind direction originates from the southeast approximately 41 percent of the time. Wind speed averages 7.6 miles per hour annually.

Climate Change

The temperature of Earth's atmosphere is determined by the amount of radiation from the sun absorbed by greenhouse gases in the Earth's atmosphere. The absorbed radiation raises the surface temperature, allowing the planet to sustain life. While these gases and particles have occurred naturally for millennia, the atmospheric concentration has increased since the start of the industrial age.

Diagram 3-9
Wind Rose. Montrose, Colorado, 2005 – 2009



Source: Colorado Department of Public Health and Environment 2012b

A 2007 EPA report indicates that increased atmospheric concentrations of greenhouse gases and land use changes are contributing to an increase in average global temperature or global warming (EPA 2007). This warming is associated with climatic variability, commonly known as climate change, and exceeds the historic norm. Temperature changes and climactic variability are not evenly distributed across the globe. Models and observations indicate that average temperature increases in northern latitudes are greater than in other areas, and seasonal low temperatures are generally increasing faster than high temperatures.

According to the Colorado Water Conservation Board, temperatures in Colorado increased by approximately 2°F between 1977 and 2006 (Colorado Water Conservation Board 2008). As reported in the 2007 Colorado Climate Action Plan developed by the state of Colorado (State of Colorado 2007), climate change effects within Colorado have included:

- shorter and warmer winters, with a thinner snowpack and earlier spring runoff
- less precipitation overall, with more precipitation falling as rain
- longer periods of drought
- more and larger wildfires
- widespread beetle infestations
- rapid spread of West Nile virus due to higher summer temperatures

In relation to a 1950 to 1999 baseline, climate models project that Colorado will warm 2.5°F by 2025, and 4°F by 2050. The 2050 projection indicates that summers will warm by 5°F, and winters by 3°F (Colorado Water Conservation Board 2008). Predicted climate change impacts on Colorado include:

- more frequent and longer lasting heat extremes that stress electrical utility demands
- longer and more intense wildfire seasons
- midwinter thawing and earlier melting of snowpack
- lower river flows in summer months
- water shortages for irrigated agriculture
- slower recharge of groundwater aquifers
- migration of plant and animal species to higher elevations
- more insect infestation in forests

3.1.3 Soils and Geology

Soils within the planning area are largely a product of the local geologic parent material, climatic conditions, and topographic position on the landscape. Living organisms and time also play a role in soil development. Sedimentary sandstone and shale formations occupy much of the area's bedrock geology, which therefore dominates the parent (source) material from which soils are formed. Igneous and metamorphic rocks along the mountainous eastern margin of the planning area provide additional variety in the parent material. Most of the mountainous areas have been glaciated, thus stripping the soils and depositing them in the valley floors or washing them away, so those soils at higher elevations are relatively young compared with the canyon country (Colorado Plateau) sandstone and shale that occupies roughly 80 percent of the planning area.

The geology of the planning area is complex, consisting of thick layers of sedimentary rocks from the Colorado Plateau, which meet the crystalline basement and volcanic rocks of the Rocky Mountains. The region contains major landforms such as the Uncompahgre Plateau, Paradox Basin, San Juan Mountains, Grand Mesa, West Elk Mountains, and the Black Canyon of

the Gunnison River gorge. Major river valleys were also carved by the Uncompahgre, Gunnison, North Fork of the Gunnison, San Miguel, and Dolores Rivers. These mountains and valleys create a dramatic landscape that offers a spectacular view into the Earth's history.

Current Conditions

Soils

Colorado Standards for Public Land Health. BLM Colorado finalized Standards for Public Land Health and Guidelines for Livestock Grazing in Colorado in March 1997 (BLM 1997). The BLM applies these standards to public lands on a landscape scale to help describe a landscape's potential, various uses, and the conditions needed to sustain land health. The five Colorado Standards (shown in **Appendix C** [BLM Standards for Public Land Health and Guidelines for Livestock Grazing Management in Colorado]) are described in two parts: 1) A statement that describes conditions relating to the potential of a landscape, followed by 2) a series of indicators that help define the standard and are observable on the land. BLM Colorado Public Land Health Standard 1 identifies the characteristics and standards for healthy soil resources.

Beginning in 1998, the BLM directed its field offices to assess all BLM-administered lands against these standards over a ten-year period. The findings are documented in annual reports known as land health assessments. BLM staff completed the ten-year cycle of land health assessments for the UFO during the winter of 2008-2009. Soil results for the planning area are summarized in **Table 3-4** (Land Health Assessment Soil Summary Ratings). Site-specific soil evaluations for each land health assessment are on file at the UFO.

Land Health Assessments. Soil resources on lands within the planning area were rated in one of three categories based upon BLM Colorado Public Land Health Standard 1: 1) Meeting the standard, 2) meeting the standard with problems, or 3) not meeting the standard. The soil rating for each land health assessment unit is shown in **Table 3-4**.

The "meeting the standard with problems" category implies that less than half of the assessment sites within a soil polygon had a soil indicator rating of less than satisfactory, but overall, the soil condition in the polygon was meeting the standard.

The most common soil indicators resulting in rankings of meeting the standard (but) with problems or not meeting the standard were:

- high levels of bare -exposed soil surface
- low densities of live- perennial plant basal cover
- low amounts of plant litter cover
- high levels of annual -invasive weed species
- presence of gullied (incised) stream channels

Table 3-4
Land Health Assessment Soil Summary Ratings

Land Health Assessment[1]	Year	Area Soils (Acres)		
		Meeting	Meeting but with Problems	Not Meeting
East Paradox	1999	70,354	6,115	1,559
North Delta	2002	39,896	30,132	1,554
Mesa Creek	2004	59,931	50,507	1,005
Roubideau	2005	45,905	45,186	9,616
Norwood	2006	82,971	15,768	730
North Fork	2007	31,833	28,399	1,472
Colona	2008	39,754	8,864	2,394
West Paradox	2009	53,281	15,240	0
Total		*423,925*	*200,211*	*18,330*

[1]Gunnison Gorge NCA was surveyed in 2001 but is not part of the planning area.

The causal factors for not meeting the soil standard were also numerous, but often were determined to be caused by:

- poor follow-up management of vegetation treatments
- historic livestock grazing
- historic wildfire suppression
- proximity to private lands

Soil Composition. Based on the Web Soil Survey (Natural Resources Conservation Service 2010), there are 30 major soil units in the planning area (**Figure 3-1** [Major Soil Units]). The primary parent material from which these soils are derived are shale and sandstone bedrock, but there other contributing parent material, including mixed alluvium on mesas and in valley bottoms, mountain residuum and colluvium derived from igneous and sedimentary rocks, and eolian (windblown silt and sand) deposits. The interbedded sandstone and shale units of the Cretaceous Dakota Sandstone and Mancos Shale formations dominate the surface over much of the planning area. Weathering of parent material produces sandy and fine sandy loam to silty clay and clay loam textured soils. The Dakota Sandstone, which was formed in a coastal environment, contains massive, well-cemented sandstone interbedded with weaker shale, carbonaceous shale, and coal. The sandstone beds in this formation resist weathering and form cliffs, ledges, and mesa tops. The soils derived from Dakota Sandstone are typically sandy to fine sandy loam with some clay loam where more shale is present in the unit. The overlying Mancos Shale is the primary shale formation, which characteristically weathers to produce fine-textured silty clay to clay loam soils. The Mancos Shale is a marine-deposited formation and, as a result, often contains high levels of selenium (a non-metallic chemical element) and a variety of soluble salts, both of which can degrade water quality in receiving streams when mobilized by natural processes (i.e., wind or water) and human-caused soil disturbances.

Additional shale- and sandstone-bearing formations in the planning area are the Jurassic Morrison Formation, which underlies the Dakota Sandstone found in the deeper canyons of the western half of the planning area, and the Cretaceous Mesaverde Formation, which overlies the Mancos Shale. The Mesaverde formation has been stripped off of most of the Mancos Shale and is not present in the western half of the planning area. The Mesaverde remains where it is protected by overlying Tertiary sedimentary and volcanic rocks along the southern flank of Grand Mesa and south along the West Elk Mountains and Cimarron Ridge (south of the Black Canyon of the Gunnison National Park).

Soil Surveys. A soil survey describes the characteristics of the soils in a given area, usually as a survey unit within a county within neighboring counties. Soils are classified according to a standardized system, and soil boundaries are plotted on a map using aerial photographs as a base. Soil surveys help to make predictions about how a particular soil might behave, as well as its potential uses. The information collected in a soil survey aids in evaluating and predicting the effects of various land uses on the environment when developing land use plans. Order 3 soil surveys have been completed for the planning area, which describe and assess soil resources down to the phases of a soil series and delineations on the ground ranging from 6 to 640 acres.

Five surveys conducted by the USDA, Natural Resources Conservation Service describe soil resources in the planning area:

1. Soil Survey of Paonia Area, Colorado (Natural Resources Conservation Service 1981), including parts of Delta, Gunnison, and Montrose Counties
2. Soil Survey of Ridgway Area, Colorado (Natural Resources Conservation Service undated), including parts of Delta, Montrose, Gunnison and Ouray Counties
3. Soil Survey of Uncompahgre National Forest Area, Colorado (Natural Resources Conservation Service 1995), including parts of Mesa, Montrose, Ouray, and San Miguel Counties
4. Soil Survey of Grand Mesa-West Elk Area, Colorado (Natural Resources Conservation Service 1997), including parts of Delta, Montrose, Mesa, and Gunnison Counties
5. Soil Survey of San Miguel Area, Colorado (Natural Resources Conservation Service 2003), including parts of Dolores, Montrose, and San Miguel Counties

In addition, the online Web Soil Survey (Natural Resources Conservation Service 2010) provides soil survey data in map and tabular formats and is the source for "Ridgway Area Soil Survey" data that is compiled but yet unpublished in a report.

Two BLM-administered lands parcels within the planning area have not been surveyed. Soils in a 12,000-acre parcel adjoining National Forest System lands along the northern planning area boundary on the west side of the Uncompahgre Plateau in Mesa County have been field surveyed but not yet compiled and finalized into a soil survey report. The second parcel is 1,000 to 1,500 acres, and is located in the vicinity of High Park Lake in the Big Cimarron drainage. Limited access to this area has prevented the field work necessary to complete the survey.

Fragile Soils. For the purposes of this RMP, fragile soils include soils with a high potential for supporting biological soil crust, soils with elevated levels of salinity (dissolvable salts) and/or selenium, soils prone to erosion by wind or water, and soils prone to impacts from drought conditions.

The local climate, landscape position, land uses, and soil properties largely dictate the density and composition of vegetation cover over most of the planning area. Vegetation cover and plant litter are important components for maintaining a healthy soil surface. At higher elevations in the planning area, mountain shrub and spruce (*Picea* spp.), fir, aspen *(Populus tremuloides)*, and ponderosa pine *(Pinus ponderosa)* tree communities provide soil surface cover and help bind the soil with their roots. At lower elevations, pinyon *(Pinus edulis) and* juniper *(Juniperus* spp.*)* and sagebrush *(Artemisia* spp.*)* communities dominate coarser-textured, non-saline soils, while salt desert shrub communities occur on saline, shale-derived soils.

Biological Soil Crust. In lower-elevation areas with sparse plant cover, biological soil crust provides another important soil cover component. Biological soil crust is comprised of a complex mosaic of green algae, lichens, mosses, cyanobacteria, and other bacteria (BLM 2001). It serves many beneficial functions to protect and enhance soil productivity, including acting as a stabilizer to inhibit erosion of surface soils. Biological soil crust is most prevalent in portions of the planning area that receive less than 14 inches of annual precipitation, and on terrain with less than a 25-percent slope. In areas receiving more than 14 inches of annual precipitation, competition from vascular plants reduces the occurrence of biological soil crust. On terrain with greater than 25-percent slope, erosional forces act to minimize the establishment of biological soil crust. While soil texture and chemistry can also be factors in determining the density and composition of biological soil crust communities, field inventories to define these differences have not been completed, and were not used to identify soils having a high potential for biological soil crust. Based on these precipitation and slope parameters, approximately 254,900 acres of planning area soils have been identified as having a high potential for supporting biological soil crust. Refer to **Table 3-5** (Acreage of Fragile Soils) and **Figure 3-2** (Potential Biotic Soil Crust Locations).

Table 3-5
Acreage of Fragile Soils

Soil Attribute[1]	Low Potential	Moderate Potential	High Potential
Wind Erosion	249,750	375,940	1,130
Water Erosion	285,900	140,390	120,410
Drought Affected	207,120	319,280	100,430
Saline	0	0	107,180
Biological Soil Crust	0	0	254,850

[1]Total acreage within and between each soil attribute and under BLM management varies as a result of the specific set of soil units rated by the Natural Resources Conservation Service.

Saline Soils. The Colorado River Basin Salinity Control Act (Colorado River Water Quality Office, Bureau of Reclamation) directs the BLM to minimize salt contributions to the Colorado

River system from BLM-administered lands. The Mancos Shale is the primary source of both salinity and selenium in the region. Since the early 1980s, the UFO has been managing some areas dominated by Mancos Shale to minimize salinity yields. The Elephant Skin Wash Salinity Control Pilot Project was implemented by the BLM in 1984 in what was then part of the UFO. The project site is now managed as part of the Gunnison Gorge NCA, which is excluded from but adjacent to the planning area. The purpose of the project was to test the effectiveness of off-channel storage structures in capturing and retaining salinity and preventing it from entering larger receiving streams. Two of four sites targeted for structures were completed and maintained into the early 1990s, at which time monitoring data was compiled and evaluated. Conclusions from this effort were that although the structures were effective at capturing and retaining salinity, the initial project cost and required frequent maintenance exceeded the salinity reduction benefits. Additionally, sites suitable for structural projects are limited, and without routine monitoring and treatment, invasive weeds become a problem.

The most recent salinity management efforts in the UFO have concentrated on non-structural controls, such as managing soil surface-disturbing activities such as livestock grazing and off-highway vehicle (OHV) use to minimize salinity yields. Additionally, potential salinity yields from realty actions such as land exchanges are assessed and minimized. Recently completed land health assessments identify areas where soils are meeting, meeting but with problems, or not meeting BLM Colorado Public Land Health Standard 1 (**Appendix C**). The land health assessments also identify causal factors for less than satisfactory soil ratings, and specify actions needed to correct problem areas. Adding terms and conditions to grazing permit renewals has been the most commonly used tool aimed at improving surface conditions on saline soils.

The Gunnison Basin Selenium Task Force is a group of private, local, state, and federal interests committed to finding ways to reduce selenium in affected waterways in the Gunnison Basin, while maintaining the economic viability and lifestyle of the Lower Gunnison River basin of western Colorado. **Section 3.1.4** (Water Resources) explains the water quality implications of excessive selenium levels in the Gunnison Basin. Because high concentrations of selenium occur in Mancos Shale and soils derived from this formation, land management practices and actions that reduce soil surface disturbance and deep water percolation minimize the yield of selenium offsite, much like salinity management. The UFO has been coordinating with the Selenium Task Force to develop best management practices (BMPs) to minimize selenium yields from management activities on BLM-administered lands.

Figure 3-3 (Saline and Selenium Enriched Soils) shows the occurrence of 107,180 acres of saline geologic units (primarily of Mancos Shale and the Paradox Formation) in the planning area. Saline soils are commonly coincident with these strata. However, salinity concentrations in the surface soils vary according to site-specific topography, local climate, and the geologic member that weathered to produce the soil. Shale in steep badland areas generally exhibits higher surface salinity concentrations than valley fill or outwash, shale-derived soils. Within badland areas, southerly and westerly hill slope aspects have higher surface salinity levels than more northerly aspects. Salinity concentrations also tend to be higher in more arid portions of the planning area.

Wind and Water-eroded Soils. As shown in **Table 3-5**, the potential for soil erosion from wind or water action varies across the planning area. While less than 1 percent of soils in the planning

area have a high potential to be eroded through wind action, about 18 percent have high potential for erosion by water, due to steep topography and the physical characteristics of the soil. The erodibility of a soil, known as the "K" factor presented in soil surveys, represents both the susceptibility of soil to erosion and the rate of runoff. **Figure 3-4** (Wind Erosion Areas) shows areas susceptible to wind erosion, while **Figure 3-5** (Soil Erosion Capacity) shows areas susceptible to water erosion. As shown in **Table 3-5**, 1,130 acres of the planning area are soil with a high potential for wind erosion, and 120,410 acres have a high potential for water erosion.

Drought-affected Soils. Drought-affected soils have a low capacity to retain water in the root zone of the soil profile (calculated as a soil depth of 40 inches or a limiting layer). Within the planning area, approximately 15 percent of soils have a high potential to be affected by drought conditions as shown in **Table 3-5** and **Figure 3-6** (Droughty Soil Areas). Through a National Cooperative Soil Survey interpretation, criterion was developed to determine fragile soils (Bryce et al. 2012).

Prime or Unique Farmlands and Residential Development. Four categories of farmlands are federally regulated by the USDA under the Farmland Protection Policy Act: (1) Prime farmlands, (2) Unique farmlands, (3) Farmlands of statewide importance, and (4) Farmlands of local importance. Impacts from federal actions on BLM-administered lands to farmlands identified as prime or unique are required to be analyzed and disclosed to the public during development of an RMP/EIS. In addition, the USDA delineates important farmlands as those having soils that support the crops necessary for the preservation of the nation's domestic food and other supplies, specifically the capacity to preserve high yields of food, seed, forage, fiber, and oilseed with minimal agricultural amendment of the soil, adequate water, and a sufficient growing season.

There are no farmlands of national or statewide importance on BLM-administered lands within the planning area. However, according to a report by the Soil Conservation Service, irrigated and prime irrigated lands of statewide importance, most of which are situated at low elevations on valley floors, occur in the Uncompahgre, North Fork, Surface Creek, and Smith Fork drainage basins (Soil Conservation Service1980). Several private and federal (e.g., US DOI Bureau of Reclamation [BOR]) ditch and canal systems provide irrigation water to these farmlands and some of the associated facilities cross or are located on BLM-administered lands. In several locations, tributaries that drain onto these farmlands have their headwaters on public lands within the planning area. Historically, flood events originating on public lands within the planning area have resulted in damage to farmland and associated canals and laterals operated by the Uncompahgre Valley Water Users Association.

Flood Hazard Areas and Control Measures. Within the planning area, two flood-control retention structures are located in the Shavano Valley and in the Roatcap drainage west of Olathe. These structures function to help mitigate flood damage to valley bottom farmland. Although these two facilities provide flood protection for their respective drainages, other drainages in the planning area remain free flowing. The soil surface and hydrologic condition of these watersheds influences the amount of runoff and sediment produced during flood events. A recent effort by Montrose County and the Colorado Geological Survey to identify flood/debris flow hazard areas

on private lands in eastern Montrose County was conducted in part to help assess future land use proposals (White et al. 2008). **Figure 3-7** (Flood Hazard Areas) shows flood hazard areas within the planning area that were determined by the hazard study.

Geology

Geologic resources are defined through descriptions of the surficial and bedrock geology and stratigraphy of the planning area. Geologic information is used to evaluate the potential development of mineral resources, as well as to regulate land uses based upon slope stability, geologic hazards, and accessibility issues. Several geologic type localities and areas of paleontological significance occur within the planning area.

Surficial and Bedrock Geology. Much of the planning area lies within the Colorado Plateau physiographic province, which is characterized by deeply dissected plateaus composed mostly of sedimentary rocks with some younger intrusions and volcanic lava flows. The southeastern to northeastern edge of the planning area contains the Rocky Mountain physiographic province, composed of uplifted Precambrian crystalline basement rocks and Tertiary volcanic rocks. Surface and bedrock geology for much of the area consists of sedimentary rocks ranging in age from Paleozoic (230 to 600 million years) to Cenozoic (63 million years to present). **Figure 3-8** (Geology of the Uncompahgre RMP Planning Area) depicts the generalized geology, which shows that Paleozoic and Mesozoic Era (i.e., Triassic, Jurassic, and Cretaceous Periods) sedimentary rocks are most common in the western half of the planning area, while Mesozoic and Cenozoic sedimentary rocks dominate the northern and central portions. Volcanic rocks and related intrusions are located along the southeastern and northeastern edges in the San Juan and West Mountains, respectively. Dominant sedimentary formations include the Cretaceous Mancos shale that occupies the Uncompahgre and North Fork Valleys, forming the Adobe Badlands, and the Cretaceous Dakota Sandstone that caps the Uncompahgre Plateau and canyon rims to the east and west.

The structural geology of the planning area (**Figure 3-9** [Major Geologic Structural Features]) consists of the following main features presented from southwest to northeast: Paradox Basin (salt dome anticlines and synclines), Uncompahgre Plateau, Montrose Syncline, Piceance Basin, San Juan Volcanic Field, and the Gunnison Uplift, including the Gunnison Gorge and West Elk Volcanic Field.

The northern portion of the planning area lies within the southern Piceance Basin in western Colorado. The Piceance Basin is a broad, southeast-northwest trending structural and topographic basin bordered by the White River Uplift to the east, the West Elk Mountains to the southeast and south, the Uncompahgre Uplift to the southwest, the Douglas Creek Arch to the west-northwest, the Yampa Plateau to the north, and the Axial Basin Uplift to the northeast. The Piceance Basin encompasses 3,900 square miles of exposed Tertiary rocks. The Tertiary-Cretaceous contact forms a nearly continuous outcrop along the basin margins. The basin is asymmetric, with gently dipping beds along the southwest flank and steeply dipping beds along the northeast flank, which form the Grand Hogback (Dunn 1972). Deposition of sediments into this region began with downwarping of the Piceance Basin floor during the Cretaceous, and continued through the Eocene. This resulted in the deposition of the Wasatch, Green River, and Uinta formations in and around a series of landlocked lakes (Bradley 1964). The Tertiary

Wasatch Formation is one of the main surface formations along the northern planning area boundary.

The planning area contains stratified rock units ranging in age from Precambrian through late Tertiary, with Quaternary deposits such as alluvium, colluvium, glacial moraines, and landslide deposits placed on top of some of the bedrock units. As a result of the large geographic size of the planning area, lateral changes in the presence, thickness, and composition of these units occurs.

Geologic Hazards. Geologic hazards are geologic conditions or materials that pose risks to life and property. Geologic hazards include landslides, unstable slopes, rockfall, debris flows, flooding, avalanches, subsidence, and earthquakes (Shelton and Prouty 1979). Other hazards such as swelling soils, collapsible soils, shallow groundwater, erosion, and radon are more related to construction problems, damage to property, and expensive mitigation, but do not generally pose a risk for loss of life due to a catastrophic event. However, all of these geologic hazards are potentially present in the planning area. Those of primary concern for use and management of public land are those that cause damage to infrastructure and facilities, injury or death, degradation of resources, and disrupted access. Some small areas in the planning area have geologic hazard maps available, primarily in the most populated areas where development is occurring, but most of the area is largely unmapped for geologic hazards. The significant geologic hazards relevant to the planning area are discussed below.

Unstable Slopes. Unstable slopes occur on hillsides and cliffs and in areas that are susceptible to landslides, mudflows, rockfalls, or accelerated creep of slope-forming materials. Unstable slopes occur naturally and are widespread in the planning area due to over-steepened slopes, dipping bedrock, an abundance of unconsolidated surficial material, and inherently weak bedrock units such as shale. Most unstable slopes consist of weathered sedimentary strata and/or recent colluvium deposits that move downhill due to gravity. Unstable slopes can be active or inactive. Slope failure can be initiated by natural events or human actions. Natural factors contributing to slope instability include weathering and erosion, changes in the hydrologic characteristics of a hillside, loss of vegetation cover, earthquakes, and the slow natural deterioration of slope strength. Artificial factors that can undermine slope strength include cut and fill operations, blasting, vehicular traffic, excessive irrigation, the alteration of surface drainages, and the removal of vegetation cover.

Mass Movement. Mass wasting includes any activity that involves the downhill movement of rock and soil under the influence of gravity. It includes landslides, earthflows, debris flows, rockfall, and creep. Mass movement is a dynamic process that can be triggered by earthquakes, rapid snowmelt, intense rainstorms, or gravity. While mass movement plays a major role in the evolution of a hillslope by modifying slope morphology and transporting material from the slope to the valley, it also poses a potential natural hazard. The ability to predict the location and volume of transported mass on potentially unstable slopes is critical in assessing mass movement hazards and hillslope evolution. A promising approach is to examine the relationship of area, volume, length, height, and width of existing movements through ratio quantification. For example, the Paonia-McClure Pass area, in the northeast corner of the planning area, has a well-known zone of mass movement. A technical study using aerial photographs and field surveys

mapped 683 movement features covering approximately 600 square kilometers. The area of movement is classified as 29 percent debris flows, 26 percent rockslides, 23 percent debris slides, 15 percent soil slides, and 7 percent highway and forest road-influenced landslides (Regmi et al. 2008). Future hazard analysis will produce landslide hazard zone maps that the BLM can use in planning efforts.

Rockfall. Rockfall can originate from bedrock outcrops or loose rocky debris on a hillside left behind by glaciers, landslides, or other forms of mass movement. Roadways are particularly susceptible to rockfall due to the over-steepened hillsides caused by roadcuts. Rockfall in undeveloped areas is not a significant hazard due to the low population density, but high risk areas can be avoided with careful placement of trails, roads, and structures.

Debris Flows. Debris flows are a slurry of rocks, trees, and other debris entrained in a flood event carried down a channel and then deposited in a fan-shaped deposit in the valley floor where the gradient becomes less steep. The towns of Telluride and Ouray within the planning area are located on active debris flow fans. Avoiding the mouth of steep canyon streams can avoid this type of hazard.

Mineral Resources. The planning area has a number of active and inactive mining districts and a variety of mineral resources resulting from the unique and widely varying geologic setting of the region. Mineral resources include industrial minerals, metals, coal, natural gas, and radioactive elements. Separate studies have been performed for these topics and are summarized in other sections of Chapter 3.

Trends

Soils

Effectiveness monitoring of soil problems will be an important part of the adaptive management approach, ensuring that land management actions are appropriate for a particular site. At present, guidelines for both recreation and livestock grazing are used to develop appropriate site management activities. The land health assessments identify causal factors (including activities in addition to grazing and recreation) responsible for soils not meeting BLM Colorado Public Land Health Standard 1.

While BMPs for mineral and energy development activities help to minimize soil surface disturbance, projected increases in both uranium (concentrated in the western portions of the planning area) and natural gas extraction (concentrated in the northeastern and western portions of the planning area) indicate that there is potential for additional soil disturbance and accelerated rates of erosion. Coal mining activities in the planning area will also contribute to soil disturbance in the planning area. Surface strip mining in the Nucla area will expose new areas to be stripped and reclaimed, while underground mining in the North Fork Valley will have associated roads, stock piles, processing plants, and other infrastructure on the surface associated with the mining activities.

Population growth and the subdividing and development of historic farmland and rangeland along the lower elevations of the planning area have created an additional and progressively increasing problem regarding flood potential, especially in the Uncompahgre Valley. Occasionally,

residential developments occur in alluvial plains or on alluvial fans, and may experience rare flood and debris events of high magnitude from intermittent drainages with headwaters on public land. Because most of these flood hazard areas have not been identified as floodplains, the county land use department has allowed such development to occur. The recent identification of these areas should aid Montrose County in making land use decisions with this flood potential in mind, and provide the BLM with locations of high priority watersheds that should be managed in the future to meet BLM Colorado Public Land Health Standards.

Black Shale Terrains. A five-year scientific research effort conducted in the Gunnison Gorge NCA by the US Geological Survey in partnership with the BLM and BOR (Grauch et al. 2005) resulted in a broad array of scientific findings about Mancos Shale. The primary focus was to assess how soil surface-disturbing activities affect physical, chemical, and biological processes on the diverse terrain. The research examined and described the stratigraphy and chemistry of individual members of the Mancos Shale, soil chemistry (including salinity and selenium), hillslope erosion processes, and area botany, as well as completing a rainfall/runoff analysis in a variety of landscape positions. Although the research was conducted in the Gunnison Gorge NCA, the intent of the effort was to identify attributes of Mancos Shale that were applicable to similar black shale landscapes outside of the Gunnison Gorge NCA. These areas could include all or portions of public land in the planning area dominated by Mancos shale (as shown in **Figure 3-8**). Soil resources are not depicted herein for the Gunnison Gorge NCA, which operates under its own RMP.

Ongoing and future land management actions aimed at reducing salinity, selenium, and erosion emanating from areas dominated by Mancos Shale include:

- Developing and implementing BMPs from the BLM/US Geological Survey Mancos Shale research findings applicable to livestock management, recreation management (e.g., location and limitations of OHV use areas), rights-of-way (ROWs), and other surface-disturbing activities
- Continuing efforts to locate, assess, and remove hundreds of non-functional, eroding earthen check dams in Mancos Shale areas north of Delta
- Continuing to identify and minimize potential salinity and selenium yield increases from future land uses that could occur on exchanged or disposed of parcels of BLM-administered land
- Continuing to collaborate and coordinate salinity and selenium management activities with both the Colorado River Basin Salinity Control Forum and the Gunnison Basin Selenium Task Force

Predicted Changes in Climate. Many prominent climatologists are predicting some change to the near term future climate of Colorado. A recent report, Climate Change in Colorado 2008, analyzes past and present climate data, and makes a forecast that southwestern Colorado will experience warmer temperatures in the coming decades (Ray et al. 2008). The report summarizes potential issues for land and water managers in response to the forecast, concluding that increasing temperatures would raise evapotranspiration by plants, lower soil moisture, alter

growing seasons, alter disturbances such as wildland fire and insect outbreaks, and shift existing plant communities to higher elevations.

Although difficult to predict, impacts on the health of the soil surfaces could occur from a changing climate, and could include reduced vigor of native plant communities that provide needed soil surface protection; higher levels of bare, exposed surface soil; and higher densities of annual invasive weed species (which are unreliable for providing a protective soil cover). These changes could affect most, if not all, of the soil resources in the planning area, but would likely be most pronounced for the drought-affected soils shown in **Figure 3-6**.

Geology
An increased understanding of area geology can be expected as more knowledge is gained through mineral exploration and development, as well as from geologic mapping.

3.1.4 Water Resources

Current Conditions

Surface Water
The planning area includes portions of seven major hydrologic units, as shown in **Table 3-6** (Major Hydrologic Units) and **Figure 3-10** (Major Hydrologic Units). Over 66 percent of the planning area is within the Lower Gunnison, San Miguel, and Uncompahgre River basins.

Table 3-6
Major Hydrologic Units

Hydrologic Unit	4th Level HUC[1]	BLM Acres	Percent of Planning Area
Lower Dolores River	14030004	55,680	8
Upper Dolores River	14030002	96,000	14
San Miguel River	14030003	211,790	31
North Fork Gunnison River	14020004	59,080	9
Uncompahgre River	14020006	127,920	19
Lower Gunnison River	14020005	108,210	16
Upper Gunnison River	14020002	15,840	2

Source: Natural Resources Conservation Service 2009[1]
HUC – Hydrologic Unit Code developed by the US Water Resources Council to delineate and catalog the drainage basins of the US.

Large drainages with headwaters at higher elevations experience high flows from spring snowmelt, which can last for several weeks. Baseflow in these drainages occurs from late summer through February or March. In all area drainages, high-magnitude, short-duration floods can occur in summer months due to high-intensity, short-duration precipitation events associated with southwest monsoonal airflow. The frequency and magnitude of these events is highly variable from year to year. Localized flooding from these events can be significant in ephemeral channels, as floodwaters commonly contain large amounts of accumulated vegetation debris and sediment. Additionally, watershed characteristics such as size, shape, slope,

orientation, watershed cover condition, and soils can affect the magnitude of flood peaks produced by localized summer storms.

Planning area soils have been evaluated by the Natural Resources Conservation Service for their capacity to infiltrate water and categorized into one of four Hydrologic Soil Groups, as shown in **Figure 3-11** (Distribution of Hydrologic Soil Groups) and **Table 3-7** (Hydrologic Soil Group Ratings). Category A and B soil groups have higher infiltration capacities and produce low amounts of runoff during storm events, while the inverse occurs with categories C and D. Over 73 percent of planning area soils falls into Categories C and D, meaning the majority of area soils have high runoff potential.

Table 3-7
Hydrologic Soil Group Ratings

Hydrologic Soil Group	Description	BLM Acres
A	Soils having a high infiltration rate even when thoroughly wetted (estimated range of water infiltration 1.00 – 8.30 inches/hour)	1,560
B	Soils have a moderate infiltration rate when thoroughly wetted (estimated range of water infiltration 0.50 – 1.00 inches/hour)	169,770
C	Soils have a slow infiltration rate when thoroughly wetted (estimated range of water infiltration 0.17 – 0.50 inches/hour)	115,840
D	Soils have a very slow infiltration rate when thoroughly wetted (estimated range of water infiltration 0.02 – 0.17 inches/hour)	339,650

Source: Soil Survey Division Staff 1993

High-magnitude flood events commonly originate from public lands on the eastern side of the Uncompahgre Plateau due to the northeast drainage orientation, direction of storm travel, and soils with high runoff potential, as well as small watershed size and linear shape, which allow for rapid runoff concentration. Figure 3-7 (Flood Hazard Areas) shows areas of private land along the boundary with public land in eastern Montrose County that experience flooding, some of which originates on public lands. This flooding situation and related issues are further addressed in **Section 3.1.3** (Soils and Geology).

Floodplains along some reaches of higher-order rivers, such as the San Miguel, Dolores, Uncompahgre, North Fork of the Gunnison, and Lower Gunnison, are mapped by the Federal Emergency Management Agency. In reaches that are not incised, lower-order streams without a delineated floodplain are commonly considered to include the extent of the riparian zone bordering the channel. The floodplain width on these streams is partially determined by the degree of valley confinement, but even at downstream locations within the planning area, floodplains typically extend less than 50 feet from active channel banks.

Over 2,700 total stream miles (perennial, intermittent, and ephemeral stream channels) are managed in the planning area. Perennial streams make up approximately 350 stream miles and drain from 30 major watersheds across the UFO. The majority of perennial streams are highly dissected by private property, which makes it challenging to implement management actions to fully protect water resource values.

Groundwater

Groundwater in the planning area ranges from local, unconsolidated aquifers to extensive, bedrock (consolidated) aquifers, and is most common in coarse sedimentary rock formations. The unconsolidated aquifers are most common in alluvial deposits along perennial watercourses and on higher-elevation mesa tops. Water yields in these aquifers can vary seasonally and in response to long-term climatic variations. The extensive bedrock aquifers are often interrupted by deeply incised topography over much of the planning area. The bedrock aquifers typically have lower water yields and are higher in dissolved salts compared with water contained in unconsolidated aquifers. Groundwater recharge typically originates from higher elevations and is limited by a semi-arid climate over much of the planning area.

Groundwater resources have been developed extensively throughout the planning area. An inventory of springs and seeps across the UFO is incomplete, but the majority of sources that are known to flow on a regular basis have been developed for livestock watering, recreational developments, and other beneficial uses. Since the early 1970s, approximately 222 groundwater wells have been permitted on BLM-administered lands within the UFO. The majority of these wells were drilled into shallow (less than 100 feet deep) unnamed aquifers, while other aquifers were identified as being part of the Dakota, Burro Canyon, and Mesa Verde formations, which vary in depth but can be upwards of 800 feet deep. Many wells on BLM-administered lands have been abandoned over time, while other sources are being relied on more heavily as overall demand has increased (see *Source Water Protection of Public Water Supplies*, below). The majority of the permitted wells are for domestic and household use only. Other beneficial uses are for commercial, stock, industrial, irrigation, municipal, and monitoring purposes. The total volume of groundwater withdrawal from the UFO is unknown at this time.

Water Quality

Achieving high-quality water is an important component to an effective water resource management program to ensure both on and offsite water uses are satisfied. Water quality of UFO surface waters is assessed and monitored by several means. The land health assessments conducted over the most recent ten-year period assessed water quality against BLM Colorado Public Land Health Standard 5. Data assessed for land health assessments include water chemistry, bacteriological analyses, density, and composition of aquatic macroinvertebrates, and the potential for accelerated levels of sediment, salinity, and selenium. UFO land management actions also consider potential affects to water quality-impaired rivers and streams on the Colorado's 303(d) and Monitoring and Evaluations lists. While water temperature and dissolved oxygen levels are important factors in the ability of water to support aquatic life at the local habitat level, these factors are not human health concerns nor have they been identified as major water quality concerns in the planning area. As such, temperature and dissolved oxygen levels are not discussed further.

As part of the BLM Colorado Public Land Health Standards passed in 1997 (BLM 1997), water quality is one of the five standards for land health that must be assessed:

> Standard 5. The water quality of all water bodies, including groundwater where applicable, located on or influenced by BLM lands will achieve or exceed the water quality standards established by the State of Colorado. Water quality standards for

surface and groundwater include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under state law (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

Indicators:

- Appropriate populations of macroinvertebrates, vertebrates, and algae are present.
- Surface and groundwater only contain substances (e.g., sediment, scum, floating debris, odor, and heavy metal precipitates on channel substrate) attributable to humans within the amounts, concentrations, or combinations as directed by the Water Quality Standards established by the State of Colorado (5 CCR 1002-8).

Table 3-8 (Land Health Standard 5 Summary Ratings) shows the ratings for stream miles within each land health assessment unit. The potential for streams to experience accelerated levels of sediment was the most common cause for not meeting the standard. The sediment yield entering streams from any given watershed in the planning area is difficult to quantify, as much of the sediment is derived from uplands and is detached and transported during intense, short-duration rainfall events during summer months. In order to assess the potential for an area to introduce accelerated levels of sediment into receiving streams, surrogate indicators (such as upland soil surface conditions) were used in place of water quality analyses. The specific surrogate indicators used for assessing water quality include the amount of bare soil surface, live plant basal coverage, and the degree of soil pedestal formation. In areas where no more than two of these three indicators showed problems, the "meeting but with problems" rating applied.

Table 3-8
Land Health Standard 5 Summary Ratings

Land Health Assessment Unit	Meeting Standard[1]	Meeting with Problems[1]	Not Meeting[1]
Colona	22.2	16.4	5.6
East Paradox	11.8	36.9	0
Roubideau	91.7	24.2	8.2
Norwood	92.0	22.3	15.5
North Fork	43.2	13.8	1.9
North Delta	50.2	19.7	0
Mesa Creek	95.1	50.8	0
West Paradox	16.1	9.7	7.0
Total	*422.3*	*193.8*	*38.2*

[1]Miles of streams

Because soil surface indicators were used for the water quality assessment, the causal factors for not meeting the water quality standard would be the same as those described in the soils: poor follow-up management on vegetation treatments, historic livestock grazing, historic wildfire suppression, and proximity to private lands.

The primary water quality issues for the waters in the planning area include elevated levels of sediment, salinity, and selenium.

Sediment. There are many sources for excessive sediment loading of surface waters on public lands. Soil surface-disturbing activities have the potential to accelerate the rate of soil erosion, which is strongly correlated with sediment production. Excess sediment has both on- and off-site impacts, lowering soil productivity at its source and affecting downstream uses of water, including instream riverine values.

Salinity and Selenium. Salinity and selenium are yielded from areas dominated by Mancos Shale and can be accelerated by the same processes that increase sediment, but additionally can be mobilized and transported by deep water percolation from activities such as irrigation and land development, especially in more arid portions of the planning area. Selenium is a particularly important issue in the Gunnison River Basin, as elevated levels are the suspected cause of reproductive failure of select species of warm water fishes in the Lower Gunnison River. Salinity is a Colorado River Basin issue and affects many water uses, especially in the Lower Basin and Mexico. In 2009, USFWS issued a Programmatic Biological Opinion under the Endangered Species Act (ESA), requiring a selenium management program for which the UFO is a participatory agent. The UFO will sign a Memorandum of Understanding with the BOR to assist with developing a long-range plan for the program.

Selenium. The most widespread impairment to area water quality is excessive selenium. Elevated levels of selenium have been shown to cause reproductive failure and deformities in fish and aquatic birds and are suspected to be the cause of reproductive failures in select species in the Lower Gunnison River. The stream segments in **Table 3-9** (Colorado 303(d) List of Impaired Waters) are on the 2008 Colorado 303(d) list of impaired waters and include reaches of, or receive drainage from, public lands within the planning area. In June 2011, the Colorado Department of Public Health and Environment, Water Quality Control Commission amended the Classifications and Numeric Standards for the Gunnison and Lower Dolores River Basins (Colorado Department of Public Health and Environment 2011c). These amendments included the adoption of new standards for selenium and the adoption of temporary modifications for selenium standards in four segments of the basin. These segments are now included in the Colorado 303(d) list.

The Colorado Water Quality Control Division has prepared a draft Total Maximum Daily Load, which identifies both point and non-point sources of selenium loading and establishes safe levels of selenium for the Gunnison River Basin. Developed under Section 303(d) of the Clean Water Act, the Total Maximum Daily Loads are pollutant-specific, identify pollution sources and a water body's capacity to assimilate pollutants, and allocate assimilative capacity among those sources.

Selenium loading of waters on planning area lands primarily originates from diffuse, non-point sources associated with natural runoff and erosion process. Assessments made by the local National Resources Conservation Service office determined that areas dominated by Mancos Shale in its natural state contains up to 34 times the concentration of selenium in comparison to similar irrigated lands. On public lands, accelerated yields of selenium can occur from activities

Table 3-9
Colorado 303(d) List of Impaired Waters

Water Source	Impairment	Priority
Gunnison River, Uncompahgre River to Colorado River	Selenium	High
North Fork of Gunnison from Black Bridge above Paonia to confluence with Gunnison River	Selenium	High
Leroux Creek, Jay Creek	Selenium	High
Big Creek, Short Draw	Selenium	High
Cottonwood Creek, Big Gulch	Selenium	High
Uncompahgre River, Red Mountain Creek to Montrose	Cadmium, Copper, and Iron	High
Uncompahgre River, La Salle Road to Confluence Park	Selenium	High
Uncompahgre River, Confluence Park to Gunnison River	Selenium	High
Tributaries to Uncompahgre River, South Canal to Gunnison River	Selenium	High
Dolores River from Little Gypsum Valley bridge to Colorado/Utah border	Iron	High
Sweitzer Lake	Selenium and Dissolved Oxygen	High

Source: Colorado Department of Public Health and Environment2008a

that result in soil surface disturbance and increased runoff and erosion. Management of surface-disturbing land uses such as livestock and OHV use on Mancos Shale-dominated areas has been to apply stipulations or terms and conditions that reduce accelerated selenium yields.

Another process resulting in excessive yields of selenium is the application of added amounts of water from activities such as agricultural irrigation and land developments (including golf courses and septic systems). Adding water to unaltered Mancos Shale commonly results in deep water percolation through the shale, and the dissolving and transporting of selenium to receiving streams. Management actions in the planning area that could result in accelerated selenium yields from deep water percolation include ROWs involving open water sources (such as irrigation ditches and canals), and land sales or exchanges that involve lands dominated by Mancos Shale. Once land is transferred from public to private ownership, future land uses allowed by local governments could result in accelerated selenium yields. These land actions are assessed through the National Environmental Policy Act of 1969 (NEPA) process, during which potential impacts are identified and mitigated where possible.

Salinity. Accelerated levels of salinity in surface waters are also an issue in the planning area. The processes that cause salinity loading of waters are similar to those discussed above for selenium. As with selenium, areas dominated by Mancos Shale have the highest potential to yield dissolvable salts to surface waters. The State of Colorado develops and adopts water quality standards for salinity as part of a seven-state Colorado River Basin Salinity Control Forum. The Forum gathers and reviews information relevant to the complex problem of salinity standards and implementation of controls by the basin states. Through this basin-wide effort, Colorado works with the other basin states and the federal government to manage salinity and its effects.

The BLM is mandated by the Colorado River Basin Salinity Control Act (Colorado River Water Quality Office) to manage lands to minimize salinity yields to surface waters. Because of the

semi-arid climate throughout much of the planning area, most of the salinity yielded from public lands is episodic and only occurs during rainfall events that produce runoff. Maintaining adequate watershed cover and healthy soil surface conditions are important for minimizing runoff, sediment, and salinity from areas dominated by Mancos Shale. Through the land health assessment process, the BLM has identified areas where watershed conditions are less than adequate and has developed corrective actions.

The stream segments in **Table 3-10** (State Monitoring of UFO Waters with Suspected Quality Impairments) are on the 2008 Colorado Monitoring and Evaluation List of waters suspected of being water quality impaired and either include reaches of, or receive drainage from, public lands within the planning area. As sufficient water quality data are collected and analyzed for these stream reaches, they will ultimately be either removed from the Monitoring and Evaluation List or transferred to the 303(d) list of impaired waters. While on the Monitoring and Evaluation List, the BLM recognizes the potential water quality impairment and manages lands draining into these streams to minimize further water quality degradation.

Table 3-10
State Monitoring of UFO Waters with Suspected Quality Impairments

Water Source	Suspected Impairment
Gunnison River from confluence with Uncompahgre River to Colorado River	Sediment
Tongue Creek and Ward Creek	Selenium
Surface Creek, Coal Gulch, Hawksnest Creek, Gribble Gulch, and Cottonwood Creek (tributary to North Fork of Gunnison)	Iron
Ridgway Reservoir	Temperature/Dissolved Oxygen
Uncompahgre River Highway 90 to confluence with Gunnison River	Sediment
Billy Creek, Onion Creek, and Alkali Creek (tributary to Uncompahgre River)	Selenium
Dry Creek Watershed (from East and West Forks to Coalbank Canyon Creek)	Sediment

Source: Colorado Department of Public Health and Environment 2008b

Other less-widespread water quality issues include excessive heavy metal loading, radium isotopes Ra-226 and Ra-228, and biological pathogens. Little of the planning area is directly affected by metal pollutants. Heavy or toxic metal issues affecting water quality are primarily associated with high-elevation hard rock mining areas in the San Juan Mountains. Ra-226 and Ra-228 are occasionally elevated in waters associated with the Uravan Mineral Belt, especially water discharges from uranium mine and waste rock areas.

Biologic pathogens, including several types of bacteria and protozoan, potentially occur in water bodies in the planning area and can increase in relation to the density and activities of warm-blooded animals, including humans. As part of the land health assessment process, several UFO streams with primary-contact recreation activities were monitored for fecal and *Escherichia coliform* bacteria concentrations. There is a strong correlation between these bacteria and the occurrence of other pathogens. Based on a limited number of samples per site (usually one or two samples collected in spring or summer months), none of the sampled streams exceeded state criteria for bacteria as defined in the Basic Standards and Methodologies for Surface Water

(Colorado Department of Public Health and Environment2007). However, because of the temporal and spatial variability of bacteria in surface waters, a more-intensive sampling regime would be required to determine conclusively whether planning area streams comply with state criteria for bacteria. Overall, the data show that bacterial concentrations are highest in planning area waters during warm months and following rainfall events that produce runoff.

Macroinvertebrates and Stream Health. The population density and composition of macroinvertebrates are used as another tool to assess stream health in the planning area. Macroinvertebrates are good indicators of water quality and overall stream health, as there are many relatively immobile species in the stream environment. Many aquatic invertebrates are sensitive to pollutants and, because of their year-round presence in a stream, are susceptible to intermittent flow changes and discharges of pollutants.

Instream factors controlling the composition and abundance of stream invertebrates include:

- water flow rate and velocity
- water chemistry
- channel substrate size
- concentration of suspended solids
- winter processes such as river icing
- composition and density of aquatic and riparian vegetation

Twenty-six sites along perennial watercourses throughout the UFO were inventoried for aquatic macroinvertebrate composition and density during a ten-year period between 1998 and 2007. **Table 3-11** (Aquatic Macroinvertebrate in Planning Area Streams) provides a summary of invertebrate metrics for planning area streams in relation to average values within the Colorado Plateau Ecoregion. Some of the monitoring sites were sampled during water years 2000 and 2002, which experienced extremely warm and dry climatic conditions. These extreme conditions could have significantly altered both the abundance and species composition of aquatic macroinvertebrates as a result of reduced water flow, increased water temperature, and higher levels of total dissolved solids. Many higher-order streams in the planning area are significantly dewatered during the irrigation season, which can restrict the invertebrate population of a watercourse. All aquatic macroinvertebrate data for waters in the planning area are on file at the UFO.

Water Rights

The process of allocating water through the water rights system has a significant impact on the availability of water for meeting public land management purposes. Exercise of surface water rights located within and upstream from public lands can significantly change the rate, timing, location and quality of streamflows through public lands. In addition, exercise of groundwater rights can significantly affect aquifer levels, discharge of groundwater systems to surface streams, and groundwater quality. Reduced water flows or aquifer levels can have adverse impacts on the ecology of streams, springs, and wetlands, on recreational potential, on the availability of water

Table 3-11
Aquatic Macroinvertebrate in Planning Area Streams[1]

Stream	Latitude	Longitude	Sample Number	Total[2] Abundance	EPT[3] Taxa	EPT[4] Abundance	Intolerant[5] Abundance	Tolerant[6] Abundance
Cow Creek	38.1491	107.6444	1	789	13	645	39	*0*
Dry Creek	38.5353	108.0644	2	3,135	6	1,830	0	*0*
Hubbard Creek	38.9333	107.5186	1	63	6	23	7	*0*
La Sal Creek Lower	38.2785	108.9328	1	293	8	258	11	*0*
La Sal Creek Upper	38.3234	108.9856	1	858	12	380	39	*3*
Leroux Creek	38.8789	107.7850	1	2,004	17	772	23	*0*
Lion Canyon	38.3334	109.0553	1	430	10	261	32	*1*
Maverick Draw	38.2256	108.5061	1	3,522	2	397	0	*0*
Mesa Creek	38.4508	108.8225	1	1,297	2	20	1	*0*
Minnesota Creek	38.8625	107.5411	1	394	11	81	16	*0*
Monitor Creek	38.6217	108.2089	2	5,112	4	1,916	0	*8*
Naturita Creek	38.1475	108.3353	1	61,279	3	21,798	0	88
Naturita Creek	38.1594	108.4033	2	2,436	4	542	0	*1*
Naturita Creek	38.2244	108.5047	2	7,197	4	665	3	*0*
North Fork Mesa Creek	38.5036	108.7903	1	3,358	7	178	0	*0*
Potter Creek	38.6339	108.1944	3	2,270	5	1,001	1	*5*
Roatcap Creek	38.8833	107.6436	1	3	0	0	0	*0*
Roubideau Creek above Potter Creek	38.6378	108.1936	3	1,475	5	827	0	*1*
San Miguel River at Tabeguache Creek	38.3578	108.7083	1	23	3	4	3	*0*
San Miguel River below Beaver Creek	38.1060	108.1866	2	8,201	22	6,480	2,758	*0*
San Miguel River near mouth	38.3881	108.7872	2	884	8	397	46	*0*
San Miguel River above Pinon	38.2496	108.3867	2	1,308	13	392	46	*0*
San Miguel River above Placerville	38.0060	108.0459	2	11,753	19	7,574	3,683	*0*
San Miguel River above Tabeguache	38.3392	108.7015	4	2,520	5	848	48	*0*
South Fork Mesa Creek	38.4500	108.8028	1	355	5	27	1	*0*
Spring Creek	38.3808	107.9539	3	2,306	10	431	35	*0*
Williams Creek	38.9733	107.3350	1	4,169	9	2,208	257	*5*

Source: BLM 2007c

[1]Values *italicized* rate higher than the average of 524 samples at 245 sites across the Colorado Plateaus Ecoregion. Tolerant Abundance rates with lower values are higher.

[2]Number of invertebrates per 0.74 square meters of stream bottom.

[3]Number of invertebrate families within orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies)

[4]Total number of invertebrates within orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies)

[5]Total number of invertebrates rated as intolerant to pollution.

[6]Total number of invertebrates rated as tolerant to pollution.

for consumptive on public lands, such as livestock watering and mineral development. Collectively, the exercise of water rights places limits on the management alternatives and actions that can be considered during the planning process. While describing water availability limitations for each stream and aquifer on BLM-administered lands is beyond the scope of this document, it is important to note that the hydrology of a majority of the stream miles managed by the BLM have been significantly altered by the exercise of water rights.

The BLM holds two types of water rights – those established pursuant the provisions of Colorado water law (state-based water rights), and those established pursuant to federal law (federal reserved water rights).

The BLM is able to claim state-based water rights for federal land management purposes pursuant to the provisions of the McCarran Amendment, signed into federal law in 1952. The McCarran Amendment allows the United States to be joined as a participant in state-run water rights adjudication and allocation processes, even though the United States generally has sovereign immunity from state laws. In Colorado, the BLM applies to the Colorado water court system for water rights and to the Colorado Division of Water Resources for administrative water use authorizations, such as well permits. Through this process, the State of Colorado has granted thousands of water rights to the BLM for water uses that occur on public lands, including domestic, livestock, wildlife, recreation, and fire suppression use. The Colorado Supreme Court has confirmed United States water uses on public lands that date back to the 1800's. **Table 3-12** (BLM Consumptive Water Rights by Source) summarizes water rights granted to the BLM by the State Colorado within the planning area.

Table 3-12
BLM Consumptive Water Rights by Source

Water Source Type	Number[1]
Ditches	2
Wells	1
Adjudicated Federal Reserved Water Rights	64
Springs	67
Reservoirs	15

[1]Water source data comes from a UFO water source inventory database.

Federal reserved water rights are created when lands owned by the United States are reserved for a specific purpose by Congressional action or executive order. In general, most BLM lands are not reserved lands. This is contrast to Forest Service lands, which were reserved through Congressional action to place them into National Forests. However, some BLM lands are were reserved as Public Water Reserves, which were create by a 1926 Executive Order that reserved natural springs and water holes to prevent monopolization of scarce water resources on public lands. The order states that the 40-acre tract surrounding any spring or water hole not already claimed by a private party under the Homestead Act was reserved for public use. Of the 161 springs in the planning area, 64 possess adjudicated federal reserved water rights claimed under Public Water Reserve 107.

Livestock Tanks. In addition to water rights, the BLM applies to the State of Colorado for permits to construct livestock water tanks (ponds). Livestock tanks are permitted through the Colorado Division of Water Resources and typically have storage capacities of less than one acre-foot. They are required to be located on intermittent or ephemerally flowing channels, and typically contain water only after snowmelt or large precipitation events. The BLM's records show between 375 and 600 existing livestock tanks in the UFO. However, because many livestock tanks were constructed prior to state permit filings or being cataloged in BLM databases, the actual number is considered to be much higher. Many of the tanks are poorly maintained or non-functional and cause accelerated levels of erosion and sedimentation. Invasive weed species commonly become established on areas disturbed by livestock tanks, which can degrade watershed conditions.

Instream Flow. Instream flow water rights to protect aquatic resources are secured for a number of streams in the planning area, as shown in **Table 3-13** (Stream Reaches Protected by Instream Flow Water Rights). While only the Colorado Water Conservation Board can hold an instream flow water right in Colorado, BLM staff makes recommendations to the state for candidate streams and provides the channel surveys and assessments necessary for quantifying the flow. Instream flow water rights are secured to protect habitat for both warm and cold water fish species, and can vary in amount throughout the year.

Table 3-13
Stream Reaches Protected by Instream Flow Water Rights

HUC[1]	Stream[2]	Case Number	Reach Length (miles)	Recommending Party
14020004	Anthracite Creek	06CW230	8.0	Colorado Parks and Wildlife
14030003	Upper Beaver Creek	84CW439	4.6	BLM
14030003	Lower Beaver Creek	93CW268	10.6	BLM
14020002	Cimarron River	84CW398	3.7	Colorado Parks and Wildlife
14030003	Cottonwood Creek	05CW149	3.2	BLM
14020006	East Fork Dry Creek	05CW151	10.0	BLM
14020002	Gunnison River	92CW107	28.9	Colorado Parks and Wildlife
14020002	Gunnison River	03CW265	28.9	Colorado Parks and Wildlife
14030003	Horsefly Creek	05CW215	5.2	BLM
14030002	La Sal Creek	02CW271	6.0	BLM
14030004	Mesa Creek	06CW168	2.0	BLM
14020004	North Fork Gunnison River	84CW400	6.2	Colorado Parks and Wildlife
14030004	North Fork Mesa Creek	02CW274	5.9	BLM
14020002	North Fork Smith Fork	05CW203	9.4	Colorado Parks and Wildlife
14020005	Potter Creek	04CW161	9.0	BLM
14030004	Roc Creek	02CW275	10.0	BLM
14020005	Roubideau Creek	04CW162	14.4	BLM
14030003	Saltado Creek	93CW267	8.3	BLM
14030003	San Miguel River (Upper)	84CW429	8.4	Colorado Parks and Wildlife
14030003	San Miguel River (Mid)	02CW277	24.1	BLM
14030003	Specie Creek	02CW279	3.2	BLM
14020006	Spring Creek	04CW163	5.5	BLM
14020006	West Fork Dry Creek	05CW155	5.9	BLM

Source: BLM 2010e
[1]4th level Hydrologic Unit Code; refer to Table 3-5 for the corresponding drainage basin.
[2]Some stream reaches include segments of land not managed by the BLM.

Source Water Protection of Public Water Supplies
While the BLM has no statewide policy for managing public water supplies or source water areas, the BLM is required to comply with the Safe Drinking Water Act. In 1996, the Safe Drinking Water Act was amended to include requirements that each state develop a Source Water Assessment and Protection Program to ensure safe public drinking water supplies. Spearheaded by the Colorado Water Quality Control Division, the BLM, along with other agencies and citizen groups, is involved in developing the program. The first phase of the plan is to assess all public water supplies to identify existing and potential pollution sources. Following the assessment phase, a Protection Phase plan is developed in a collaborative effort involving state and local governments, water providers, and citizens to identify actions to address the problems and risks identified in the assessments. As Protection Plans are completed for public water supply areas on public lands in the planning area, it is anticipated that agreements will be prepared between the BLM and water providers to ensure that BLM management activities provide adequate protection of public water supplies.

Source Water Area – Assessment Phase. The Water Quality Control Division has completed initial source water assessments for over 1,700 public water systems in Colorado. **Table 3-14** (Public Water Sources with Zones of Potential Influence) lists public water supplies, including assessment reports for counties with lands in the planning area. The Assessment Phase involves understanding where each public water system's source water comes from, the potential contaminant sources that threaten the water sources, and how susceptible each water source is to potential contamination. A high, medium, or low ranking of risk is identified for each potential source of contamination. Assessment results are provided as a starting point for public water suppliers to evaluate a system's potential contaminant risks and to develop protection plans to minimize these risks.

The State has established buffer zones to categorize the distance from a potential source of contamination to the drainage network and water supply intake. The drainage network includes all perennial, intermittent, and ephemeral tributaries to the stream segment on which the intake is located. The State distinguishes between three zones of distance from the source to the drainage network on the premise that the further away a source is from the intake, the lower the contamination risks (Colorado Department of Public Health and Environment 2000c). Near-field and far-field areas are used to identify potential risks of contamination from activities within a watershed. Similar zone concepts were applied to groundwater and reservoir sources as described in the Source Water Assessment Methodologies for both surface water and groundwater (Colorado Department of Public Health and Environment 2004b).

- **Zone 1** is defined as either a 1,000-foot-wide band on each side of a stream, lake, or shallow alluvial aquifer (where groundwater is under the influence of surface water) or the 100-year floodplain. Land use activities in Zone 1 occur closest to the drainage network and are of greatest concern to the quality of public water supplies.
- **Zone 2** *extends* one-quarter mile (1,320 feet) beyond each side of the boundaries for Zone 1; moreover, Zones 1 and 2 constitute a 2,320-foot buffer on each side of the stream, lake, or alluvial aquifer.
- **Zone 3** *encompasses* the remainder of the source water area up to the watershed boundary and has the lowest contamination risk of the three zones.

Table 3-14
Public Water Sources with Zones of Potential Influence

Name	Public Water System ID Number	Water Source[1]	County
Bowie Mine #2	215202	Surface	Delta
Camp Cedaredge	215166	Ground	Delta
Crawford Mesa Water Authority	115189	Ground	Delta
Gunnison River Pleasure Park	215325	Ground	Delta
Hotchkiss, Town of	115352	Surface	Delta
Lazear Domestic Water Commission	115467	Ground	Delta
Paonia, Town of	115601	Ground	Delta
Sunshine Mesa Domestic Water Commission	115725	Ground	Delta
Beaver Lake Campground	326140	Ground	Gunnison
Crystal Meadows Resort Inc.	226189	Ground	Gunnison
Curecanti NRA Ponderosa RA	326009	Ground	Gunnison
Erickson Springs Campground	326502	Ground	Gunnison
Mountain Coal Company, LLC	226838	Surface	Gunnison
Silver Jack Campground	326710	Ground	Gunnison
Fruitland Domestic Water Commission	115288	Surface	Montrose
Cimarron Inn	243176	Ground	Montrose
Curecanti – East Portal	326011	Ground	Montrose
Earls Subdivision Water Commission	143233	Ground	Montrose
Elk Ridge Restaurant	257505	Ground	Montrose
Millard's Mobile Home Park	143510	Ground	Montrose
Naturita, Town of	143533	Surface	Montrose
Nucla, Town of	143559	Surface	Montrose
Project 7 Water Authority	143621	Surface	Montrose
Riverwood Subdivision Water Commission	143676	Ground	Montrose
Spring View Trailer Park	143719	Ground	Montrose
Sunrise Trailer Park	143725	Ground	Montrose
The River Meadows	143505	Ground	Montrose
Tri State G and T Nucla Station	243185	Surface	Montrose
Ouray - Switzerland KOA	246452	Ground	Ouray
Ouray, City of	146588	Ground	Ouray
Ilium Valley Water System	157250	Ground	San Miguel
Norwood Water Commission	157500	Surface	San Miguel
Sawpit, Town of	157700	Ground	San Miguel
Telluride Regional Airport	257050	Ground	San Miguel

Source: Colorado Department of Public Health and Environment 2004a
[1]Indicates whether a water source is ground (typically from a well or spring source) or surface (typically from the diversion of a stream or reservoir).

Near-fields and far-fields define the source water or watershed area near (within) or far (outside of) a 15-mile radius of a water supply, with activities in near areas presenting a higher risk to a water supply than far areas.

Within the planning area, the Source Water Assessment area for surface water totals 480,104 acres of public land, while the Source Water Assessment area for groundwater totals 22,101 acres. These figures may change when public water suppliers complete a source water protection

plan. A confidentiality agreement to withhold the spatial information of public water systems from public disclosure exists between the BLM and Colorado Department of Public Health and the Environment, Water Quality Control Division, due to homeland security concerns.

Source Water Areas – Protection Plan Phase. The second phase of a SWAP is the protection plan phase. Protection plans are collaboratively developed by cities, towns, and municipalities to further identify drinking water protection measures, and involve stakeholders in the process. This phase is voluntary, but the State strongly encourages municipalities to develop plans.

Currently, there are no known completed protection plans that affect BLM-administered lands in the planning area, although the Town of Norwood has formulated a draft plan. However, as protection plans are completed, land use activities on affected public lands would be managed to provide adequate protection to public water supplies in coordination with public water supply managers.

UFO Coordination and Collaboration with Partners

The UFO continues to coordinate and collaborate with several external groups in managing soil and water resources within the planning area. The UFO has been active in the San Miguel Watershed Coalition since its inception in the early 1990s, and assisted in preparing and implementing the coalition's watershed plan. The coalition's accomplishments include:

- Securing an instream flow water right on a 24-mile reach of the San Miguel River
- Collecting survey data to allow instream flow recommendations on other river reaches
- Preparing a draft San Miguel Instream Flow Water Needs Assessment
- Implementing two in-channel river stabilization projects in the San Miguel near Placerville, Colorado, requiring close coordination with the Colorado Department of Transportation
- Planning to improve fish migration and boater safety for the Highline Canal Diversion and represented the coalition on the Ames Hydroelectric Power Plant, Federal Energy Regulatory Commissions relicensing process

Other outreach efforts include:

- Participating in the local Water Roundtable for the Gunnison Basin, a state-based effort to identify, coordinate, and collaborate on water issues throughout the state
- Providing water resources education to local public schools, including 15 years of presentations to over 6,000 students at the Children's Water Festival
- Collaborating with the US Geological Survey during the Mancos Shale research effort, which will benefit future management of Mancos Shale areas in the planning area
- Participating in a watershed coalition group formed in the Uncompahgre Valley
- Participating in the development of a watershed action plan for the Uncompahgre River through the Uncompahgre Watershed Planning Partnership

Trends

Competing uses for water in an ever drier climate may result in decreases in water quantity and quality in the planning area over the long term. Lead climatologists forecast warmer temperatures in southwestern Colorado over the upcoming decades. Changes in precipitation and soil moisture will likely affect groundwater recharge rates, causing diminished spring and well discharge rates on public lands. Earlier spring runoff and decreased snowpack could complicate prior appropriation systems and interstate water compacts, affecting which rights holders and irrigation operations receive water. Focused efforts by the BLM have secured many instream flow water rights, although most rights have recent adjudication dates, making them junior to many other water users.

There has been a trend towards more domestic and industrial uses for water, as the population grows and energy demands increase throughout Colorado. Oil and gas production, coal mining and other energy related activities such as uranium processing are becoming more active once again and energy and mineral resources are expected to increase in price over time, likely resulting in increasing demand for extraction. Consumptive uses of freshwater resources have also been increasing. As a result, many public stakeholders groups have formed to address water quantity and quality issues and the potential to balance competing uses for water in the future.

3.1.5 Vegetation

Along with landform, defines the appearance and function of the landscape. It also serves a variety of beneficial functions, such as providing food for animals, stabilizing soils, and providing plant products for human uses. Over 1,100 plant species occur in and near the planning area. Of these, more than 1,000 species are native. Some of these species are generalists, tolerant of a wide variety of soil chemistry, soil depth and texture, aspect, elevation, and precipitation timing and amount. Other species may be more limited in the physical conditions they tolerate, such as those associated with riparian and wetland areas or those associated with saline soils. The presence of plant species within the planning area can range from extremely common to scarce. Based on land health assessment data, over 40 percent of planning area plant species could be considered uncommon, while less than 10 percent could be considered extremely common. Those that are particularly scarce or rare may be classified as BLM Sensitive Species, threatened, or endangered species. In contrast, some of the most common species are highly adaptable, non-native weeds and are very competitive with native species. Whether they are species considered noxious by the State of Colorado or are considered exotic species, they can have a marked negative effect on native plant vegetation.

On a national scale, similar geographic areas are divided into ecoregions by a variety of factors, including elevation, climate, and geology. As shown in **Table 3-15** (Vegetation Communities) the planning area falls primarily in the Colorado Plateau ecoregion, and secondarily in the Southern Rockies ecoregion (Chapman et al. 2006). These ecoregions are subdivided based on physical characteristics of the landscapes, and further divided into vegetation communities, which are named according to the types of plant species of which they are composed. As shown in **Table 3-15**, plant communities with the same name can occur in more than one ecoregion or subdivision; however, these communities often have subtle differences in their makeup. A description of each of the major vegetation communities in the planning area follows.

Table 3-15
Vegetation Communities

Ecoregion	Ecoregion Subdivision	Total Acres	Vegetation Community	Percent of Subdivision
Colorado Plateau	Sedimentary Mid-Elevation Forests and Shrublands	507,456	Grass-Forb	5
			Montane Forest	2
			Mountain Shrub	2
			Pinyon-Juniper	71
			Riparian	2
			Sagebrush	18
	Shale and Sedimentary Basins	102,200	Grass-Forb	49
			Pinyon-Juniper	16
			Riparian	1
			Sagebrush	20
			Salt-Desert Shrub	12
			Unvegetated/other	2
Southern Rockies	Sedimentary Mid-Elevation Forests and Shrublands	56,433	Montane Forest	23
			Mountain Shrub	43
			Pinyon-Juniper	27
			Subalpine Forest	2
			Unvegetated/other	5
	Sedimentary Subalpine Forests	7,998	Montane Forest	43
			Mountain Shrub	20
			Pinyon-Juniper	3
			Subalpine Forest	27
			Unvegetated/other	7
	Volcanic Subalpine Forests	1,510	Alpine	5
			Grass-Forb	3
			Montane Forest	4
			Mountain Shrub	2
			Subalpine Forest	78
			Unvegetated/other	8
	Volcanic Mid-Elevation Forests and Shrublands	90	Montane Forest	44
			Mountain Shrub	36
			Subalpine Forest	19
			Unvegetated/other	1
	Alpine Zone	13	Alpine	59
			Unvegetated/other	41

Source: BLM 2012a

Vegetation Types within the Planning Area

Alpine

Alpine vegetation is typically found above 11,000 feet in elevation. It is defined as vegetation that occurs above the elevation at which forests can grow and is heavily influenced by the harsh growing conditions of long cold winters, heavy snows, and intensive solar radiation found in high mountains. Alpine vegetation occurs in only a tiny fraction of the decision area. It is characterized by low-growing shrubs such as arctic willow (*Salix arctica*), numerous sedge (*Carex* spp.) species, grasses such as alpine bluegrass (*Poa alpina*), and a variety of highly specialized forb species.

Grass-Forb

The grass-forb vegetation type is a significant component of the planning area and occurs across a wide range of elevations. In some cases, its presence is related to perennial soil characteristics, while it is a result of disturbances such as fire, avalanche, rangeland projects, or drought in others. In disturbed areas, it is considered an early successional stage to other vegetation types. The dominant grasses and forbs are dependent primarily upon elevation and secondarily upon soil type. Typical grass species include bottlebrush squirreltail (*Elymus elymoides*), western wheatgrass (*Pascopyrum smithii*), saline wildrye (*Leymus salinus*), galleta grass (*Pleuraphis jamesii*), needle-and-thread grass (*Hesperostipa comata*), Indian ricegrass (*Achnatherum hymenoides*), blue grama *(Bouteloua gracilis)* and bluegrasses *(Poa* spp.*).* Common forbs include scarlet globemallow *(Sphaeralcea coccinea)*, longleaf phlox *(Phlox longifolia),* wild onion (*Allium* spp.), and biscuitroots (*Lomatium* and *Cymopterus* spp.) These species can also be found in each of the different vegetation types described below.

Montane Forest

The montane forest vegetation type generally occurs between 7,500 and 9,500 feet in elevation and comprises a small component of the planning area. This vegetation type typically includes ponderosa pine (*Pinus ponderosa*), Douglas-fir, (*Pseudotsuga menziesii*), and aspen (*Populus tremuloides*), singularly and in combination with one another. Soils and fire history influence where and in what combinations these species occur. They also influence the understory vegetation. Many of the mountain shrub species are found in montane forest. The more common species include birchleaf mountain mahogany (*Cercocarpus montanus*), Utah serviceberry (*Amelanchier utahensis*), Gambel oak (*Quercus gambelii*), Rocky Mountain juniper (*Juniperus scopulorum*), black chokecherry (*Prunus virginiana*), and roundleaf snowberry (*Symphoricarpos rotundifolius*). The herbaceous component is generally sparse but contains many of the same grasses and forbs found in the mountain shrub vegetation type described above.

Mountain Shrub

The mountain shrub vegetation type occurs at elevations ranging from 7,000 to 9,000 feet and makes up a significant proportion of the planning area. Birchleaf mountain mahogany, Utah serviceberry, and Gambel oak are prominent overstory components. Soils, slope, aspect, and fire history influence the character and distribution of this vegetation type, resulting in several diverse communities. These communities are distinguished by one or a combination of the prominent shrub species, along with one or more of the following species: black chokecherry, mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), wild crabapple (*Peraphyllum*

ramosissimum), fendlerbush (*Fendlera rupicola*), roundleaf snowberry, Utah juniper (*Juniperus osteosperma*), Rocky Mountain juniper, and Colorado pinyon pine (*Pinus edulis*). Common herbaceous species include elk sedge (*Carex geyeri*), Letterman's needlegrass (*Achnatherum lettermanii*), Kentucky bluegrass (*Poa pratensis*), muttongrass (*Poa fendleriana*), Sandberg bluegrass (*Poa secunda*), bottlebrush squirreltail, western wheatgrass, slender wheatgrass (*Elymus trachycaulus*), and nodding brome (*Bromus anomalus*). Forbs are abundant, with many species. Among the most widespread and dominant are western yarrow (*Achillea millefolium*), lupine (*Lupinus* spp.), biscuitroot (*Lomatium* spp.), and aspen peavine *(Lathyrus lanzwertii)*.

Pinyon-Juniper

The pinyon-juniper vegetation type occurs between 5,800 and 7,500 feet and occupies more of the planning area than any other vegetation type. Pinyon-juniper woodland is dominated by Utah juniper and Colorado pinyon in varying proportions depending on soil, slope, aspect, and elevation. The understory is typically a sparse and variable and may contain remnant shrubs such as Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), birchleaf mountain mahogany, Utah serviceberry, snakeweed (*Gutierrezia sarothrae*), yucca (*Yucca harrimaniae*), potato cactus (*Opuntia fragilis*), muttongrass, Indian ricegrass, and bottlebrush squirreltail. Primary forbs in this type are western tansy mustard (*Descurainia pinnata*), scarlet globemallow, rock goldenrod (*Petradoria pumila*), lobeleaf groundsel (*Packera multilobata*), and numerous species of *Penstemon*, *Arabis*, *Astragalus*, *Lomatium*, *Erigeron*, and *Machaeranthera*.

Riparian and Wetlands

Riparian. The riparian vegetation type is always associated with water and extends from the lowest to highest elevations within the planning area. Approximately one to two percent of Colorado is covered with riparian or wetland vegetation (Lyon and Sovell 2000). Although small in area, it is a significant vegetation type because of its productive and diverse plant communities. Within the broad category of riparian vegetation are many distinct, interwoven plant communities. Among the most widespread are communities dominated by narrowleaf cottonwood (*Populus angustifolia*) above 5,800 feet in elevation, and Fremont cottonwood (*Populous fremontii*) generally below this elevation. These areas are distinguished by various associated shrubs and trees, including thinleaf alder (*Alnus tenuifolia*), blue spruce (*Picea pungens*), Douglas-fir, sandbar willow (*Salix exigua*), skunkbush sumac (*Rhus trilobata*), Wood's rose (*Rosa woodsii*), and red osier dogwood (*Cornus sericea*). Some willow-dominated communities are also present, with sandbar willow occurring alone or in combination with strapleaf willow (*Salix ligulifolia*) or other willow species. Thinleaf alder forms a common community along the edge of many streams. Shrub-dominated communities are found along some higher stream terraces, including skunkbush sumac, seep willow (*Baccharis salicina*), New Mexico privet (*Forestiera pubescens*), and silver buffaloberry (*Shepherdia argentea*). Small pockets of scouringrush horsetail (*Equisetum hyemale*) can be found at lower elevations. Ephemeral and lower-elevation drainages are often dominated by black greasewood (*Sarcobatus vermiculatus*) and alien tamarisk (*Tamarix chinensis*). Detailed descriptions of these communities can be found in the Field Guide to the Wetland and Riparian Plant Associations of Colorado (Carsey et al. 2003).

Wetlands. Wetland communities in the planning area are very infrequent and typically much smaller than riparian areas. Though they often share some species with riparian communities,

wetland communities are characterized by vegetation that is inundated with water during some time of the year or soils that are saturated with water during all or part of the year (Carsey et al. 2003). Wetlands are most often associated with standing water such as lakes, reservoirs, and ponds, but many of the remaining wetlands in the planning area are associated with stock ponds and are not natural in origin. They may be located within any of the other vegetation types in the planning area, and mainly exist naturally as hanging gardens, springs, and seeps. Plant species that may commonly be found in wetland communities include Geyer willow (*Salix geyeriana*), water sedge (*Carex aquatilis*), cattail (*Typha angustifolia-Typha latifolia*), Mancos columbine (*Aquilegia micrantha*), Eastwood monkeyflower (*Mimulus eastwoodiae*), scouringrush horsetail, thinleaf alder, hardstem bulrush (*Schoenoplectus acutus*), and, in some degraded areas, salt cedar (*Tamarix ramosissima*) (Carsey et al. 2003). The UFO has limited data on wetland communities within the planning area.

Sagebrush

The sagebrush rangeland vegetation type is widespread and occupies a significant portion of the planning area. This vegetation type typically occurs on deeper soils at elevations ranging from 5,000 to 7,500 feet. The sagebrush community is dominated by Basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) at the lowest elevations, Wyoming big sagebrush at mid-elevations, and mountain big sagebrush at the highest elevations. Black sagebrush (Arte*misia nova*) also occurs as a dominant shrub on some soils across this elevation range. The sagebrush type can also occur on steeper rockier sites, where it is usually successional to woodland types and has resulted from removal of the tree canopy by fire or other natural disturbances. Snakeweed, Utah serviceberry, rabbitbrush (genus *Ericameria* or *Chrysothamnus*), and four-wing saltbush (*Atriplex canescens*) can be secondary shrubs in the sagebrush vegetation type. The sagebrush vegetation type contains a variable understory that can include western wheatgrass, galleta grass, bottlebrush squirreltail, Indian ricegrass, blue grama, Sandberg bluegrass, muttongrass, needle-and-thread grass, prairie junegrass (*Koeleria macrantha*), and many forbs. Among the most prominent are scarlet globemallow and longleaf phlox.

Salt-Desert Shrub

The salt-desert shrub vegetation type is commonly found on saline and other droughty soils in the driest portions of the planning area below 6,000 feet. Plant densities in some salt desert communities, such as those found on Mancos Shale-derived soils, can be extremely low, and those sites are sometimes classified as barren. The following shrubs characterize this drought-tolerant vegetation type: shadscale (*Atriplex confertifolia*), Gardner saltbush (*Atriplex gardneri*), mat saltbush (*Atriplex corrugata*), black greasewood, four-wing saltbush, black sagebrush, winterfat (*Krascheninnikovia lanata*), snakeweed, and prickly pear cactus (*Opuntia polyacantha*). The numbers of individuals for each species vary, and species can be found various combinations depending on the soil type and disturbance history of the area. Native grasses in this vegetation type include western wheatgrass, galleta grass, bottlebrush squirreltail, Salina wildrye (*Leymus salinus*), and Indian ricegrass on better-condition sites. Many different forbs are present, with some of the most common including wild buckwheats (*Eriogonum* spp.), wild onion, and biscuitroots.

A number of BLM Sensitive Species and threatened or endangered plant species (see **Section 3.1.7** [Special Status Species]) are primarily or exclusively found within this plant community. The endangered clay-loving wild buckwheat (*Eriogonum pelinophilum*) and threatened Colorado

hookless cactus (*Sclerocactus glaucus*) are both found in the salt desert shrub community (Spackman et al. 1997).

Subalpine Forest

The subalpine forest vegetation type occupies only a minor portion of the planning area above 9,500 feet elevation. Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) characterize the overstory of this vegetation type. Aspen may be present in some areas as well, but is typically successional to the spruce and fir. The understory in this vegetation type is generally sparse and dominated by sedges, whortleberry (*Vaccinium myrtillus*), and arnica (*Arnica cordifolia*). Mountain brome (*Bromus marginatus*), Thurber fescue (*Festuca thurberi*), slender wheatgrass, wild strawberry (*Fragaria* spp.), and an abundance of other forbs may occur where the tree canopy lets sunlight through.

Current Conditions

In 1997, the Colorado BLM adopted standards for the health of public land (BLM 1997). The standards that are applicable to the vegetation communities discussed in this section are Standard 2 and Standard 3 (**Appendix C**). As part of implementing the BLM Colorado Standards for Public Land Health and to establish a baseline of current conditions, the UFO conducted land health assessments assessing the current condition of vegetation and overall land health in ten landscape units across the decision area between 1999 and 2008.

Vegetation problems identified during the land health assessments relate to the indicators for the BLM Colorado Public Land Health Standards. Problems were noted throughout the decision area but were not clearly associated with a particular region. **Table 3-16** (Major Vegetation Issues in the Decision Area) lists the major vegetation problems in order of prevalence. The column indicating the percentage of the planning area affected represents a high estimate. Problem areas could be widespread or serious, or they could be isolated, localized, or minor.

Upland Vegetation

The current condition of vegetation in the decision area has been assessed over the last ten years as part of implementing BLM Colorado Public Land Health Standards (**Table 3-17** [Land Health Assessment Results Since 1999]). Of the 675,700 acres assessed for upland vegetation health, 304,622 acres (45 percent) were considered to fully meet BLM Colorado Public Land Health Standard 3 for healthy upland plant communities, 260,905 acres (39 percent) met the standard but showed some vegetation problems, and 79,042 acres in the planning area (12 percent) failed to meet BLM Colorado Public Land Health Standard 3. The remaining acreage (4 percent) was not assessed or was not upland. Over 50 percent of the North Delta, Roubideau, North Fork, and Colona land health assessment areas are meeting with problems or not meeting standards.

Across all ten land health assessment units, cool season grasses were underrepresented in the plant communities. This is probably the result of livestock grazing in the spring and fall periods when these grasses are most vulnerable. Often perennial forbs are also underrepresented in the same areas. The reduced cool season grass and forb cover may make it easier for exotic species such as cheatgrass to move in. On many crucial big game winter ranges throughout the planning area, moderate to severe hedging of palatable shrubs is common. Usually reduced vigor of these shrubs is also evident.

Table 3-16
Major Vegetation Issues in the Decision Area

Identified Problem or Issue	Percentage Affected
Upland Vegetation	
Not enough cool season perennial grass	39
Exotic plants in community	37
Not enough perennial forbs	37
Low plant diversity in community	26
Shrubs in low vigor	19
Not enough warm season perennial grass	15
Browse shrubs heavily hedged	13
Noxious weeds within or nearby community	10
Plant spacing too great	5
Riparian and Wetland Vegetation	
Not enough riparian vegetation to protect banks	14
Riparian plant root structure will not withstand flooding	14
Streamside plants are not wetland species	13
Riparian vegetation in poor vigor	11
Riparian vegetation does not have diverse age classes	10
Riparian vegetation does not have diverse composition	9
Riparian vegetation not establishing on point bars	6

Source: BLM 2012a

Table 3-17
Land Health Assessment Results Since 1999

Land Health Assessment1	Year	Area Vegetation (acres)		
		Meeting	Meeting but with Problems	Not Meeting
East Paradox	1999	61,743	8,087	8,199
North Delta	2002	9,677	52,420	9,484
Mesa Creek	2004	60,004	40,849	10,591
Roubideau	2005	17,403	66,437	16,867
Norwood	2006	66,695	24,881	7,894
North Fork	2007	18,905	27,200	15,598
Colona	2008	17,334	29,220	4,459
West Paradox	2009	49,552	16,907	2,069

On five percent of public lands in the planning area, past vegetation treatments resulted in the loss of native plant communities. This was primarily caused by the use of exotic grass and forb species that prevented native species from occupying the sites. Exotic weed infestations, resulting from poorly reclaimed fires and disturbances such as heavy OHV use and grazing, have been found on an estimated additional two percent of this area. These infestations on public land are shrinking over time, as natural processes return native vegetation to the sites. In addition, many historic treatment locations are being retreated and seeded with native species in

small patches. Large disturbances, such as wildfires, are also being treated with native species. It is the policy of the UFO to utilize native plant species to reclaim disturbed sites.

Within plant communities, there is indication that the diversity, composition, and frequency of occurrence of native species across the landscape are degraded and may pose a threat to the sustainability of these species in some areas. The land health assessment data show that 25 percent of 2,170 upland sites evaluated had low native plant diversity, while 31 percent had plants spaced too far apart. These affected communities may not be resistant to changing conditions, disturbances, or weed invasions. Over time, this lack of resilience equates to decreased sustainability.

Riparian and Wetland Vegetation

Riparian Vegetation. Riparian vegetation along nearly all of the 418 miles of perennial and intermittent streams in the decision area has been evaluated for BLM Colorado Public Land Health Standard 2. This standard is based on BLM's Proper Functioning Condition concept (BLM 1998). Riparian areas along 291 miles of streams and rivers (70 percent) fully met Standard 2 for riparian health. Another 98 miles (24 percent) of riparian area met Standard 2 but had some problems, while 25 miles (6 percent) were rated as not meeting Standard 2.

Of the riparian systems that are not meeting the standard, or met the standard with problems, the reasons are summarized in **Table 3-16**. Past management practices, such as livestock grazing, vehicle use, road construction, and water diversions, have contributed to the failure of riparian systems to fully meet BLM Colorado Public Land Health Standards. Because state water law often precludes BLM management actions that could address water use issues, some riparian vegetation communities have a very low potential to recover to the point where they would fully meet Standard 2.

Wetland Vegetation. Very little information is available on the condition of planning area wetlands, and their health has not been evaluated.

Weeds

Weeds are plants considered nonnative in origin with invasive and highly competitive characteristics. Weeds can disrupt the function of an ecosystem, conflict with the management objectives of an area, and compete with native vegetation for space, light, and limited nutrients. Invasive species can also reduce the cover and species richness of biological soil crusts (DOI 2001). Serious infestations can create a monoculture, effectively locking the area into a long-term dysfunctional situation. When an individual species is identified as a substantial economic threat, it is designated by the State of Colorado as a noxious species or by the BLM as a species of concern. Noxious weeds or invasive species of concern can be found in every plant community present in the planning area.

Weed Control Guidance and Programs. The June 2007 programmatic EIS, Vegetation Treatments using Herbicides on Bureau of Land Management Lands in 17 Western States (BLM 2007a), discusses how herbicides will be applied to BLM-administered lands, including mitigation measures, standard operating procedures, and analysis of active and inactive ingredients by herbicide. The UFO subsequently created an Integrated Weed Management program for control

of weeds on the Colorado Noxious Weed List and on the BLM Colorado List of Invasive Weed Species of Concern (BLM 2010f).

The UFO coordinates with counties and other entities in and around the planning area in implementing the Integrated Weed Management program. This cooperation promotes the success of methods such as early detection/rapid response and the treatment and re-treatment of small and large patches of noxious weeds. The coordinated strategy means that there are more people looking for and treating noxious weeds in a strategic manner on public lands. Support for Integrated Weed Management comes from executive orders, legislation, and strategic documents, including:

- Colorado Noxious Weed Act 8 CCR 1203-15 (2003)
- President's Executive Order 13112 (1999)
- Federal Noxious Weed Act of 1974, Public Law 93-692
- BLM Partners Against Weed Plan (BLM's strategic plan)
- Colorado Governor's Executive Order D 00699
- UFO Weed Management Strategy (BLM 2010c)
- Record of Decision (ROD) on Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (September 2007) (BLM 2007a)

Systematic Weed Surveys. Since 2001, the UFO has completed a systematic weed survey on about 70 percent, or 473,000 acres, of the decision area. Thus far, 6,600 associated noxious weed infestations affecting 8,600 acres have been identified. The estimate is conservative and not comprehensive, as the entire decision area has not been surveyed, much of the survey is linear, and part of the survey was completed over ten years ago.

The average size of an infestation patch is 1.3 acres, making it relatively small and easy to treat using a hand-held spray gun. This patch size supports the land health assessment finding that noxious weeds have not become a prominent feature in most of the decision area, and presents an opportunity to continue this trend. Large patches of weeds will need to be treated for years to come, and linear infestations always pose a threat due to ease of seed transportation by trail, road, irrigation ditch, stream, or river. The UFO will continue to survey for about 40 weed species, including all weeds on the Colorado Noxious Weed list and the BLM species of concern (BLM 2010f). The UFO has noxious weed species from all categories of the Colorado list and several from the BLM list. **Table 3-18** (Noxious Weeds) lists some of the most troublesome weeds in the decision area, along with associated data.

The land health assessment data reveal the current scope of the weed establishment on uplands as follows: 92 percent of the 2,170 upland sites evaluated had no noxious weeds, 6 percent had small infestations, and only 1.5 percent had noxious weeds as a dominant part of the vegetation. The land health assessment data also show that 37 percent of upland sites had no exotics, 21 percent had isolated occurrences, 29 percent had exotics growing within native vegetation, and 12 percent had exotics dominating a plant community.

Table 3-18
Noxious Weeds

Weed Species	Listing	Number of Infestations	Acres Infested	Average Infestation (by acre)	Potential Average Rate of Spread (percent)
Russian knapweed *Acroptilon repens*	State Noxious BLM Concern	1,920	2,280.0	1.2	8-14
Spotted knapweed *Centaurea maculosa*	State Noxious BLM Concern	85	725.0	8.5	10-24
Diffuse knapweed *Centaurea diffusa*	State Noxious BLM Concern	26	31.0	1.2	16
Oxeye daisy[1] *Chrysanthemum leucanthemum*	State Noxious BLM Concern	35	115.0	3.3	
Yellow toadflax *Linaria vulgaris*	State Noxious BLM Concern	2	5.0	5.0	8-29
Dalmatian toadflax *Linaria dalmatica*	State Noxious BLM Concern	1	1.0	1.0	8-29
Purple loosestrife *Lythrum salicaria*	State Noxious BLM Concern	8	4.0	0.5	15
Hoary cress (Whitetop) *Cardaria draba*	State Noxious BLM Concern	340	288.0	1.0	11-18
Absinth wormwood *Artemisia absinthium*	State Noxious	4	2.0	0.5	
Yellow starthistle *Centaurea solstitialis*	State Noxious BLM Concern	4	20.0	10.0	13-17
Sulfur cinquefoil *Potentilla recta*	State Noxious BLM Concern	2	2.0	1.0	
Canada thistle *Cirsium arvense*	State Noxious BLM Concern	1,253	1,264.0	1.0	10-12
Bull thistle *Cirsium vulgare*	State Noxious BLM Concern	399	296.0	1.0	
Musk thistle *Carduus nutans*	State Noxious BLM Concern	659	1,104.0	1.5	12-22
Russian olive *Elaeagnum angustifolia*	State Noxious BLM Concern	24	7.5	0.5	
Tamarisk *Tamarix* spp.	State Noxious BLM Concern	907	1,508.0	1.7	12
Chinese clematis *Clematis orientalis*	State Noxious BLM Concern	2	2.0	0.3	
Jointed goatgrass *Aegilops cylindrica*	State Noxious BLM Concern	6	11.0	1.8	14 (traits similar to cheatgrass)
Burdock *Arctium minus*	State Noxious BLM Concern	113	222.0	2.0	
Plumeless thistle *Carduus acanthoides*	State Noxious BLM Concern	5	5.3	1.0	

Table 3-18
Noxious Weeds

Weed Species	Listing	Number of Infestations	Acres Infested	Average Infestation (by acre)	Potential Average Rate of Spread (percent)
Chicory *Cichorium intybus*	State Noxious BLM Concern	18	7.3	0.4	
Field bindweed *Convolvulus arvensis*	State Noxious BLM Concern	73	133.0	1.8	
Hounds tongue *Hieracium cynoglossoides*	State Noxious BLM Concern	63	83.5	1.3	
Leafy spurge *Euphorbia esula*	State Noxious BLM Concern	1	89.0	89.0	12-16
Halogeton *Halogeton glomeratus*	State Noxious BLM Concern	47	90.0	1.9	
Scotch thistle *Onopordum acanthium*	State Noxious BLM Concern	2	0.4	0.2	
Siberian elm *Ulmus pumila*	State Noxious BLM Concern	4	5.6	1.4	
Common mullein *Verbascum thapsus*	State Noxious BLM Concern	263	58.0	0.3	

Source: BLM 2012a
[1] Does not include San Miguel River watershed
Note: Data are not comprehensive.

Treating Problem Weeds. Not counting weed treatments completed by the counties, approximately 970 UFO weed treatments have been conducted in the decision area. Of these, about 75 percent were carried out with herbicide or a combination of herbicide, mechanical, and manual treatments. The majority of the most troublesome weeds in the planning area are perennial, and the most effective option for long-term success and eradication is continued implementation of early detection/rapid response, as well as the application of herbicides on small infestations.

Herbicides: The appropriate use of approved herbicides in moderation reduces the cost of treatment, insures a reduction in infestation size, potentially eradicates weeds in a location, reduces herbicide use in native systems by reducing the need to treat large patches over several years, and promotes land health.

Biological Controls: There are several biological controls in development that, using living organisms, may help with some of the more troublesome weed species. For instance, biological agents to control Russian knapweed were tested and released in 2011. As biological controls become more available, they could be used in conjunction with chemical and mechanical treatments. Some biological agents currently approved for release are effective against certain weed species in the planning area, including Canada, musk, bull and scotch thistles; field bindweed; Dalmatian toadflax; spotted knapweed; puncture vine; and tamarisk.

The size of infestation and type of noxious weed determines whether or not to use a biological control agent. Noxious weed patches need to be of a large enough size to support the biological agent, the noxious weed cannot be on a state directive not to let the plant flower and reproduce, and there must be state and federal consensus that there will always be a small to medium amount of the weed present in the ecosystem. The Tamarisk leaf beetle (*Diorhabda elongata*) is a prime example of a biological control agent being used in riparian areas; the beetle enables a small amount of tamarisk to remain but not enough to compromise the function of the riparian ecosystem.

Other Common Exotic Species. Other common weedy exotic species in the planning area include cheatgrass (*Bromus tectorum*), annual wheatgrass (*Eremopyrum triticeum*), clasping pepperweed (*Lepidium perfoliatum*), Russian thistle (*Salsola tragus*), filaree (*Erodium cicutarium*), burr buttercup (*Ceratocephala testiculata*), spreading wallflower (*Erysimum repandum*), blue mustard (*Chorispora tenella*), and European madwort (*Alyssum simplex*).

Trends

Upland Vegetation

Undesirable Species in Native Communities. Undesirable, exotic species are generally increasing within native vegetation in the planning area. An analysis of 190 trend studies read over the past 20 years showed a slim majority had no exotic plants (46 percent), but 40 percent had increasing levels of exotic species, and only 14 percent showed declines in exotics. These findings are consistent with patterns observed across the western US. There is the concern that some of the winter annuals like cheatgrass have the potential to overtake native vegetation, alter the fuels and fire regime, and ultimately displace entire native communities, as has happened in other ecoregions. There is little evidence that this is happening at a large scale, as the planning area has not experienced dramatic increases in fire frequency or fires fueled by invasive annuals. Several cheatgrass-fueled burns indicate this is happening in localized areas. Many of the undesirable species are tied to disturbances on the landscape. Fifty-eight percent of sampled travel routes in the planning area have weed infestations nearby, as do 70 percent of sampled ponds. In addition, many past vegetation treatments were seeded with nonnative species, such as crested wheatgrass, which produce abundant forage but compete with native species.

Native Community Distribution. Plant community distribution is on a slight downward trend across the region. This trend is less pronounced on decision area lands. Whether or not a given plant community can grow on a site is largely determined by the soils and climate (or site potential), and data from land health assessments indicate the appropriate plant communities were found on the appropriate sites. The amount of land supporting native plant communities in the region has declined, reducing their spatial distribution and frequency in the planning area. The great majority of this is due to land use changes and development on private lands. On public lands, loss of native plant communities has been caused by past vegetation treatments that replaced native species with introduced (exotic) grasses and forbs on 5 percent of the planning area. Exotic weed infestations, resulting from poorly reclaimed fires and disturbances such as heavy OHV use and grazing, have been found on an estimated additional two percent of this area. Other losses of native communities from appropriate sites, including die-off of aspen from

lower-elevation stands and invasion of trees into adjacent shrub and grass communities in some areas, appear to be associated with a changing climate.

Native Species Diversity and Density. A modest upward trend is apparent for native species diversity on decision area lands. While there are some issues with diversity, composition, and density in some areas, trends generally appear to be improving. Evidence from 190 trend studies read over the past 20 years shows 47 percent of communities increased in native species richness, compared with 30 percent that showed declines (16 percent showed no changes). Total native species canopy cover also showed generally upward trends with 62 percent of communities improving, while only 33 percent declined. There is some evidence that tree density is increasing. Many land use activities can degrade native communities. Excessive grazing by livestock, big game, and even rabbits can reduce palatable plants and trample others. Physical disturbance can damage plants and is associated with off-road travel or concentrated activities like woodcuts or rock collecting. Alteration of normal drainage patterns such as those associated with road development or range or watershed improvement projects can also degrade native plant communities.

Age Classes and Recruitment. For the most part, upland age class distribution seems adequate to maintain the major species on the landscape, and no strong trends are evident. The land health assessment data confirm field observations that the majority (74 percent) of dominant species are present in a range of age classes at evaluated sites. Only 5 percent of species were found limited to old-age individuals at some sites, indicating problems with recruitment for those species at those sites, but there are no data regarding trend. The dominance of old age classes on some sites is probably due to plant community successional processes, and is normal at some level on the landscape. Large-scale trends, which are occurring regionally and beyond, include drought-triggered tree and shrub die-offs and large beetle, borer, and bud worm infestations. Qualitative observations indicate that populations of trees and shrubs have sustained themselves despite the increased mortality, suggesting that age class distribution is adequate to sustain populations.

Habitat Connectivity. The general trend is one of increasing fragmentation, both at the regional and local levels. Regionally, the topography and varied geology of the planning area cause a substantial background level of habitat fragmentation and habitat isolation, particularly in the lowest- and highest-elevation areas. The pattern of land ownership and private land development has further fragmented this landscape, with native habitat converted into agricultural and residential development in the Uncompahgre and North Fork Valleys, and, to a lesser extent, the Norwood area and Paradox Valleys. This has isolated the large areas of intact public land habitat into three distinct, separate blocks: 1) the area from Grand Mesa down to Dry Creek on the east side of the Uncompahgre Plateau; 2) the area northeast of Paradox Valley down to Third Park on the west side of the Uncompahgre Plateau; and 3) the area on the southwest of Paradox Valley to the UFO boundary. A more subtle fragmentation of habitat has occurred within decision area lands, with development of roads, pipelines, canals, and other disturbed areas. This kind of fragmentation has brought in weeds and degraded habitat along these corridors so that areas of intact or suitable habitat for some plant species become separated from one another. As growth and development continue, the lower-level fragmentation is expected to continue.

Photosynthetic Activity. Overall, large areas of BLM-administered land do not have plant communities that take full advantage of sunlight, but there have been improvements over time in some areas. While inadequate cool season grass was identified as the biggest problem in land health assessment data, trend data show substantial improvements over the past decades. Data from the set of 190 trend studies show that perennial cool season grasses increased over the past 20 to 30 years in 54 percent of areas and declined in 34 percent, while 12 percent had no perennial cool season grasses. Warm season grass was a lesser problem in the land health assessment data, but trend data indicate it is continuing to diminish on the landscape, with 15 percent of studies showing an increase in warm season cover, 25 percent declining, and 61 percent with none. Physical disturbances, the spread of invasive cool season annuals and seeded species, and heavy grazing (especially through the duration of the growing season for a particular type of plant) have been primary causes for reduced photosynthetic activity. Climate change may disrupt the moderate improving trends that BLM-administered lands have shown over the past 30 years. If monsoonal patterns are changed to reduce moisture during the summer months, it is likely that warm season grasses will continue to decline. If spring and fall moisture dries out, reductions in cool season plants are expected.

Litter Accumulation. Trends in plant litter accumulation and contributions to the soil indicate a general lack of problems and that plant litter has increased over the past 30 years. The land health assessment data showed that only 5 percent of sites appeared to have too little litter. An increase in plant litter was shown in 67 percent of long-term trend studies. Litter accumulation is affected by grazing, wind and water erosion, and ground-disturbing activities. To date, these activities generally appear to be consistent with increasing litter accumulation. Invasions of annual invasive species have increased litter in some areas and may disrupt natural litter and carbon cycles, as well as soil organic matter. The forecast for plant litter is a likely continued increase as the existing trends continue and as invasive annual plants continue to increase.

Landscape Patterns. There is some evidence that vegetation is gradually becoming more uniform, although the planning area does not appear to be substantially affected yet. Within that overall trend, lower-level trends are occurring that have moved parts of the landscape in the opposite direction. Wildfire is burning an average of 0.16 percent of the decision area each year, and vegetation management practices, such as rollerchops and prescribed burns that result in younger age classes, affect another 0.18 percent of the decision area per year on average. Because some studies (Eisenhart 2004; Baker and Shinneman 2004) suggest a 250-year fire return interval for woodland, approximately 0.4 percent of the vegetation would need treatment or fire annually. This suggests that the vegetation is gradually aging, and the pattern is generally becoming more uniform across the landscape. Counteracting trends include the large woodland conversion projects of the 1960s and the recent fuels control work around wildland-urban interface areas. The land health assessments have determined that, in general, early seral (or grass- and forb-dominated) vegetation is most lacking, with most of the landscape units needing more of this stage on the landscape. Early mid-seral stage (shrub- and grass-dominated) vegetation is also lacking in the majority of units. While late-stage vegetation (mature tree or shrub) is too abundant in just over half of units, it is lacking in other units.

Riparian and Wetland Vegetation

Vegetation Indicators. No measured trends are available for riparian plants, but, overall, these indicators have been stable to improving. Riparian vegetation appears generally healthy, with stable conditions to date for streams but problems along the planning area rivers. Riparian Proper Functioning Condition data from 162 reaches indicates that between 70 and 85 percent of studied reaches have wetland species, high vigor vegetation, appropriate age class structure and species composition, and adequate riparian vegetation cover. Inappropriate grazing can lead to the loss of desirable plants, but there are very few streams with this problem in the planning area. Channel dewatering from upstream diversions associated with private water rights appears to be the biggest factor behind low-vigor riparian vegetation. The BLM has acquired some minimal instream flows for many of the larger streams to protect them from further dewatering. The rivers, with the exception of the San Miguel, are mostly impacted by altered flow regimes tied to upstream reservoir management. This has resulted in changes in species composition and loss of young age classes of cottonwood and willow. These trends are expected to continue unless reservoir management changes to simulate spring flooding. The forecast for climate change may cause widespread reductions in riparian plant vigor that will ultimately affect riparian composition, reproduction, age class distribution, and streambank cover.

Weeds, particularly tamarisk, are a significant problem in these riparian areas and, in a few cases, dominate the vegetation. Forty-six percent of sampled riparian areas in the planning area had exotic or noxious species at some level within the native vegetation. While tamarisk control work has been done with herbicide on a number of planning area streams, the tamarisk beetle, which has already become established in the planning area, shows great promise for ultimately providing long-term tamarisk control. This will result in improvements to riparian vegetation vigor and composition in the future, although other weeds are present, which may diminish this gain. The forecast for climate change and the projected earlier snowmelt, reduced precipitation, and warmer temperatures may cause widespread reductions in riparian plant vigor that negates the improvements from tamarisk control.

Hydrologic Indicators. These indicators also show little change. There are very few instances of channel downcutting, widening, sinuosity, or increasing width-to-depth ratios. Hydrologic impacts on stream channels are most evident along the Dolores River and sections of the San Miguel River, which have been dewatered for many years; these changes are minor. While there are no measured trends for hydrologic changes, Riparian Proper Functioning Condition data indicate that 75 to 88 percent of reaches studied have point bar colonization and adequate streambank vegetation to protect streambanks during floods (BLM 2009b). Activities such as heavy grazing, mining, and uncontrolled recreation use, which remove streambank vegetation, can be drivers of channel widening or downcutting and dewatering of the riparian area. These have been very limited in the planning area and have been reduced in scope over the past 20 years. Stream dewatering from upstream diversions is one of the largest influences on channel morphology and hydrologic indicators in the planning area.

Weeds

Spread of New and Existing Weed Species. Noxious weeds continue to spread rapidly across the western US. The planning area is no exception, with creeping perennials like hoary cress, oxeye daisy, Russian knapweed, and spotted knapweed spreading at rates of 8 to 24 percent per year (Duncan and Clark 2005). Evidence of this spread includes the recent appearance of the following noxious weed species that were previously absent from this area:

- yellow star thistle near Colona and Paonia, and along P12 Road in Montrose County
- spotted knapweed along Highway 90
- diffuse knapweed in an old woodcut
- jointed goatgrass along county roads
- absinth wormwood in and around Ouray
- meadow knapweed in the Owl Creek Pass area
- oxeye daisy throughout riparian areas in the San Miguel River and upper North Fork watersheds

The BLM also has anecdotal evidence that existing populations of noxious weeds have spread and increased in size. However, land health assessment data indicate that noxious weeds have not yet become a dominant feature of vegetation within the decision area. Systematic weed surveys support the idea that weeds spread at alarming rates if not controlled. This spread will continue to threaten native systems, slowly compromising native vegetation and altering these systems until they can no longer support native plant, aquatic, or wildlife populations.

Competition with Native Vegetation. Other exotic species are increasing within native vegetation. Estimates from a sampling of 190 20- to 30-year-old trend studies on decision area lands indicate that 46 percent had no exotic species either at the time the study was initiated or at the last reading of the study, while 40 percent had increasing levels of exotics, and 14 percent had declines in exotics. This has generally been substantiated and further clarified by land health assessment data. There is concern that some winter annuals like cheatgrass have the potential to overtake native vegetation, alter fuel and fire regimes, and ultimately displace entire native communities as has happened in other ecoregions. There is little evidence that this is happening on a large scale yet, as there has not been a dramatic increase in fire frequency or fires fueled by invasive annuals. Some cheatgrass-fueled burns have occurred, indicating that it is happening in localized areas.

Landscape Disturbances. Many weed invasions are tied to disturbances on the landscape. Based on partially completed road and weed inventories, about 58 percent of travel routes in the decision area have noxious weed infestations within 15 feet, while an estimated 70 percent of ponds have noxious weeds associated with them. Weeds are also commonly found in riparian areas and drainages, with 46 percent of riparian areas sampled having exotic or noxious species at some level within native vegetation. Past vegetation treatments have included seeding of nonnative species, contributing to high levels of undesirable plants such as crested wheatgrass.

Based on staff observation, the scale of disturbances infested with exotic annuals is probably even greater.

It is likely that noxious weeds and exotic plants will continue to stay at high levels and increase in some locations in the planning area. Increasing population densities and development trends on private lands, increasing recreation use, increasing mineral and oil and gas development, irrigation ditches, wildlife corridors, and sustained livestock grazing are all factors that will promote weeds and exotic species to the detriment of native plant communities.

The phenomenon of climate change is also likely to favor weeds over natives, as mountain climates move upward in elevation and desert southwest climates move into western valleys, causing disruptions in native plant communities (Ray et al. 2008). However, the risk that exotics and noxious weeds will overtake native vegetation across substantial amounts of the decision area seems unlikely over the next 20 years due to active an integrated weed management program.

3.1.6 Fish and Wildlife

This section describes the existing conditions of fish and wildlife resources within the planning area, including aquatic and terrestrial animal species and their habitats. Fish and wildlife resources include big game, upland game, waterfowl, raptors, migratory birds, small mammals, reptiles, amphibians, and fish. Colorado Parks and Wildlife (CPW) and USFWS have primary responsibilities for management of fish and wildlife species in the planning area. The BLM is responsible for land management. Therefore, on BLM-administered lands in the decision area, the BLM is directly responsible for the management of habitat for fish and wildlife species and indirectly responsible for the health of fish and wildlife populations that are supported by these habitats.

Current Condition

Habitat Types

An overview of fish and wildlife habitats in the planning area is provided in the existing conditions discussion in **Sections 3.1.4** (Water Resources) and **3.1.5** (Vegetation). Additional details particularly important to fish and wildlife management are presented here. Habitats are the specific spaces that fish and wildlife species occupy. Some species are generalists that may be found in a broad range of habitat types, while other species are specialists that may require specific habitat types and a limited range of site characteristics.

Dominant habitat types in the planning area correspond with the principal vegetation communities and include tall and low shrublands, desert shrub, grassland, woodland, forest, and riparian. Other localized habitats include rocks and cliffs, caves and mines, barren slopes, and water bodies. Vegetation communities vary based on precipitation, elevation, topography, slope, aspect, geology, soils, and other environmental variables. Habitat type and quality are further characterized by site-specific attributes such as vegetation cover, composition, and structure.

<u>Dominant Habitats in the Planning Area</u>

Sagebrush provides important habitat for sagebrush-dependent bird species, including sage sparrow (*Artemisiospiza belli*), Brewer's sparrow (*Spizella breweri*), and Gunnison sage-grouse

(*Centrocercus minimus*). Sagebrush also provides important winter range for mule deer (*Odocoileus hemionus*) and foraging habitat for open-country raptors. Salt desert shrub provides habitat for pronghorn (*Antilocapra americana*), winter range for mule deer and elk (*Cervus canadensis*), and birds such as horned lark (*Eremophila alpestris*) and Swainson's hawk (*Buteo swainsoni*). Grasslands provide habitat for northern harrier (*Circus cyaneus*), lark sparrow (*Chondestes grammacus*), prairie dog (*genus Cynomys*), and numerous other species. Pinyon-juniper woodlands and mixed mountain shrub communities provide habitat for bats, big game, ravens, and a variety of songbirds. Forests of cottonwood, aspen, ponderosa pine, and Douglas-fir provide habitat for big game such as elk, mule deer, and black bear (*Ursus americanus*), and habitat for a host of forest and woodland species, notably raptors, squirrels, bats, and songbirds, including cavity-nesting species. Riparian and aquatic habitats such as streams, rivers, and springs support warblers, raccoons, frogs, toads, and other species (aquatic species are discussed below).

Rock complexes provide unique habitats that are used by many species of wildlife. Cliff-nesting birds include golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), peregrine falcon (*Falco peregrinus anatum*), swallows, and swifts. Rocky canyons and slopes provide essential habitat for bighorn sheep (*Ovis canadensis nelsoni*) and preferred hunting areas for mountain lion, bobcat, and ringtail. Boulder piles may be occupied by American pika, marmot, and various species of woodrats and other rodents. Several bat species roost, hibernate, and breed in rock crevices, caves, and mines.

Water bodies, including rivers, perennial and intermittent streams, ponds, springs, and water diversions, provide habitat for fish, amphibians, and aquatic mammals such as beaver, river otter, and mink. Rivers and streams in the planning area include middle-elevation reaches characterized by higher gradients, fast water velocity, and normally clear, cool water. These reaches tend to support native and introduced trout species, mink, and relatively low diversity of amphibian species. At lower elevations in the planning area, rivers and streams are typically lower gradient with slower velocity; water may be sediment laden and warm during summer. These reaches typically support a mix of native and introduced warm water fish species, beaver and muskrat, and a higher diversity of amphibian species.

Key Fish and Wildlife Species

Table 3-19 (Key Fish and Wildlife Species) lists species of high priority for BLM management efforts due to their economic value, regulatory status, high public interest, or other qualities. Special status species are discussed in **Section 3.1.7** (Special Status Species).

The following discussion of fish and wildlife in the planning area includes some assessments of species distribution and population trends. This information is based on data files in the UFO, personal experience of UFO biologists, CPW Species Activity Maps (CPW 2009), and several general references on the zoology of the region. These include Colorado Birds (Andrews and Righter 1992), Colorado Breeding Bird Atlas (Kingery 1998), Birds of Western Colorado Plateau and Mesa Country (Righter et al. 2004), Amphibians and Reptiles of Colorado (Hammerson 1999), and Mammals of Colorado (Fitzgerald et al. 1994).

Table 3-19
Key Fish and Wildlife Species

Species or Group	Rationale for Key Designation
Birds	
Waterfowl and shorebirds	Economic and recreational value
Upland game birds	Economic and recreational value
Migratory birds	High interest and protected by law
Golden eagle	High interest and protected by law
Other Raptors	High interest, protected by law, top of food chain
Mammals	
Bighorn sheep, Rocky Mountain and desert	High economic and recreational value
Black bear	High interest, economic and recreational value
Elk	High interest, economic and recreational value
Moose	High interest, economic and recreational value
Mountain lion	High interest, economic and recreational value
Mule deer	High economic and recreational value
Pronghorn	High economic and recreational value
Gunnison and white-tailed prairie dogs	High interest, species declines, and listing petitions
River otter	High interest, economic value
Bats	High interest
Fish	
Rainbow, brown, and cutthroat trout	High interest, economic and recreational value

Birds

Waterfowl. Streams, rivers, reservoirs, ponds, canals, and associated riparian vegetation provide habitat for waterfowl and shorebirds. Canada goose, mallard, green-winged teal, common merganser, and American widgeon are a few of the more common game waterfowl species found in the area. Great blue heron, great egret, sandhill crane, and other wading birds and shorebirds can be found along major rivers, valleys, and irrigated fields, many as spring and fall migrants.

Upland Game Birds. The quality of upland game bird habitat depends on the availability of mixed shrubby and herbaceous vegetation for nesting, brood rearing, foraging, and thermal cover. Riparian habitat plays an important role as a source of food, water, and cover for many upland birds. Dusky grouse are widely distributed throughout the higher-elevation woodlands and into adjacent shrublands. Wild turkeys occupy ponderosa pine and Gambel oak woodlands, mixed mountain shrub, pinyon-juniper woodlands, and riparian areas. Chukar and Gambel's quail, both introduced in the planning area by CPW for sprit hunting, occur in rocky foothills, canyons, and valleys, primarily in the north and central portions of the planning area along the Uncompahgre-Gunnison River watershed. Mourning doves occupy a variety of habitats across the planning area. Ring-necked pheasants are common in agricultural lands and adjacent riparian areas.

Raptors. Raptors in the planning area include eagles, falcons, hawks, and owls. Golden eagles, red-tailed, sharp-shinned, ferruginous, Swainson's, and Cooper's hawks, peregrine and prairie

falcons, northern harrier, and American kestrel are the most common diurnal species. Great-horned owl and several other owl species occupy mostly wooded habitats in the planning area, while the burrowing owl occurs in open landscapes usually associated with prairie dogs. Cliffs, rocky outcrops, and large trees provide nesting habitat for most of these species, while a few nest in tree cavities or on the ground.

Migratory Birds. The planning area supports a variety of migratory bird species, including neotropical migrants. A migratory bird literature review by the UFO (Lambeth and Reeder 2009) complied a database of all migratory birds that occupy the planning area, mapped migratory bird species diversity in all four seasons, reviewed conservation plans from various agencies and conservation groups, and developed management recommendations and conservation opportunities for migratory birds in the planning area. At least 240 bird species are considered residents or annual visitors in the planning area. Species richness is highest in spring and fall due to the presence of migrants, with water and riparian land cover types showing the highest diversity of species. For upland habitats during spring through fall, species richness is generally higher in mid- to high-elevation shrublands and forests, but, in winter, pinyon-juniper woodlands and lower-elevation shrublands support the most species.

Recent studies and monitoring suggest that some of these populations are declining, due in part to land use and management practices and habitat loss and degradation (USFWS 2008). Some of the bird species in the planning area have been identified by USFWS as Birds of Conservation Concern (USFWS 2008). These bird species, and their habitats and conservation status, are listed in **Table 3-20** (Birds of Conservation Concern). Several species of concern listed here are also addressed in **Section 3.1.7** (Special Status Species).

Table 3-20
Birds of Conservation Concern

Species	Habitat Description	UFO Range and Status[1]
Gunnison sage-grouse *Centrocercus minimus*	Sagebrush communities for hiding and thermal cover, food, and nesting; open areas within sagebrush stands for leks; sagebrush-grass-forbs mix for nesting; wet meadows for brood rearing	Year-round resident Breeding
American bittern *Botaurus lentiginosus*	Marshes and wetlands; ground nester	Spring/ summer resident Breeding confirmed in region but not within planning area
Bald eagle[2] *Haliaeetus leucocephalus*	Nests along forested rivers and lakes; winters in upland areas, often with rivers or lakes nearby	Fall/winter resident Rarely nesting in river valleys
Ferruginous hawk *Buteo regalis*	Open, rolling and/or rugged terrain in grasslands and shrub-steppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops	Fall/ winter resident Non-breeding
Golden eagle *Aquila chrysaetos*	Open country, grasslands, woodlands, and barren areas in hilly or mountainous terrain; nests on rocky outcrops or large trees	Year-round resident Breeding

Table 3-20
Birds of Conservation Concern

Species	Habitat Description	UFO Range and Status[1]
Peregrine falcon[2] *Falco peregrinus*	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags	Spring/summer resident Breeding
Prairie falcon *Falco mexicanus*	Open country in mountains, steppe, or prairie; winters in cultivated fields; nests in holes or on ledges on rocky cliffs or embankments	Year-round resident Breeding
Snowy plover[3] *Charadrius alexandrines*	Sparsely vegetated sand flats associated with pickleweed, greasewood, and saltgrass	Rare spring migrant Non-breeding
Mountain plover *Charadrius montanus*	High plain, cultivated fields, desert scrublands, and sagebrush habitats, often in association with heavy grazing, sometimes in association with prairie dog colonies; short vegetation	Rare spring/fall migrant Non-breeding
Long-billed curlew *Numenius americanus*	Lakes and wetlands, and adjacent grassland and shrub communities	Spring/fall migrant Non-breeding
Yellow-billed cuckoo[4] *Coccyzus americanus*	Riparian, deciduous woodlands with dense undergrowth; nests in tall cottonwood and mature willow riparian, moist thickets, orchards, abandoned pastures	Summer resident Breeding
Flammulated owl *Otus flammeolus*	Montane forest, usually open and mature conifer forests including ponderosa pine, Douglas-fir, aspen, and aspen-conifer mix	Summer resident Breeding
Burrowing owl *Athene cunicularia*	Open grasslands and low shrublands often in association with prairie dog colonies; nests in abandoned burrows created by mammals; short vegetation	Spring/summer/fall resident Breeding, very few records in recent years
Lewis's woodpecker *Melanerpes lewis*	Open forest and woodland, often logged or burned, including oak, coniferous forest (often ponderosa pine), aspen, riparian woodland, and orchards, less often in pinyon-juniper	Year-round resident Breeding
Willow flycatcher[3] *Empidonax traillii*	Riparian and moist shrubby areas; winters in shrubby openings with short vegetation	Summer resident Breeding
Gray vireo *Vireo vicinior*	Pinyon-juniper and open juniper-grassland	Summer resident Breeding
Pinyon jay *Gymnorhinus cyanocephalus*	Pinyon-juniper woodlands	Year-round resident Breeding
Juniper titmouse *Baeolophus griseus*	Pinyon-juniper woodlands, especially juniper; nests in tree cavities	Year-round resident Breeding
Veery *Catharus fuscescens*	Deciduous forests, riparian, shrubs	Possible summer resident observed in Gunnison County Possible breeding
Grace's warbler *Dendroica graciae*	Mature ponderosa pine forests	Summer resident Breeding
Brewer's sparrow *Spizella breweri*	Sagebrush-grass stands; less often in pinyon-juniper woodlands	Summer resident Breeding

Table 3-20
Birds of Conservation Concern

Species	Habitat Description	UFO Range and Status[1]
Chestnut-collared longspur *Calcarius ornatus*	Open grasslands and cultivated fields	Spring migrant Non-breeding
Black rosy-finch *Leucosticte atrata*	Open country including mountain meadows, high deserts, valleys, and plains; breeds/nests in alpine areas near rock piles and cliffs	Winter resident Non-breeding
Brown-capped rosy-finch *Leucosticte australis*	Alpine meadows, cliffs, and talus and high-elevation parks and valleys	Summer resident Breeding
Cassin's finch *Carpodacus cassinii*	Open montane coniferous forests; breeds/ nests in coniferous forests	Year-round resident Breeding

Source: USFWS 2008
[1]Assessment based on UFO files and GIS data, partner data, and local knowledge
[2]ESA delisted species
[3]Non-listed subspecies/population
[4]ESA candidate species

Reptiles. Reptile species in the planning area are most diverse in lower elevations and drier habitats, such as shrublands, pinyon-juniper woodlands, and associated riparian areas. Reptile species diversity is consequently higher in the drier western portion of the planning area where these habitats are more common. Common species in the planning area include gopher snake, western rattlesnake, western terrestrial garter snake, sagebrush lizard, fence lizard, plateau striped whiptail, and collared lizard.

Mammals

Big Game. CPW has mapped some of the important seasonal habitats for big game, particularly hooved mammals. Elk and mule deer are the most abundant and widespread big game species in the planning area. During summer, elk occupy higher, often forested elevations and the planning area includes a few of the mapped calving areas and summer concentration areas. Mule deer also typically move to higher, forested elevations in summer, although some remain resident year round in lower valleys along riparian areas or agricultural and urban areas. Elk and mule deer mostly migrate to lower elevations in winter and utilize pinyon-juniper woodland, mountain shrub, sagebrush, and agricultural areas. BLM-administered lands provide the majority of deer and elk winter range in the planning area. Crucial winter ranges, consisting of CPW-defined severe winter range and winter concentration areas, are considered critical to maintaining mule deer and elk herds at desired levels in the planning area. The UFO has participated with agency and private landowner partners on many recent programs and projects to protect and improve big game winter range, including the Uncompahgre Project collaborate landscape-scale planning and brush treatment projects, brush and woodland treatments on Fruitland Mesa, and projects with CPW in the region of the Billy Creek State Wildlife Area.

Pronghorn occur in limited numbers in the northeast portion of the planning area near Delta, Colorado. BLM-administered lands provide the majority of the salt desert shrub habitat used by these open-country animals in the planning area.

CPW introduced moose into the San Juan Mountains southeast of the planning area, and more recently onto Grand Mesa north of the planning area. While no moose are permanently established within the planning area, emigrants from the established populations occasionally move into adjacent forested areas and move through the river valleys and foothills. Primary habitat for moose in Colorado is montane willow stands and similar wetland areas, along with adjacent forest stands and meadows.

Three populations of bighorn sheep occur in the planning area. Portions of the Ouray-Mt. Sneffels herd of Rocky Mountain bighorn sheep range into the planning area from the upper Uncompahgre River watershed west to near Placerville, Colorado. The sheep mostly occupy alpine tundra and subalpine meadows and cliff areas, especially in summer, but range lower into open woodlands, shrublands, and meadows in winter, particularly in the City of Ouray and adjacent oak woodlands to the northeast, and in the Placerville area where they sometimes range onto BLM-administered lands. In the 1980s, CPW reintroduced desert bighorn sheep, a more desert-adapted subspecies, to the Dolores River canyon in western Dolores and San Miguel Counties and to Dominguez and Escalante canyons on the east side of the Uncompahgre Plateau. Both of these populations range partly into the planning area, occupying arid sandstone canyons with sparse shrublands and pinyon-juniper woodlands.

Black bear are common in more mesic habitats and riparian areas throughout much of the planning area. BLM-administered lands that support aspen forest, Gambel oak shrublands, and pinyon-juniper woodlands provide key habitat for black bears, particularly in fall when bears seek rich foods, including oak acorns and pinyon nuts, as they prepare for hibernation.

Mountain lion are uncommon but widely distributed in the planning area, mainly in drier forest types and shrublands above the valleys. Mountain lions tend to favor rough terrain such as canyon edges and, in the planning area, are highly dependent on migratory herds of mule deer and elk, their primary prey.

Small Mammals. Small mammal species include mountain and desert cottontail rabbits, white-tailed jackrabbit, striped and spotted skunks, raccoon, several species of ground squirrels, chipmunks, mice, and woodrats, white-tailed prairie dog in the Uncompahgre and Gunnison River watersheds, and Gunnison's prairie dog in the western part of the panning area.

Seventeen bat species are known to occur in the planning area. Species such as the big brown bat are common in urban areas and around human settlement. Species such as the little brown bat, hoary bat, long-legged myotis, fringed myotis, and silver-haired bat are most common in forested areas. Other species are more common in desert shrublands and pinyon-juniper woodlands at lower elevations, including the California myotis, western pipistrelle, and pallid bat. Some species, such as the big free-tailed bat, Allen's lappet-browed bat, and Yuma myotis, are rare since the planning area is located at the northern or eastern edges of their breeding ranges which primarily in the desert southwest. The spotted bat, uncommon throughout its range, occupies rocky canyons in the planning area. Townsend's big-eared bat, also uncommon

throughout its range, utilizes abandoned mines as hibernacula and maternity roosts, with most of Colorado's five known roosts in abandoned mines in western Colorado. Many bat species are closely associated with streams and riparian areas. In winter, bats in the region either hibernate or migrate south. Bats roost in trees, caves, mines, rock crevices, rock piles, buildings, bridges, and other protected situations, and roost preference differs by species. Bats are especially vulnerable to human disturbance at maternity roosts where young are raised and winter hibernation sites; protection of these roosts is an important conservation concern.

Furbearers. Coyotes, bobcats, raccoons, red foxes, and muskrats occur in all habitat types throughout the planning area, with coyotes being the most abundant. In the planning area, river otters are found in the San Miguel, Dolores, and Gunnison Rivers, and in major tributaries with abundant fish.

Aquatic Species. Game fish include rainbow, brown, brook, and cutthroat trout. Non-game fish include carp, sculpin, dace, minnows, suckers, cottids, shiners, and sunfish. Amphibians occur exclusively or seasonally in most aquatic systems throughout the planning area. The most common amphibians include the western chorus frog, tiger salamander, and Woodhouse's toad.

Trends

Wildlife Populations

A Data Analysis Unit is a geographic area that represents the year-round range of a big game herd, and includes all of the seasonal ranges of a specific herd. In the planning area, elk numbers typically exceed and mule deer numbers typically fall short of CPW population targets for Data Analysis Units in the planning area. The BLM seeks to cooperate with CPW management aimed at reducing populations that exceed objectives and increasing populations that fall below objectives.

Current trends for fish, amphibians, and other aquatic species are largely unknown. With the limited data available, it appears that most raptor populations are stable. However, a number of migratory bird and neotropical passerine populations are declining across the planning area. Although data are lacking, other non-game populations, including furbearers, small mammals, and reptiles, are expected to be stable. Those wildlife species or populations thought to be at risk or declining are monitored and tracked as special status species (as described in **Section 3.1.7** [Special Status Species]).

Declining Habitat

Wildlife diversity and abundance typically reflect the diversity, quality, and quantity of habitat. In general, habitats have declined over time. Possible causes include conversion of native vegetation to agricultural uses, noxious weed infestations, and increased recreational use of public lands. The effects of habitat decline vary for each species. While problems such as poor browse conditions for wintering big game are present in some areas, most of the planning area appears to be meeting land health objectives. Still, sagebrush and salt desert habitats, in particular, have been reduced in area and quality in the planning area and other regions across the US. These sites are at risk due to overgrazing, cheatgrass and other weed invasions, pinyon-juniper succession, and other factors. Wildlife that depend on these habitat types have declined in abundance and range (see **Section 3.1.7** [Special Status Species]).

Monitoring Results

Long-term, systematic monitoring of wildlife habitat conditions, such as with permanent transects, has not been conducted in most of the planning area. Currently, the best available information is derived from annual land health assessments, including a limited number of vegetation transects in select areas. The entire decision area has been assessed using the land health methodology. Portions of each landscape were found to be meeting, meeting with problems, or failing to meet BLM Colorado Public Land Health Standards. The following is a summary of the most common conditions observed in problem areas, along with the significance to wildlife and fish.

Low cover by perennial cool season and warm season grasses and forbs. Cover by desirable native species is lower than expected for a particular site's ecological potential. This problem is most evident at drier low-elevation sites in the decision area. Low-elevation sites also sustain heavier concentrations of grazing wildlife and livestock, which may further reduce palatable native grasses. Among other benefits, healthy stands of native perennial grasses and forbs provide essential hiding and breeding cover and forage for many wildlife species.

Low plant community diversity. Plant community diversity is lower than expected for a particular site's ecological potential. This problem is often observed in connection with other symptoms, such as weeds and overbrowsing. Typically, diverse plant communities or heterogeneous habitats are more resilient to disturbances, more productive, and provide habitat for a greater number of wildlife species and individuals than uniform or homogenous plant communities. Vegetation patches that vary in type, size, shapes, and juxtaposition across a landscape are typically desired so that multiple species benefit.

Low seral stage diversity. Seral stage refers to a specific period in the development or succession of the plant community. Seral stage influences structural and spatial diversity of plant assemblages. Typically, low seral stage diversity across a landscape, such as closed-canopy pinyon-juniper, provides relatively poor habitat from a multi-species standpoint. Where late seral stages of forest communities are reduced, habitat quality for some wildlife species such as cavity-nesting birds may be reduced.

Low vegetation age-class diversity. Areas are dominated by an even-aged stand of vegetation, such as sagebrush, and some sites may be closed canopy or stagnant (e.g., lacking cover with understory grasses). Like plant community and seral stage diversity, a diverse age-class community or population is typically more resilient to environmental disturbances and provides habitat for a greater number of species than even-aged stands of vegetation. Age-class diversity also indicates that vegetation reproduction and recruitment are occurring, another indicator of land health.

Excessive weeds and/or threat of invasion. Weeds, including cheat grass, other annuals, and noxious species, are at moderate to high levels in some areas and have invaded some undisturbed sites. In some cases, weed cover occurs at a level that poses an invasion risk, should a major disturbance such as fire or drought occur. Exotic and noxious weeds often displace native vegetation, typically resulting in degraded or unsuitable habitat for wildlife.

Pinyon-juniper encroachment. Pinyon juniper communities are expanding beyond their perceived or known historical range or are increasing in canopy cover. Pinyon-juniper encroachment can render habitat unsuitable or poor for some species, such as Gunnison sage-grouse, and may alter plant community productivity, particularly in the understory community.

Habitat fragmentation, degradation, and loss. Road expansion, recreation, agriculture, and residential developments are increasing habitat fragmentation and degrading some habitats through the introduction of weeds. Disturbances may negatively impact some species and benefit others.

Degraded or unsuitable habitat due to past vegetation treatments. Some vegetation treatments have resulted in poor or unsuitable habitat for wildlife. In the planning area, the most common example is the conversion of sagebrush communities to crested wheatgrass stands. Crested wheatgrass plantings create a monoculture that typically results in poor habitat structure and diversity for wildlife, with exceptions such as big game, and contributes to declines in sagebrush obligate populations. In addition, cheatgrass, annuals, and noxious weeds have invaded a number of treatment areas. However, when done properly, sagebrush thinning can promote herbaceous production and forbs cover. Thus, some treatment areas in the UFO are recovering well and have resulted in improved conditions for wildlife.

Over-browsed shrubs and trees. Abnormal growth form, hedging, poor leader growth, high or conspicuous browse-line heights, and similar problems indicate overuse by wildlife and livestock. This problem is most evident where big game and livestock use overlap. Intensive browsing of shrubs can cause shifts in vegetation, which can impact birds, small mammals, and other wildlife. This may indicate an imbalance between big game numbers, livestock stocking rates, and animal distribution, and the capacity of a habitat to support these population levels.

Poor vigor of shrubs. Decadent plants, dead plants, poor leader growth, and marginal seed production are observed in some areas. These problems are often observed in association with heavy browsing and foraging damage by grazing animals. The health and persistence of native shrubs is critical to provide essential cover, food, and structural diversity for many wildlife species.

Loss and/or degradation of crucial habitats. Impacts from developments, weeds, recreation, and similar activities may result in short or long-term loss or degradation of crucial habitats, such as big game severe winter range and production areas.

Landscape and habitat connectivity problems. Roads, fences, trails, rangeland conversions, power lines, energy corridors, and other human developments may impede or prevent animal movement and migration.

Declining wildlife populations. Wildlife populations, such as neotropical migratory birds, may be declining.

Overabundance or unwanted growth of wildlife populations. Some wildlife species are exceeding habitat carrying capacity and may be contributing to site degradation. Overpopulation may be

inferred from both habitat condition and utilization indices, such as overbrowsing or hedging of shrubs, scat, and weed proliferation, and harvest/population data collected by CPW.

Poor water quality, channelized streams, and poor or weedy riparian vegetation. Riparian habitat is crucial to the survival of species in arid environments. In addition, the condition of fish habitat is intrinsically linked to the condition of adjacent riparian habitat and stream channel characteristics. Among other benefits, riparian vegetation moderates water temperatures, reduces stream bank erosion, and provides cover for fish. Amphibian and aquatic invertebrate species richness and diversity are strongly correlated with water quality and hydrologic conditions.

The primary causes identified for failure to meet Standard 3 include:

- Residual impacts from historic uses
- Old vegetation treatments or woodcuts
- Roads and road maintenance
- Fire suppression
- Livestock overgrazing
- Wildlife use, including excessive browsing by deer, elk, rabbits, and prairie dogs
- Wildland/urban/agricultural interface and associated activities on isolated BLM parcels
- OHV activity
- Recreation
- Recent fire
- Pipelines, canals, and other ROWs
- Livestock ponds
- Mining
- Water diversions, flow regulations, and augmented flows
- Dumping, such as trash and carcasses

The primary causes identified for failure to meet Standard 2 on riparian systems include:

- Water diversions, flow regulations, and augmented flows
- Channelized streams
- Upstream water quality problems
- Residual impacts from historic use
- Old vegetation treatments or woodcuts
- Roads and road maintenance

- Livestock overgrazing
- Wildlife use, including excessive browsing by deer, elk, rabbits, and prairie dogs
- Wildland/urban/agricultural interface and associated activities on isolated BLM parcels
- Mining

Other potential causes for land health problems include:

- Drought or climate change
- Disease
- Oil and gas development
- Lack of keystone predators to control prey populations, such elk and deer
- Sociopolitical challenges

Further discussion of land health trends and causal factors can be found in **Section 3.1.5** (Vegetation).

3.1.7 Special Status Species

Special status species are those that:

- have been proposed for listing or officially listed as threatened or endangered
- are candidates for listing as threatened or endangered under the provisions of the ESA
- have been listed by a state in a category such as threatened or endangered, implying potential endangerment or extinction
- have been designated by each BLM State Director as sensitive

Federal threatened and endangered species and designated critical habitat are managed by USFWS in cooperation with other federal agencies, with the ultimate goal of species recovery and viability. The BLM cooperates with USFWS to identify and manage critical habitat for listed species in addition to habitat previously designated. Candidate species are managed to maintain viable populations in order to avoid listing. State of Colorado and BLM sensitive species are treated similarly. The BLM, USFWS, and State of Colorado have developed formal and informal agreements to provide guidance on species management. Consultation is required on any action proposed by the BLM or another federal agency that "may affect" a listed species or critical habitat.

Federal Endangered, Threatened, Proposed, and Candidate Species

The ESA, as amended (in 16 United States Code [USC] 1531-1534), mandates the protection of species listed as threatened or endangered of extinction and the habitats on which they depend. Section 7 of the ESA clarifies the responsibility of federal agencies to utilize their authority to carry out programs for the conservation of listed species. In addition, federal agencies must consult with USFWS to insure that any action authorized, funded, or carried out by the agency

is "…not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species…"

The UFO refers to the most current list of threatened, endangered, and candidate species Colorado by county provided on the USFWS Web site[1] to analyze the effects of proposed actions on threatened, endangered, and candidate species and designated critical habitat for these species.

Current Conditions

Special Status Plants

Federally Listed Species. Two federally protected plant species are known to exist in the planning area, as shown in **Table 3-21** (Federally Listed Plant Species). Federally designated critical habitat for one of these plant species, the clay-loving wild buckwheat, also exists in the planning area. Some species are not known to inhabit in the planning area yet are included in this analysis due to historic populations in the area, adjacent known populations, the presence of suitable habitat, insufficient survey coverage, potential expansions or shifts in species ranges, and other factors. In accordance with BLM Manual 6840, Special Status Species Management, federal candidate species are managed as BLM sensitive species in order to prevent the need for future listing of species. Candidate species are discussed in the following section, BLM Sensitive Species.

Table 3-21
Federally Listed Plant Species

Common Name ***Scientific name***	**Federal Status**	**Designated Critical Habitat in Planning Area**
Clay-loving wild buckwheat *Eriogonum pelinophilum*	Endangered	Yes
Colorado hookless cactus *Sclerocactus glaucus*	Threatened	No

Source: USFWS 2010

*Clay-loving wild buckwheat (*Eriogonum pelinophilum*).* Clay-loving wild buckwheat is confined to whitish alkaline, clay soils and soils of the Mancos shale adobe badlands. This species is endemic to Montrose and Delta Counties. The following is known about the species:

- Over 22 known occurrences of clay-loving wild buckwheat have been recorded by the Colorado Natural Heritage Program (CNHP) and the BLM:
  - 9 of these occurrences are found entirely or partially on BLM-administered land. 7 of these occurrences have not been relocated in over 20 years, and 1 occurrence could not be relocated upon revisit; however, all of these occurrences are on private land.

[1] Found at http://www.fws.gov/mountain-prairie/endspp/CountyLists/Colorado.pdf

  - The 22 known occurrences are found on less than 600 acres of occupied habitat. Sites range in size from 1 acre to over 200 acres and contain anywhere from 100 to more than 10,000 individuals. Based on recent surveys, the total estimated population is likely more than 278,000 individuals on approximately 582 acres (USFWS 2009a).

- The clay-loving wild buckwheat is found on BLM-administered land on the Fairview North and Fairview South ACECs, and on BLM-administered land immediately adjacent to Fairview South ACEC (Colorado Natural Areas Program 2010; USFWS 2009a).
  - The Fairview North ACEC is within the Gunnison Gorge NCA, which is outside the planning area.
  - The Fairview South occurrence is adjacent to another protected site, the Wacker Ranch Natural Area. The Wacker Ranch was purchased through a cooperative USFWS Recovery Land Acquisition grant to Colorado State Parks/Colorado Natural Areas Program and The Nature Conservancy specifically for protection of the clay-loving wild buckwheat.
- The remaining 50 percent of known occurrences are on scattered BLM-administered land and private land. Other BLM locations include Sunshine Road, Dry Cedar Creek, Garret Ditch, and several other locations within the Gunnison Gorge NCA planning area (USFWS 2009a).
- The BLM occurrences and the Wacker Ranch occurrence together comprise about 50 percent of the total known occurrences (USFWS 2009a) and 50 percent of the known geographic area (312 of 582 acres).
- Two of the occurrences on private land are protected by conservation easements through the Black Canyon Land Trust, but the remaining occurrences on private land are vulnerable to extirpation from land development. Therefore, the occurrences on BLM-administered land, especially the Fairview South occurrence, are critical to this species' persistence and recovery.

Clay-loving wild buckwheat was listed as endangered in 1984 (USFWS 1984), a Recovery Plan was finalized in 1988 (USFWS 1988a), and a ruling on a petition to list the species was issued in 2009 (USFWS 2009a). At the time of listing, there was only 1 known population on private land with less than 10,000 individuals. The entire geographic area of the then-only population (120 acres) was designated as critical habitat. The original critical habitat remains the only critical habitat, protecting approximately 200 plants.

The clay-loving wild buckwheat is threatened primarily by habitat loss from agricultural and residential development (USFWS 1988a). Trespass OHV use and overgrazing are also threats. The small population size and small geographic extent makes the clay-loving wild buckwheat vulnerable to catastrophic events such as wildfire.

The BLM has conducted monitoring of the clay-loving wild buckwheat at four plots on Fairview South. The BLM has also collaborated with USFWS to conduct inventories for clay-loving wild

buckwheat. The following additional monitoring and protective/recovery actions for clay-loving wild buckwheat have been conducted since 2011:

- 2011–2012: UFO worked with US FWS, Montrose Model Airplane Club, and Colorado Natural Heritage Program to establish three exclosures to protect clay-loving wild buckwheat occurrences from recreation and to study the effects of livestock grazing on clay-loving wild buckwheat with a no-grazing control
- 2013: UFO established a 14-acre exclosure to protect clay-loving wild buckwheat from recreation impacts in the Elephant Skin area in the Gunnison Gorge NCA adjacent to but outside the planning area.
- 2008–2013: UFO established a long-term monitoring program for clay-loving wild buckwheat with five study plots: two in the planning area in the South Fairview ACEC, and three adjacent to but outside the planning area (in the Gunnison Gorge NCA)

Protections for the clay-loving wild buckwheat in the Fairview South ACEC include the following (BLM 1989a):

- Open to fluid minerals leasing with no surface occupancy stipulation
- Closed to disposal of mineral materials
- Open to livestock grazing unless studies determine threatened and endangered plants or habitats are being degraded
- Closed to OHV use
- Open to major utility development, except pipelines, provided there are no effects on threatened and endangered plants or habitats

The USFWS has ruled that revisions to critical habitat were warranted but precluded by other priorities. If additions to critical habitat for clay-loving wild buckwheat become a priority, USFWS may choose BLM-administered land as critical habitat.

*Colorado Hookless Cactus (*Sclerocactus glaucus*).* Habitat for the Colorado hookless cactus, formerly the Uinta Basin hookless cactus, includes rocky hills, mesa slopes, and alluvial benches in desert shrub communities at elevations from 4,500 to 6,000 feet. The Uinta Basin Hookless Cactus Recovery Plan estimated that 15,000 individual plants exist in the Gunnison River population. Recent surveys near Delta, Colorado, suggest total population size and distribution may be much larger than originally thought. Within the planning area, this species is found primarily north of Montrose, Colorado, in the lower Uncompahgre River and Gunnison River valleys, with most subpopulations found near the city of Delta, Colorado. The Colorado hookless cactus was listed as threatened in 1979 (USFWS 1979).

The taxonomy of the Colorado hookless cactus (*Sclerocactus glaucus* complex) has changed since its listing in 1979 (USFWS 2009b). The USFWS now recognizes the *Sclerocactus glaucus* complex as three separate species: the Colorado hookless cactus (*S. glaucus*), the Uinta Basin cactus (*S.*

wetlandicus), and the Pariette cactus (*S. brevispinus*). The Uinta Basin and Pariette cacti are only found in Utah, outside the planning area.

There are 314 distinct Colorado hookless cactus occurrences occupying greater than 0.25-acre that are documented, and 950 occurrences occupying less than 0.25-acre within the planning area. This does not include the Dominguez-Escalante or Gunnison Gorge NCAs, both of which also contain significant occurrences adjacent to the planning area. Currently identified Colorado hookless cactus occurrences occupy more than 3,000 acres within the planning area. Numerous point-in-time counts conducted between 2012 and 2013 suggest that historic Element Occurrence Records drastically underestimate the size of the occurrences. Since the publication of the 2010 USFWS Recovery Outline, 94 new distinct occurrences have been documented within the planning area, totaling well over 2,000 individuals. Within the last 10 years, two newly designated wilderness areas have effectively protected a substantial portion of the species' range from development-related impacts, and the Dominguez-Escalante and Gunnison Gorge NCAs have added or are likely to add new protections specific to the conservation of the Colorado hookless cactus. Continued survey is likely to add significantly more new occurrences within the planning area.

BLM Sensitive Species. Species designated as BLM sensitive are native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or
2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

All federal candidate species, proposed species, and delisted species in the five years following delisting are considered BLM sensitive species. BLM sensitive species may also include Colorado State endangered, threatened, and species of conservation concern; or plant species ranked as critically imperiled (G1 or S1) or imperiled (G2 or S2) by the CNHP. Sensitive species known to inhabit and potentially inhabiting in the planning area are listed in **Table 3-22** (Sensitive Plant Species Known to Inhabit and Potentially Inhabit the Planning Area).

All BLM sensitive species are managed in accordance with BLM Manual 6840, Special Status Species Management (BLM 2008j).

*Grand Junction Milkvetch (*Astragalus linifolius*).* Habitat for this milkvetch includes sparsely vegetated sites, often within the Chinle and Morrison formations and selenium-bearing soils, in pinyon-juniper and sagebrush communities at 4,800 to 6,200 feet in elevation. Plants often grow on rocky slopes and in canyons. Based on current knowledge, the species is confined to the east side of the Uncompahgre Plateau. There has been one report of the plant along the west side of the plateau has been reported, but this is believed to be a misidentification of the species.

Table 3-22
Sensitive Plant Species Known to Inhabit and Potentially Inhabit the Planning Area

Common Name	Scientific Name
Grand Junction milkvetch	*Astragalus linifolius*
Naturita milkvetch	*Astragalus naturitensis*
San Rafael milkvetch	*Astragalus rafaelensis*
Sandstone milkvetch	*Astragalus sesquiflorus*
Gypsum Valley cateye	*Cryptantha gypsophila*
Fragile (slender) rockbrake	*Cryptogramma stelleri*
Kachina daisy (fleabane)	*Erigeron kachinensis*
Montrose (Uncompahgre) bladderpod	*Lesquerella vicina*
Colorado (adobe) desert parsley	*Lomatium concinnum*
Paradox Valley lupine	*Lupinus crassus*
Dolores skeleton plant	*Lygodesmia doloresensis*
Eastwood monkey-flower	*Mimulus eastwoodiae*
Paradox (aromatic Indian) breadroot	*Pediomelum aromaticum*

Source: BLM 2009c

*Naturita Milkvetch (*Astragalus naturitensis*).* Habitat for the Naturita milkvetch includes the cracks and ledges of sandstone cliffs and flat bedrock areas with shallow soil development within pinyon-juniper woodlands at elevations of 5,000 to 7,000 feet. This species is found on mesas adjacent to the Dolores River and its tributaries in Montrose and San Miguel Counties, including portions of the BLM Dolores Field Office. Recent surveys have found additional populations in region, including a population in the Dominguez-Escalante NCA area in the Grand Junction Field Office, and the species appears to be more abundant than originally thought.

*San Rafael Milkvetch (*Astragalus rafaelensis*).* San Rafael Milkvetch habitat includes sandy clay gulches at the foot of sandstone outcrops, boulders along dry watercourses, and gullied hills and washes in seleniferous soils at 4,500 to 5,300 feet in elevation. The species is found in the Dolores River canyon, on side slopes, and tributary drainages near Uravan, Nucla, and Roc Creek.

*Sandstone Milkvetch (*Astragalus sesquiflorus*).* Habitat for this milkvetch includes sandstone rock ledges, slickrock fissures, cliff talus, and sometimes, sandy washes at 5,000 to 5,500 feet in elevation. This species is found in the Dolores River canyon near Uravan and in the Paradox Valley area.

*Gypsum Valley Cateye (*Cryptantha gypsophila*).* This cateye species is confined to scattered gypsum outcrops and grayish-white, often lichen-covered, soils of the Paradox Member of the Hermosa Formation at elevations from 5,200 to 6,500 feet. It is often the dominant plant at these sites. Although suitable habitats are present, particularly in the Paradox Valley region, no populations have been found in the planning area. Several known populations exist in neighboring BLM field offices.

*Fragile (slender) Rockbrake (*Cryptogramma stelleri*).* Habitat for the fragile rockbrake includes cool, moist, sheltered calcareous cliff crevices and rock ledges, typically in coniferous forest or other boreal habitats. Known populations exist within the planning area but are restricted to higher elevation lands administered by the Forest Service.

*Kachina Daisy (*Erigeron kachinensis*).* This species of daisy is found in wet, seasonally flooded sites and in the shallow caves or hanging gardens of red sandstone cliffs at 4,800 to 8,400 feet in elevation. One population exists within the planning area in Coyote Wash near the Dolores River. Populations are also found along the Dolores River south and north of the UFO in the Grand Junction and Dolores Field Offices. Suitable habitat is present in the Dolores River vicinity and other similar areas in the UFO, and future surveys will likely discover additional populations.

*Montrose Bladderpod (*Lesquerella vicina*).* This bladderpod species inhabits sandy-gravel soil comprised mostly of sandstone fragments over Mancos shale adobe soils, primarily in pinyon-juniper woodlands or pinyon-juniper and salt desert scrub mixed communities at 5,800 to 7,500 feet in elevation. The species is found less often in sandy soils in sagebrush steppe communities. Distribution centers on the Uncompahgre River Valley in south Montrose County and north Ouray County, with most populations near the town of Montrose. However, outlying subpopulations persist near Escalante Canyon just south of the Delta County line, and north to the Peach Valley area in the Gunnison Gorge NCA in Montrose County.

*Colorado Desert Parsley (*Lomatium concinnum*).* This species of parsley prefers barren adobe soils derived from Mancos Shale in shrub-dominated communities, including sagebrush, shadscale, or scrub oak at 4,300 to 7,300 feet in elevation. The species is found along the lower Uncompahgre and Gunnison River valleys in Montrose, Delta, and Ouray Counties.

*Paradox Valley Lupine (*Lupinus crassus*).* Paradox Valley lupine is typically found in or near pinyon-juniper or juniper woodland at 5,000 to 5,800 feet in elevation, on shales, quaternary alluvium, and other sparsely vegetated soils. The species is often found in drainages in the Paradox Valley near Nucla and Naturita.

*Dolores Skeleton Plant (*Lygodesmia doloresensis*).* Habitat for the Dolores skeleton plant includes juniper-shrub or juniper-grassland communities in reddish-purple alluvial soils derived from sandstone outcrops at 4,000 to 5,500 feet in elevation. Most of these plants are found along benches between canyon walls and the river in juniper, shadscale, or sagebrush communities. Distribution includes the Dolores River Valley near Gateway, Colorado, in the Grand Junction Field Office, and Grand County, Utah. Although not confirmed, this species potentially inhabits the Dolores River corridor within the planning area.

*Eastwood Monkey-flower (*Mimulus eastwoodiae*).* The Eastwood monkey-flower is found exclusively in hanging gardens in the shallow alcoves or horizontal cracks of sandstone canyon walls at 4,700 to 5,800 feet in elevation. Several subpopulations inhabit a series of seep alcoves along Escalante Canyon in Delta County (Dominguez-Escalante NCA). Several other locations are found just outside the UFO along the Dolores River.

*Paradox Breadroot (*Pediomelum aromaticum*).* This breadroot species prefers open pinyon-juniper, sagebrush, and shadscale communities in sandy or clay soils on adobe hills or in dry washes at 4,800 to 5,700 feet in elevation. This plant is often found alongside the Paradox Valley lupine (see description above.) The distribution of this breadroot is concentrated in the Paradox Valley of western Montrose County, although additional occurrences have been found along the Dolores River and its tributaries.

In general, threats to all BLM sensitive plants include water development, livestock grazing, weeds, OHVs, mining, oil and gas, and climate change. To date, permitted actions that affect special status plants are routinely moved, modified, or mitigated to reduce impacts to individuals or populations.

Special Status Fish and Wildlife

Federally Listed Species. Ten federally protected animal species potentially exist in the planning area, as shown in **Table 3-23** (Federally Listed Fish and Wildlife Species). Federally designated critical habitat for two of these species also exists in the planning area. Some species are not known to exist in the planning area yet are included in this analysis and all other project planning efforts due to historic populations in the area, adjacent known populations, a presence of suitable habitat, insufficient survey coverage, potential expansions or shifts in species ranges, and other factors. In accordance with BLM Manual 6840, Special Status Species Management, federal candidate species are managed as BLM sensitive species in order to prevent the need for future listing of species. Candidate species are discussed in the following section, BLM Sensitive Species.

Colorado River endangered fishes include the following four species, all of which inhabit the larger rivers of the Colorado River Watershed in lower-elevation warm water reaches. The Gunnison, Uncompahgre, Dolores, and San Miguel Rivers all flow through the planning area into the Upper Colorado River system, which supports populations of these species. Critical habitat was designated in 1994 for all four species (USFWS 1994), and recovery plans for each species were amended in 2002 with the addition of recovery goals for each species (USFWS 2002).

*Colorado Pikeminnow (*Ptychocheilus lucius*).* In the planning area, critical habitat includes the Gunnison River and its 100-year floodplain from the mouth of the Uncompahgre River near Delta north to the planning area boundary. In the planning area, the Colorado pikeminnow are found in the Gunnison River below the Uncompahgre River, and the lower reaches of the Uncompahgre River (USFWS 2002). Recent data also suggests this species may exist in portions of the Dolores River (BLM 2010p).

*Razorback Sucker (*Xyrauchen texanus*).* In the planning area, critical habitat includes the Gunnison River and its 100-year floodplain from the mouth of the Uncompahgre River near Delta north to the planning area boundary. Historically, razorback suckers inhabited as far upstream as the Gunnison and Uncompahgre River confluence. Today only small populations are found in the Colorado River and in the Gunnison River below the planning area.

*Bonytail Chub (*Gila elegans*).* Critical habitat includes parts of the Colorado River downstream of the planning area. Bonytails historically were found in the Gunnison River up to about Delta, Colorado. Presently, no known populations exist in Colorado (USFWS 2002).

Table 3-23
Federally Listed Fish and Wildlife Species

Species	Federal Status	Designated Critical Habitat in Planning Area
Bonytail chub *Gila elegans*	Endangered	No
Humpback chub *Gila cypha*	Endangered	No
Razorback sucker *Xyrauchen texanus*	Endangered	Yes
Colorado pikeminnow *Ptychocheilus lucius*	Endangered	Yes
Greenback cutthroat trout *Oncorhynchus clarki stomias*	Threatened	No
Gunnison sage-grouse *Centrocercus minimus*	Proposed (endangered)	No[1]
Black-footed ferret *Mustela nigripes*	Endangered	No
Canada lynx *Lynx canadensis*	Threatened	No
Mexican spotted owl *Strix occidentalis*	Threatened	No
Southwestern willow flycatcher *Empidonax traillii extimus*	Endangered	No
Uncompahgre fritillary butterfly *Boloria acrocnema*	Endangered	No

Source: USFWS 2010, 78 *Federal Register* 2486-2538, January 11, 2013
[1]Critical habitat for the Gunnison sage-grouse has been proposed by the USFWS. The proposal includes habitat in the planning area (78 *Federal Register* 2540-2570, January 11, 2013).

*Humpback Chub (*Gila cypha*).* Critical habitat includes parts of the Colorado River downstream of the planning area. The historic range of the humpback chub is similar to that of the Colorado pikeminnow. While this species may still exist in the lower Gunnison River near the mouth, most are found in the Colorado River downstream of Grand Junction. This species likely does not exist in the planning area.

*Greenback Cutthroat Trout (*Oncorhynchus clarki stomias*).* A recovery plan for this subspecies was completed in 1998 (USFWS 1998). No critical habitat has been designated. Habitat for the greenback includes cold-water streams and lakes with adequate spawning habitat in gravelly riffles, often with shading cover. Young typically shelter in shallow backwaters. Greenbacks are closely related to the Colorado River cutthroat trout, a BLM sensitive species found in similar habitats in the region, and the two subspecies are difficult or impossible to distinguish from appearance alone. Greenbacks were originally native to the Arkansas and South Platte River systems in Colorado and Wyoming, east of the continental divide. Recent genetic studies have indicated that some native cutthroat populations in western Colorado are best characterized genetically as greenback cutthroat trout, possibly due to human transport of fish across the continental divide. Known greenback populations in the planning area are restricted to a few relatively short stream segments in Delta County, south of Grand Mesa. Ongoing studies may

further resolve the current uncertainty over taxonomy and distribution of greenback cutthroat trout on the western slope.

*Black-footed Ferret (*Mustela nigripes*).* A recovery plan has been completed (USFWS 1988b) and no critical habitat has been designated. Black-footed ferrets are found exclusively in association with prairie dogs and require colonies greater than 200 acres with a density of greater than eight burrows per acre (USFWS 1988b). Black-footed ferrets are carnivores, preying almost entirely on prairie dogs and living within their burrow systems. Historically black-footed ferrets occupied the Gunnison and Uncompahgre River valleys, but the species has been extirpated from this area of Colorado for more than 30 years. Gunnison and white-tailed prairie dogs exist in the planning area, but no colonies are large and dense enough to support black-footed ferrets.

*Canada Lynx (*Lynx canadensis*).* A recovery plan was completed (USFWS 2005) and critical habitat has been designated and revised (USFWS 2009c), with no critical habitat in Colorado. Lynx historically existed in Colorado but were extirpated by the 1970s. CPW began a reintroduction program in 1999, and lynx are now established in the San Juan Mountains of southwestern Colorado and are found at least occasionally in other mountainous areas of the state. Lynx in Colorado use primary habitat of spruce-fir forest and secondary habitat of aspen and drier conifer forest types (Ruediger et al. 2000). Lynx sometimes move large distances, and maintenance of movement corridors between habitat areas is an important conservation concern. Primary habitat for lynx is very limited in the planning area. Lynx may occasionally be present in the higher elevations of the planning area.

*Gunnison Sage-grouse (*Centrocercus minimus*)*: The Gunnison sage-grouse is found in sagebrush communities, adjacent riparian meadows, and mixed mountain shrub communities with a diversity of understory grasses and forbs. Sagebrush provides essential cover throughout the year and winter food. Three Gunnison sage-grouse populations inhabit the planning area: Crawford (west of Crawford, Colorado), Cerro Summit-Cimarron-Sims Mesa (east and south of Montrose, Colorado), and San Miguel (mainly near Miramonte Reservoir, Colorado, mostly in the Dolores Field Office planning area). The species is proposed for listing under the ESA. The UFO has conducted several habitat improvement projects to benefit Gunnison sage-grouse, primarily in the Crawford Area, in the Gunnison Gorge NCA (outside but adjacent to the planning area), and is active in collaborative working groups and other cooperative efforts to conserve this species and its habitats.

*Mexican Spotted Owl (*Strix occidentalis*)*: Although widely variable by region and population, typical habitat for this species includes deep canyons with dense old growth conifers with high canopy cover and stand density. Mexican spotted owls are not known to exist within the planning area, although small isolated areas of suitable habitat may be present in the west and north portions of the planning area. Numerous spotted owl surveys over the past 20 years have been conducted in the major drainages of the Dolores and San Miguel watersheds and the Uncompahgre Plateau, all with negative results. The nearest known populations are to the west around Moab, Utah, to the south near Mesa Verde National Park, and to the east around Canon City, Colorado. USFWS considers all suitable terrain in western Colorado to be potential habitat for Mexican spotted owls.

*Southwestern Willow Flycatcher (*Empidonax traillii extimus*)*: Breeding habitats include riparian tree and shrub communities along rivers, wetlands, and lakes. In Colorado, historic and current breeding range includes the extreme southwest portion of the state. Although suitable habitat is found in the region, the planning area is outside the current known range for the southwestern willow flycatcher.

*Uncompahgre Fritillary Butterfly (*Boloria acrocnema*).* The Uncompahgre fritillary butterfly is found in the San Juan Mountains above 12,000 feet elevation on moist alpine slopes with extensive stands of snow willow, a very short mat-forming willow species. In the planning area, habitat is very limited and no known populations of the butterfly exist. The known colonies in the San Juan Mountains are on lands managed by the Forest Service and the BLM Gunnison Field Office. The greatest known controllable threat is collecting by butterfly enthusiasts. Climatological patterns, disease, parasitism, predation, and trampling of larvae by humans and livestock are other possible threats.

BLM Sensitive Species. Sensitive species known to inhabit and potentially inhabiting the planning area are listed in **Table 3-24** (Sensitive Animal Species Known to Inhabit and Potentially Inhabiting the Planning Area).

*Roundtail Chub (*Gila robusta*)*: Roundtail chub habitats include warm to cool waters with rocky runs and rapids, and pools in creeks, streams, and rivers. Roundtail chubs also inhabit some reservoirs. Important habitat features include cobble-rubble, sand-cobble, or sand-gravel substrate. The chub exists in warm-water watersheds at lower elevations across the UFO, including the Lower Gunnison River downstream of the North Fork, Dolores River, and San Miguel River.

*Bluehead Sucker (*Catostomus discobolus*)*: While blueheads typically inhabit cool rivers and mountain streams, they are occasionally found in lakes and warm, turbid streams. Most occupied sites have moderate to fast flowing water above rubble-rock substrate. In the UFO, the species are found in the lower Dolores River, lower San Miguel River, and lower Gunnison River watersheds.

*Flannelmouth Sucker (*Catostomas latipinnis*)*: Habitats for the flannelmouth sucker include rivers and creeks free of major impoundments and barriers. In the planning area, the species is known to exist in the lower Dolores, lower Gunnison, and lower San Miguel river watersheds.

*Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*)*: This is the native trout of western Colorado. It requires cool, clear water and well-vegetated streambanks for cover and bank stability, as well as instream features including deep pools, boulders, and logs. Populations are found in higher-elevation streams and lakes. The planning area has a number of more or less isolated populations in mid- to high-elevation stretches and major tributaries of the Gunnison, North Fork of the Gunnison, Uncompahgre, San Miguel, and Dolores rivers.

*Desert Bighorn Sheep (*Ovis canadensis nelsoni*)*: Important habitat requirements for the desert bighorn include escape terrain and areas with high visibility, with good forage sources and reliable water sources nearby. Terrain is typically rough, rocky, and broken by canyons and

Table 3-24
Sensitive Animal Species Known to Inhabit and Potentially Inhabiting the Planning Area

Common Name	Scientific Name
FISH	
Roundtail chub	*Gila robusta*
Bluehead sucker	*Catostomus discobolus*
Flannelmouth sucker	*Catostomas latipinnis*
Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*
MAMMALS	
Desert bighorn sheep	*Ovis canadensis nelsoni*
Gunnison's prairie dog	*Cynomys gunnisoni*
White-tailed prairie dog	*Cynomys leucurus*
Kit fox	*Vulpes macrotis*
Allen's (Mexican) big-eared bat	*Idionycteris phyllotis*
Big free-tailed bat	*Nyctinomops macrotis*
Spotted bat	*Euderma maculatum*
Townsend's big-eared bat	*Corynorhinus townsendii*
Fringed myotis	*Myotis thysanodes*
BIRDS	
Bald eagle	*Haliaeetus leucocephalus*
American peregrine falcon	*Falco peregrinus anatum*
Western yellow-billed cuckoo	*Coccyzus americanus*
Northern goshawk	*Accipter gentilis*
Ferruginous hawk	*Buteo regalis*
Burrowing owl	*Athene cunicularia*
Columbian sharp-tailed grouse	*Tympanuchus phasianellus columbianus*
Long-billed curlew	*Numenius americanus*
White-faced ibis	*Plegadis chihi*
American white pelican	*Pelecanus erythrorhynchos*
Brewer's sparrow	*Spizella breweri*
Black swift	*Cypseloides niger*
REPTILES and AMPHIBIANS	
Longnose leopard lizard	*Gambelia wislizenii*
Midget faded rattlesnake	*Crotalus viridis concolor*
Milk snake	*Lampropeltis triangulum taylori*
Northern leopard frog	*Rana pipiens*
Canyon treefrog	*Hyla arenicolor*
Boreal toad	*Anaxyrus boreas boreas*
INVERTEBRATES	
Great Basin silverspot butterfly	*Speyeria nokomis Nokomis*

Source: BLM 2009c

washes, with steep slopes used for lambing and predator avoidance and cliff overhangs for shade in hot weather. Desert bighorn utilize grass and shrub communities, generally avoiding areas of dense vegetation and poor visibility. Water availability can influence distribution patterns for some herds. In the UFO, desert bighorn sheep are found along the Lower Dolores River corridor and in the area around Roubideau Creek-Camel Back Wilderness Study Area (WSA), including portions of the Dominguez-Escalante NCA. The Dominguez-Escalante-Roubideau herd is currently the largest in the state of Colorado. Both populations in the UFO are the result of reintroductions by CPW in the 1980s, and the populations are closely managed.

*Gunnison's Prairie Dog (*Cynomys gunnisoni*)*: Gunnison's prairie dog habitats include level to gently sloping grasslands and semi-desert and montane shrublands at elevations from 6,000 to 12,000 feet. Although historically present in the Uncompahgre River Valley and surrounding areas, this species now exists primarily in the south and west portions of the planning area (Seglund et al. 2005). A 12-month finding by USFWS on a petition to list the Gunnison's prairie dog under the ESA determined that the "montane population segment, in south-central Colorado and north-central New Mexico, has experienced significant declines and is warranted for listing, but precluded by higher priority actions." The primary threat is sylvatic plague, which appears to be more prevalent at montane elevations. Other threats are habitat loss and direct take, which can include recreational shooting. While Gunnison's prairie dogs are found in the planning area, there are no known populations on BLM-administered lands that meet the USFWS definition of the "montane" population segment. However, one small colony inhabits private lands within the montane range near Ridgway, Colorado. CPW is conducting genetic studies to examine the differences, if any, between prairie and montane subpopulations.

*White-tailed Prairie Dog (*Cynomys leucurus*)*: Habitats include level to gently sloping grasslands and semi-desert grasslands typically from 5,000 to 10,000 feet elevation. Within the planning area, colonies are concentrated along the lower valleys of the Uncompahgre, Gunnison, and North Fork of the Gunnison Rivers and adjacent lowlands. White-tailed prairie dog range partially overlaps with Gunnison's prairie dog in the upper Uncompahgre River valley in Ouray County. Generally, most colonies east of the Uncompahgre Plateau are white-tailed, while colonies west of the plateau are Gunnison's prairie dogs (Seglund et al. 2005). Genetic testing is underway to determine whether there is evidence of hybridization between these two species. Threats include plague, habitat loss, and direct take, which can include recreational shooting.

*Kit Fox (*Vulpes macrotis*)*: Kit foxes occupy sparsely vegetated semi-desert shrublands, primarily dominated by saltbush, shadscale, and greasewood. Kit foxes spend most daylight hours in dens, important for raising young and avoiding predators such as coyotes, and hunt small mammals and other small prey at night. Probably never abundant in western Colorado in recent times, by the 1990s the species was known from only a few scattered locations in adobe hills around Montrose, Delta, and Grand Junction (Fitzgerald 1996) and recent intensive surveys suggest that kit fox are now extirpated, or nearly so, from Colorado (Reed-Eckert 2009). Kit fox are listed as endangered in Colorado by CPW but remain relatively common in suitable habitat of adjacent eastern Utah.

*Allen's (Mexican) Big-eared Bat (*Idionycteris phyllotis*)*: Habitats for Allen's big-eared bat include mountainous, wooded areas dominated by ponderosa pine, pinyon-juniper, and oak brush,

riparian woodlands, and low-elevation deserts. This bat is typically found near rock and cliff features, and is frequently observed along streams or over ponds. The species was first recorded (acoustically) in Colorado in western Montrose County in the planning area (Hayes et al. 2009). The species has not yet been confirmed through capture techniques. Suitable habitat for this species exists across the planning area, and the species may be more widespread than currently documented.

*Big Free-tailed Bat (*Nyctinomops macrotis*)*: Habitats for the big free-tailed bat include rocky areas in rugged country, shrubland deserts, and woodlands. The species roosts in cliff and cave crevices, and occasionally in tree cavities. Big free-tailed bats have been documented along the Dolores River in Montrose County, and 2008 surveys in Paradox Valley suggested the presence of big free-tailed bats based on recorded echolocation calls (Hayes 2008). The species may exist across the planning area wherever suitable habitat is present.

*Townsend's Big-eared Bat (*Corynorhinus townsendii*)*: Townsend's big-eared bats commonly utilize mesic habitats characterized by coniferous and deciduous forests but occupy a broad range of other habitats, including sagebrush steppes, juniper woodlands, and mountain shrub communities. Maternity and hibernation typically occur in caves and mine shafts. Maternity roosts for Townsend's big-eared bats were documented at Hieroglyphic Canyon west of Uravan and at Joe Davis Hill Project along the Dolores River. Roosting sites are found in several mines in the Dolores and San Miguel Canyons. Surveys in the Paradox Valley recorded echolocation call sequences consistent with that of Townsend's big-eared bats. The species is likely to be found across the planning area wherever suitable habitat is present.

*Spotted Bat (*Euderma maculatum*)*: Spotted bats inhabit desert to montane coniferous stands, including open ponderosa pine, pinyon-juniper woodland, and canyon bottoms, open pastures, and hayfields. Although roosting behavior is poorly known, spotted bats appear to roost singly in crevices of rocky cliffs near surface water. The species, including lactating females, are known to forage long distances (20 to 30 miles) from roost sites (Rabe et al. 1998; Siders et. al 1999). Spotted bats were recently documented through call identification in the Gunnison Gorge and Black Canyon of the Gunnison National Park (Hayes 2009). This bat is expected to exist in other major canyon systems in western Montrose County.

*Fringed Myotis (*Myotis thysanodes*)*: Habitats for the fringed myotis include desert, grasslands, and woodlands. Common vegetation associations may include ponderosa pine, pinyon-juniper, greasewood, saltbush, and scrub oak. Roost sites include caves, mines, rock crevices, buildings, and other protected sites. The species has been documented in inactive mines in Montrose and San Miguel Counties (Navo et al. 2003; Navo et al. 2005) and identified by echolocation call surveys in Paradox Valley (Hayes 2008). Suitable habitat is found throughout the planning area.

*Bald Eagle (*Haliaeetus leucocephalus*)*: Bald eagles concentrate near rivers, lakes, and adjacent uplands. In the planning area, most birds are observed along the Uncompahgre, San Miguel, and Gunnison Rivers. Nesting is rare in the planning area, with just one active nest known in 2010 near Delta. Bald eagles are common in the lower valleys and western mesas in winter. CPW has identified winter forage, winter concentration, and roosts in the planning area. The bald eagle was removed from ESA federal listing in July 2007. Management of eagles and their habitat is

guided by the delisting monitoring plan for five years, and the species is protected by the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act.

*Peregrine Falcon (*Falco peregrinus anatum*)*: Peregrine falcons occupy open, rugged terrain, typically on cliffs or similar features near water. Nests are often on cliff faces and rarely in trees. Peregrines and their habitat are found throughout the planning area, with the greatest concentration along the Dolores River. Peregrine falcons were removed from ESA federal listing in 1999, and are currently managed under the delisting monitoring plan.

*Western Yellow-billed Cuckoo (*Coccyzus americanus*)*: Habitats for the cuckoo include extensive cottonwood galleries and riparian willow thickets with dense undergrowth. Suitable habitat is found across the planning area, primarily at lower elevations. This species had not been reported in the region since the late 1980s until surveys in 2008 and 2009 documented nesting pairs on private land near the North Fork of the Gunnison River in Delta County. Summer observations of the species have been recently reported near the San Miguel River and south of Montrose, Colorado, but no breeding has been documented in those areas.

*Northern Goshawk (*Accipiter gentilis*)*: In the western US, goshawk habitats include coniferous forest and mature aspen woodlands, often on north-facing slopes. Northern goshawks typically nest in large blocks of forested habitats above 7,000 feet elevation. Nesting has been confirmed on adjoining National Forest System lands and is possible on higher elevation BLM-administered lands in the planning area.

*Ferruginous Hawk (*Buteo regalis*)*: Habitats for the ferruginous hawk include open landscapes in grassland, shrubland, and juniper-pinyon woodland types. This species is often observed near prairie dog colonies and other rodent populations, in proximity to their primary prey. The species apparently is only found as an uncommon winter resident and migrant in the planning area. However, suitable nesting habitat is common, particularly along the lower Uncompahgre and Gunnison River Valleys.

*Burrowing Owl (*Athene cunicularia*)*: Burrowing owls are primarily found in grasslands and mountain parks, usually in or near prairie dog towns. The burrowing owl also uses well-drained steppes, deserts, prairies, and agricultural lands. Burrowing owls require rodent burrows, typically prairie dog, for shelter and nesting. Abandoned prairie dog colonies eventually become unsuitable for burrowing owls due to burrow collapse. Although very uncommon in the planning area, the species has been observed during breeding season in Delta County between 2007 and 2009 and in western Montrose County in 2005.

*Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)*: Sharp-tailed grouse prefer deciduous shrub or woodland communities with native grasses and perennial forbs. In Colorado, serviceberry provides critical winter food and cover. Grasses and forbs provide nesting cover and brood-rearing habitat. Other habitat types include sagebrush, Gambel oak, and aspen. Columbian sharp-tailed grouse historically occupied parts of the planning area, especially the Uncompahgre Plateau; the species has not been reported in the area since the 1990s and is presumed extirpated.

*Long-billed Curlew (*Numenius americanus*)*: Curlew habitats include lakes, ponds, wetlands, and adjacent grassland and shrub communities. This species has been documented as a migrant, but is not known to nest in the planning area.

*White-faced Ibis (*Plegadis chihi*)*: The white-faced ibis inhabits shallow ponds and lake margins, irrigated hayfields, and wet meadows. The species is a fairly common spring and fall migrant in the planning area, primarily along the lower Uncompahgre and Gunnison river valleys. Breeding is rare in western Colorado, but possible in the planning area.

*American White Pelican (*Pelecanus erythrorhynchos*)*: Habitats for the pelican include rivers, lakes, reservoirs, estuaries, bays, and open marshes, as well as inshore marine habitats. Pelicans typically rest, roost, and locate their nests on islands or peninsulas (natural or dredge spoils) in brackish or freshwater lakes, or on ephemeral islands in shallower wetlands. White pelicans are uncommon spring and fall migrants in the planning area, and sometimes rest on larger surface waters such as rivers and reservoirs. In some years a few have remained during summer at Fruitgrower's Reservoir in Delta County and other locations, but there are no breeding records for the planning area.

*Brewer's Sparrow (*Spizella breweri*)*: Brewer's sparrow primarily breeds in sagebrush communities, and occasionally in other shrublands such as mountain mahogany and rabbitbrush. Migrants are found in wooded, brushy, and weedy riparian, agricultural, and urban areas. The species occasionally utilizes pinyon-juniper woodlands for habitat. Brewer's sparrows are summer breeding residents in suitable habitats throughout the planning area.

*Black Swift (*Cypseloides niger*)*: Black swifts nest in small colonies, in Colorado exclusively near or behind waterfalls along mountain streams. All known nesting colonies in the vicinity of the planning area are at least 8,000 feet in elevation, typically over 9,000 feet. Known colonies near the planning area are in the vicinity of Ouray and Telluride, Colorado, Black Canyon of the Gunnison National Park, West Elk Wilderness, and Raggeds Wilderness. Black swifts forage widely and are likely to forage over BLM-administered lands. The species has been observed in the Dominguez-Escalante NCA planning area, although breeding has not been confirmed.

*Longnose Leopard Lizard (*Gambelia wislizenii*)*: Habitats for this lizard include lowland desert and semidesert areas with scattered shrubs or other low plants, such as sagebrush, especially in areas with abundant rodent burrows. No populations have been documented in the planning area, and the nearest known populations are in western Montezuma and Mesa Counties. However, the distribution in Colorado is not well known, and the species could exist in lower elevations in the western part of the planning area.

*Midget Faded Rattlesnake (*Crotalus viridis concolor*)*: The distribution of this snake appears to be limited by the availability of rocky outcrops, which support many of their survival needs, including cover and winter hibernation sites. In the planning area, the midget faded rattlesnake has been documented along the lower Gunnison, Dolores, and San Miguel rivers and tributaries.

*Milk Snake (*Lampropeltis triangulum taylori*)*: Habitats for the milk snake vary from desert scrub to grassland to scrub oak to pinyon-juniper, at elevations from 4,000 to 7,500 feet. Throughout most of their range, milk snakes are most often found in gravelly or sandy soils, and they

typically do not inhabit areas with thick clay or hardpan. Known populations in the planning area include areas along the Uncompahgre and Gunnison river valleys. The species is also likely to be found in western portions of the planning area.

*Northern Leopard Frog (*Rana pipiens*)*: The northern leopard frog inhabits springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes. Sites usually contain perennial water and aquatic vegetation. In the summer, the species sometimes inhabits wet meadows and fields. Within the planning area, the species has been reported along the San Miguel, Uncompahgre, and Dolores rivers, as well as the major tributaries.

*Canyon Treefrog (*Hyla arenicolor*)*: The canyon treefrog requires temporary or permanent pools along streams for breeding, typically in rocky canyons. Because the species is primarily terrestrial, it is also found in arroyos and streambeds in pinyon-juniper communities. Several populations are known in the planning area, primarily in the lower San Miguel and Dolores river watersheds.

*Boreal Toad (*Anaxyrus boreas boreas*)*: The boreal toad is a state endangered species not known to exist in the planning area. However, the species has been documented in Ouray County, south of the planning area. Limited habitat may be present at higher elevation BLM-administered lands (above 7,500 feet) within the planning area, near lakes, ponds, meadows, and wetlands. Formerly widespread and common, boreal toads are now rare except in localized areas.

*Great Basin Silverspot Butterfly (*Speyeria nokomis nokomis*)*: The Great Basin silverspot butterfly is found in arid, streamside meadows and open seepage areas, typically with an abundance of the northern bog violet (*Viola nephrophylla*), upon which this species depends. The colonies of the silverspot are often isolated. There are historic records of this species in Paradox Valley, although the exact location is uncertain and habitats do not appear suitable in that area. There are no current populations known in the planning area, with the closest known population in Unaweep Canyon in the Grand Junction Field Office.

Trends

Special Status Plants

Reasons for plant species to be proposed for listing or listed by USFWS, or designated as a BLM sensitive species, may include known or suspected downward population trends, relative rareness in all or a portion of its range, or threats that without such designations may not be effectively mitigated. The CNHP and Colorado Natural Areas Program, in conjunction with the BLM, track populations of rare plants through Element Occurrence Records. An Element Occurrence Record is a record of an individual plant or plant population present at a specific geographic location at a specific time. However, Element Occurrence Records are not consistently revisited, so using them to predict population trends has limitations. The UFO coordinates with CNHP or Colorado Natural Areas Program to periodically check element occurrences for BLM sensitive species, and requires surveys in suspected or suitable habitat for proposed projects to aid in expanding the distribution, abundance, and population condition. Based on the spot checks of historic Element Occurrence Records and results of surveys conducted for projects, the trend for BLM sensitive species within the UFO appear to be stable

based on no documented loss of a specific occurrence and the addition of new occurrences through survey.

A monitoring program is in place for the clay-loving wild buckwheat with three long-term trend plots established in the Gunnison Gorge NCA outside the planning area and two long-term trend plots established at South Fairview within the planning area; all plots are on BLM-administered lands. The plots at South Fairview were established in 2008 and are designed to monitor grazing on the species. The plots in the Gunnison Gorge NCA were established in 2012 to monitor similar impacts. Based on the data to date, trends in clay-loving wild buckwheat appear to be stable, with climactic variability largely driving population density.

A Colorado hookless cactus monitoring program, which is a collaborative effort between the Denver Botanic Gardens and the BLM, is also in place. Within and adjacent to the planning area there are a total of seven long-term monitoring plots designed to determine population trends and monitor impacts from BLM-permitted actions. Six of the seven sites show stable to slightly upward trends in population density with very minimal to no impacts documented from BLM-permitted actions. The one site with documented declines is just north of the town of Delta, Colorado, which was considerably drier than the surrounding areas of the planning area during the significant drought in 2012. Declines at this site have been attributed to the drought with documented mortality caused by rodent herbivory, cactus borers, and drought-induced mortality.

It has been the UFO's policy since inception of the Public Land Health Standards (BLM 1997) to manage for healthy rangelands; thus, if the rangelands including special status species habitat were deemed to meet Public Land Health Standards, then it has been assumed that all indicators for standard 4, special status species, were also being met unless otherwise specifically addressed, which would include all three indicators.

Special Status Fish and Wildlife

By definition, the populations, and often habitats, of all special status wildlife species have historically suffered downward trends. However, due to protection and recovery efforts, some populations, such as peregrine falcon and bald eagle, are stabilizing. Management efforts by USFWS, CPW, BLM, and others have reversed the downward trend for a number of these populations. Nevertheless, none of the populations are thought to be near their historic levels, and most remain biologically insecure, regardless of their legal status.

Current and future threats include habitat loss and fragmentation, poaching, predation, disease, invasive species, and others. Habitat degradation and loss are caused by, or exacerbated by, historic overgrazing, oil and gas development, mining, water diversions, recreation, agriculture, residential development, and other human activities. Natural processes such as fire, drought, vegetation type conversions, and climate change may also contribute to landscape changes over time. It is not known which species will be able to adapt to these changes and persist. Pinyon-juniper, riparian, sagebrush, and salt-desert shrub, which provide habitat for many special status and rare species, have been determined to be at-risk.

3.1.8 Wild Horses

The BLM protects, manages, and controls wild horses and burros under the authority of the Wild Free-Roaming Horses and Burros Act of 1971 (as amended) to ensure that healthy herds thrive on healthy rangelands. The BLM manages these living symbols of the Western spirit as part of its multiple-use mission under the Federal Land Policy and Management Act (FLPMA) of 1976.

Current Conditions

There is one herd management area located in the Naturita Ridge area, south of the town of Naturita (**Figure 3-12**, Naturita Ridge Herd Area). Through analysis and decision of the 1985 San Juan/San Miguel RMP, all wild horses in this area were removed. The Herd Area has not had wild horses since 1985.

Trends

Following the passage of the Wild Horse and Burro Act of 1971, it was estimated that the Naturita Ridge wild horse herd roamed an area of 63,000 acres. Nearly 10,000 acres of their estimated range at that time was private and state land. The analysis for the 1985 San Juan/San Miguel RMP and EIS estimated the roaming area for the herd had diminished to 9,300 acres of public land and 330 acres of private land. In 1971, the population was estimated at eight wild horses.

Factors supporting the decision to close out the population on Naturita Ridge included the segmentation of the area by private land and pasture fences, lack of dependable water, conflicts with private land uses, elk herds, and livestock. In addition, the population was not large enough to sustain a viable genetic base.

3.1.9 Wildland Fire Ecology and Management

The Federal Wildland Fire Management Policy (FWFMP) was developed by the secretaries of the Departments of Interior and Agriculture in 1995 in response to dramatic increases in the frequency, size, and catastrophic nature of wildland fires in the US. The 2001 review and update of the 1995 FWFMP consists of findings, guiding principles, policy statements, and implementation actions, and replaces the 1995 FWFMP (DOI et al., 2001). Known as the 2001 FWFMP, this update directs federal agencies to achieve a balance between fire suppression to protect life, property, and resources, and fire use to regulate fuels and maintain healthy ecosystems. The FWFMP provides nine guiding principles fundamental to the success of the federal wildland fire management program and the implementation of review recommendations. These umbrella principles compel each agency to review its policies to ensure compatibility. The BLM's policies are reflected in the fire management planning process and this plan.

The FWFMP identifies the following guiding principles:

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire management plans (FMPs), programs, and activities support RMPs and their implementation.

- Sound risk management is a foundation for all fire management activities.
- FMPs and activities are economically viable, based on values to be protected, costs, and land and resource management objectives.
- FMPs and activities are based on the best available science.
- FMPs and activities incorporate public health and environmental quality considerations.
- Federal, state, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

The National Fire Plan

The Secretaries of Interior and Agriculture initiated a National Fire Plan in 2000 to address the principles outlined in the FWFMP. The National Fire Plan is a nationally coordinated effort to protect communities and natural resources from the harmful effects of increasing wildland fire occurrence and severity in the US. The National Fire Plan establishes the overarching purpose and goals, which are articulated and carried forward through the 10-Year Comprehensive Strategy (US Department of Agriculture and DOI 2002), the Cohesive Strategy for Protecting People and Sustaining Natural Resources (Forest Service 2000a), and other supporting documents.

Unit Fire Management Plans

Under the FWFMP, every unit within a federal land management agency, such as a BLM field office, that has vegetation capable of sustaining wildland fire is required to prepare an FMP. The FMP is a strategic plan that outlines a program for managing wildland and prescriptive vegetation treatments. A Field Office's FMP is tiered to its RMP. The FMPs are dynamic documents that are reviewed annually and updated whenever better information is available. The plan is supplemented by operational plans, such as preparedness plans, dispatch plans, prescribed fire plans, and prevention plans. Development of this collaborative FMP is an essential implementation task and performance measure for accomplishing the goals of the National Fire Plan and the 10-Year Comprehensive Strategy. The FMP is the on-the-ground operational framework by which the Montrose Interagency Fire Management Unit implements national direction for wildland fire (wildfires and prescribed fires), fuels treatment, emergency stabilization and rehabilitation, and community assistance and protection programs.

Fire Regime Condition Class

National and State BLM fire policy requires that current and desired resource conditions related to fire management be described in terms of three condition classes and five fire regimes. The Fire Regime Condition Classification System measures the extent to which vegetation departs from reference conditions, or how the current vegetation differs from a particular reference condition. Departures from reference condition could be a result of changes to key ecosystem components such as vegetation characteristics, fuel composition, fire frequency, fire severity, and pattern, as well as other associated disturbances, such as insects and disease mortality. The

classification system is used to categorize existing ecosystem conditions and to determine priority areas for treatment as mandated by national direction.

Fire Regime Condition Class 1. Fire regimes in this condition class are within historical ranges. Thus, the risk of losing key ecosystem components from the occurrence of fire remains relatively low. Maintenance management, such as prescribed fire, mechanical treatments, or preventing the invasion of non-native weeds, is required to prevent these lands from becoming degraded.

Fire Regime Condition Class 2. Fire regimes on these lands have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified for these lands. To restore their historical fire regimes, these lands may require some level of restoration as through prescribed fire, mechanical or chemical treatments, and the subsequent reintroduction of native plants.

Fire Regime Condition Class 3. These lands have been significantly altered from their historical range. Because fire regimes have been extensively altered, risk of losing key ecosystem components from fire is high. Consequently, these lands are on the verge of the greatest risk of ecological collapse. To restore their historical fire regimes before prescribed fire can be utilized to manage fuel or obtain other desired benefits, these lands may require multiple mechanical or chemical restoration treatments, or reseeding.

Based on the analysis conducted by the BLM fire ecologist and fuels specialists, most of the vegetation types within the planning area were identified as belonging to Condition Class 2. The analysis completed in the San Miguel County Community Wildfire Protection Plan indicates that many of the pinyon-juniper forests in the study area fall into Condition Classes 2 and 3. This classification is supported by the volatile fire behavior that is seen in these stands. There is a high percentage of decadent wood in the trees that contribute to high intensity fires (San Miguel County 2009).

Fire History

Another indicator of possible changes to fire regimes, including changes in vegetation, is the number of large fires that have occurred in the past 15 years. Beginning in 1993, numerous large fires ignited on southern and southwestern aspects, primarily in pinyon-juniper vegetation, and moved upward into ponderosa pine. These fires ranged from hundreds of acres to 5,000 acres in size, with the largest burning over 31,000 acres. Although historically rare, this type of fire may have been part of the prehistoric fire regime. While there were no large fires within the planning area during 2006, 2007, or 2008, the 800-acre Grammar Fire occurred in 2009, and the Beaver Fire burned 3,000 acres in May 2010.

Lightning is a significant cause of historic fire starts. Additionally, campfires and human caused fires will continue to pose a threat as more development occurs in the surrounding private lands (San Miguel County 2009).

Current Condition

UFO Fire Management Plan

The UFO FMP was originally written and approved in 1998, and has undergone three revisions in order to incorporate national policy changes, as well as minor changes gained through experience. The plan addresses wildland fire (natural and managed fires) to protect, maintain, and enhance resources consistent with management objectives because these events sometimes burn a large part of the planning area. In addition, the plan outlines constraints on fire management activities as needed to protect natural and cultural resources. Numerous management polygons were developed for the plan, with emphases on wildland urban interface, winter range for deer and elk, and sage-grouse habitat. In addition, polygons were designated for fire exclusion, as well as the use of fire as a natural process.

Vegetation mosaics were identified that best characterize a desired future condition in terms of a range of variability in seral stage (early, early mid, mid, and late) and patch size (in acres). Mosaics have been helpful in designing and planning mechanical fuels reduction treatments and, to some extent, prescribed burns, but have been of limited value for analyzing and managing wildland fire used to protect, maintain, and enhance resources consistent with management objectives events which sometimes burn larger and hotter than is ideal (such as deer winter range).

The FMP is a primary document supporting the development of vegetation treatment projects for fuels management, to enhance ecosystem processes, and for wildlife, range, or watershed enhancement. FMPs for Black Canyon of the Gunnison National Park, the Forest Service, and the BLM Gunnison Field Office are similar in direction to the UFO FMP, allowing for seamless management of fire and fuels across jurisdictional boundaries.

Fire Management Units

In the next few years, an effort will be made to integrate each local agency's FMP into a single Montrose Interagency Fire Management Unit FMP. The Montrose Interagency Fire Management Unit contains 17 smaller fire management units delineated by similar vegetation type and natural processes. The fire management units are designed to help describe fire history, fire ecology, and suppression needs and constraints on a landscape scale. The fire management units describe the vegetation and fuels situation, as well as some of the more significant land management issues within each area, making them extremely useful in managing wildland fire across the landscape, and as part of the Fire Planning Analysis budget process. These fire management units, as utilized in the UFO FMP, are not decision polygons but rather provide information to help make decisions regarding ignition specific fires and prescribed fire and fuels treatments. Thirteen of the 17 fire management units include lands managed by the UFO. The current UFO FMP (2008 revision) includes a description of these fire management units (BLM 2008d) which are summarized in **Table 3-25** (Fire Management Units and Dominant Vegetation Types) and depicted in **Figure 3-13** (Fire Management Units).

Table 3-25
Fire Management Units and Dominant Vegetation Types

Fire Management Unit	UFO Acres (Percent BLM)	Dominant Vegetation Types (Percent BLM)
Black Canyon	95,102 (27%)	Oak/Brush (40%) Grass/Sage (30%) Pinyon/Juniper (20%) Aspen (10%)
Carpenter	58,549 (92%)	Grass/Sage (68%) Pinyon-Juniper (32%)
East Uncompahgre	4,351 (3%)	Oak/Brush (50%) Pinyon/Juniper (50%)
LaGarita	3,466 (0.4%)	Spruce/Fir (100%)
Naturita Division	10,043 (15%)	Grass (66%) Pinyon/Juniper/Oak (34%)
Roubideau	193,437 (67%)	Aspen (40%) Grass (30%) Shrub (30%)
Sneffles	15,483 (4%)	Spruce/Fir (63%) Aspen (19%) Shrub (18%)
South Grand Mesa	67,148 (26%)	Oak/Brush (61%) Pinyon/Juniper (27%) Aspen (12%)
Tabeguache	137,501 (66%)	Pinyon/Juniper (77%) Grass (23%)
Uncompahgre Valley	117,925 (24%)	Grass (66%) Shrub (34%)
West Uncompahgre	27,557 (11%)	Pinyon/Juniper/Oak/Sage (58%) Ponderosa pine (32%) Spruce/Fir/Aspen (10%)
West Muddy	2,739 (1%)	Pinyon/Juniper/Oak (100%)
Wray Mesa	116,849 (75%)	Pinyon/Juniper/Sage/Grass (79%) Grass (21%)

Source: BLM 2012a

Wildland Urban Interface

The wildland urban interface is defined as those areas in which undeveloped wildlands meet or intermix with human development, ranging from communities and subdivisions to isolated structures and infrastructure, such as communication sites and powerlines. Wildland urban interface is an issue throughout much of the planning area. The location of the wildland urban interface in the planning area is represented in **Figure 3-14** (Wildland Urban Interface). These areas present a management challenge, not just from a fire perspective, but also with regard to wildlife habitat, travel management, recreation, watersheds, and exotic species. Continuing collaboration with the Colorado State Forest Service, county and community leaders, industry representatives, and homeowners associations is essential in order to mitigate some of these issues, particularly regarding fuels management and fire suppression. Over the past eight years, numerous fuel management projects involving extensive acreage within the planning area have

been designed and implemented in wildland urban interface areas. The UFO supports local volunteer and rural fire departments with funding for training and equipment as programs and budgets are available. These programs complement and enhance local fire protection capabilities within the wildland urban interface.

Fire Suppression

The UFO has a moderate fire suppression load, which can range from as few as 30 to 40 fires per year with a few hundred acres burned, to 70 to 90 fires per year, with several thousand acres burned. As part of the larger Montrose Interagency Fire Management Unit, fires are managed across jurisdictional boundaries as needed, sometimes including prioritization of suppression needs. The majority of fires and acres burned occur in the pinyon-juniper vegetation community, where fuels are typically more available than in lower grassland communities that may be grazed or impacted by drought. Fires also occur in grassland, desert shrub, oakbrush, ponderosa pine, and occasionally in spruce/fir/aspen vegetation, although the acres burned tends to be lower in these vegetation communities. Wildland fire used to protect, maintain, and enhance resources consistent with management objectives are designated five to ten times each season within the UFO, depending on the forecasted ability of the fire to meet desired resource objectives through a naturally occurring fire. Wildland fire use acres burned range from as few as 10 acres per year to 3,000 acres per year.

Fuel Management Objectives

Prescribed Fire. Prescribed fires are implemented regularly with 4 to 5 burns each year, totaling approximately 600 to 1,000 acres burned. The majority of burns are located in previous mechanical treatments with the objective of reducing dead and down fuels and maintaining a mosaic of earlier seral stages across the landscape. The majority of burns in recent years have been implemented in wildland urban interface areas in order to keep fuel loadings and continuity low so that subsequent wildfires would burn with less intensity and reduced resistance to control.

Mechanical Fuel Reduction. Mechanical fuel reduction treatments are aimed primarily at reducing fuel loadings and subsequent fire behavior with secondary objectives of improving wildlife habitat, range, and watershed conditions. Tools used for mechanical treatment include roller choppers, hydro-axes, brush beaters, hand crews, and small timber sales. Between 1,500 and 4,900 acres of mechanical treatment are implemented each year within the UFO.

Trends

The trend is somewhat uncertain, given the continuity of vegetation types in the absence of significant disturbance over the past 120 years, coupled with changes in climate, as well as other unknown factors. The increasing incidence of larger fires should be considered when planning fire and fuels management activities, as well as resource management actions.

Challenges for the Fire Program

Wildland Urban Interface. Wildland urban interface areas have been increasing dramatically throughout the planning area over the past two decades. Many large pieces of private land adjacent to BLM-administered lands have been subdivided, while smaller acreages within larger

pieces of contiguous BLM-administered land are also being developed. Many of these subdivisions contain 35- to 40-acre parcels, while others contain 3- to 10-acre parcels. Development has slowed due to the current large-scale economic downturn, but this slowdown is expected to be temporary, and subdividing of large blocks of private land is expected to continue into the near future. Additional wildland urban interface infrastructure includes powerlines, pipelines, and communications sites, as well as some recreation and energy sites. Much of the UFO fuel management budget is being used to plan and implement fuel treatments within the wildland urban interface, with the objective of reducing risk to these values. Many of the more-intensive and costly fire suppression actions occur within and adjacent to the expanding wildland urban interface.

Invasive Plants. Exotic species are a growing concern in fire management (see the subsection on Weeds in **Section 3.1.5** [Vegetation]). Most fire management activities are either surface or vegetation disturbing and subsequently the impacts from these activities include increased susceptibility to exotic species. The most significant, widespread, and persistent threat is the invasion of cheatgrass into disturbed areas. The potential impact of exotic species invasions, as well as mitigation measures that must be followed in order to reduce or, if possible, eliminate the risk, are carefully considered in planning for mechanical and prescribed burn treatments, as well as wildland fire used to protect, maintain, and enhance resources consistent with management objectives. Rehabilitation of lands after large wildfires is primarily aimed at quickly reestablishing native vegetation that can compete with invasive species. Regular monitoring of treatments, as well as treating exotic species in and near treatments, is the key to maintaining healthy landscapes.

Smoke Impacts. Smoke management, primarily from prescribed burning, is always an issue. With increasing population and the changing demographics of the communities, the aesthetic impacts of smoke cannot be ignored. Although no known violations of National Ambient Air Quality Standards from prescribed burning have occurred within the planning area, fire managers and burn bosses typically manage smoke based on aesthetic issues and public perception, which can be more restrictive than air quality standards. Tourism and, consequently, Visual Resource Management (VRM) is important to communities within and adjacent to the planning area. The fire program continues to work with the State's Air Pollution Control Division to find ways to increase the BLM's ability to burn more acres each year. These relationships are critical for maintaining and improving our ability to utilize fire as a management tool.

Benefits of Prescribed Fire. Given the trends outlined above, the continued and increased use of prescribed fire as a management tool will take extraordinary effort on the part of fire managers, education specialists, resource specialists, and line management. Each of the trends alone presents a challenge and, when combined, the demand on fire and resource personnel becomes significant. Although this increased difficulty can make replacing prescribed burns with solely mechanical treatments an attractive alternative, the ecological impacts of mechanical treatment are more significant than those of prescribed fire, and require more frequent treatments. The use of prescribed fire in the planning area is worth supporting and pursuing as a fuels and resource management tool, as well as for on-site ecological processes and as a landscape scale disturbance mechanism.

A Changing Climate. Climate change is difficult to quantify. Research indicates that changes are occurring (Karl et al. 2009), and fire management is readily impacted by minor changes in climate, which affect frequency, intensity, and size of fires, and also the vegetative recovery of burned areas. As wildland fires are managed and prescribed burns and mechanical treatments are planned and implemented, it will continue to be important to maintain resiliency and redundancy across the landscape so that the ecological system can adjust to changes in climate.

A Shrinking Fire Budget. Because future budgets cannot be forecast, it is important to maintain flexibility within the fire program so that resources can be shifted to those emphasis areas that are being funded, while maintaining the long-term capability to perform all aspects of the fire management job.

3.1.10 Cultural Resources

The term cultural resource refers to historic or architectural objects, sites, structures, or places with potential public and scientific value, including locations of traditional cultural, ethnic, or religious significance to a specific social or cultural group. Cultural resources are located, classified, ranked, and managed in order to identify, protect, and utilize them for public benefit. Fragile and irreplaceable, cultural resources represent an integral part of American heritage. Cultural resources represent physical locations of human activity, occupation, or use identified through field inventories, historical documentation, or oral evidence (BLM Manual 8110, Identifying and Evaluating Cultural Resources [BLM 2004b]). Archaeological resources are a subset of cultural resources that include any material remains of human life or activities that are at least 50 years old for historic properties under the National Historic Preservation Act, or at least 100 years old under the provisions of the Archaeological Resources Protection Act, and are of archaeological interest (as defined in 43 Code of Federal Regulations [CFR] 7.3). Native American religious concerns, a critical element noted in Appendix 5 of the BLM NEPA Handbook, H-1790-1 (BLM 2008a), are addressed in **Section 3.4.1** (Native American Tribal Interests).

Prehistoric or historic cultural resource sites, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) are managed as directed by 36 CFR 800, Protection of Historic and Cultural Properties. These regulations stipulate that cultural resources must be assessed for integrity of location, design, setting, materials, workmanship, feeling, and association. A property may be considered eligible for listing on the NRHP if it retains sufficient integrity of these elements and meets certain criteria outlined in National Register Bulletin 15 (NPS 1997a). As listed in 36 CFR Part 60, Historic Properties (including prehistoric and historic archaeological sites and places considered important to Native Americans) must meet a specific set of criteria, described below:

- The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association
- Association with events that have made a significant contribution to the broad patterns of our history
- Association with the lives of persons significant in our past

- Embodiment of the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- Yielding, or may be likely to yield, information important in prehistory or history (NPS 1997a)

Current Conditions

Cultural resources include prehistoric and historic archaeological and architectural structures, features, and objects, as well as Native American traditional cultural and religious properties and properties important to other cultural groups. Prehistoric properties include lithic scatters, quarries, temporary camps, extended camps, wickiups, hunting/kill/butchering sites, processing areas, tree scaffolds, rock shelters, formative era stone structures, caves, rock art panels, trails, and isolated finds. Historic properties include homesteads, trails and roads, irrigation ditches, reservoirs, mining sites, corrals, line camps, cabins, trash scatters, and isolated finds. Together these properties represent human use of the area by Native American and Euroamerican cultures, covering a timeframe from the Paleoindian period (11,500 BC) through the present. **Table 3-26** (Cultural Periods) provides a description of these cultural periods.

During consultation, the Ute Tribes have indicated that the UFO encompasses part of their ancestral homeland, thereby increasing the potential of traditional cultural properties and sacred sites. At present, the Ute Tribes have identified several sacred/religious sites and special use areas.

Table 3-26
Cultural Periods

Era	Time Period	Cultural Adaptation
Paleoindian	Before 7000 BC	• Big game subsistence patterns • No dated sites from this period, although projectile points have been recovered • Sites are significant due to their scarcity
Archaic	7000 BC – AD 1	• Hunting and gathering lifestyle likely, with well-established seasonal rounds for resource procurement • Projectile points and camps have been found and further discoveries are likely
Formative	AD 1 – AD 1250	• Introduction of bow and arrow, ceramics, and farming with associated sedentary lifestyle and population growth • Permanent settlements associated with cultural resources remain from these cultures • Scientific uncertainty remains concerning their origin and disappearance • Identification of additional sites would be scientifically beneficial • Formative Era sites in the planning area are associated with both Anasazi and Gateway cultures in the West End and possibly with the Fremont complex

Table 3-26
Cultural Periods

Era	Time Period	Cultural Adaptation
Post-Formative	AD 1250 – AD 1600	• Return to hunting-gathering traditions with limited use of ceramics and horticulture • Expansion of the historically known Numic (Ute, Paiute, Shoshone and Comanche) and Athabaskan (Navajo and Apache) peoples • Diagnostic artifacts include small unnotched or side-notched projectile points and Ute Intermountain Brownware ceramics • Later traits include equestrian rock art motifs, European trade goods, wickiups, and a possible increase in the use of obsidian • Identification of additional sites would benefit further research
Historic	Post AD 1600	• Euroamerican settlement patterns associated with agriculture, homesteading, limited ranching, farming, minerals development, and transportation
Multiple	Any	• Multi-component sites occupied over at least two identifiable time periods within the same geographical boundaries (e.g., Anasazi site with Historic campsite)
Unknown Prehistoric	Unknown	• Unknown prehistoric sites with general utility artifacts • Lack diagnostic materials making assignment to a specific prehistoric time period impossible

Assessing Resource Conditions

The condition of a cultural resource is assessed through field observation, inventory, and project review. The primary indicator is whether the characteristics that would qualify a resource for National Register of Historic Place listing, or the cultural values of an area important to Native American or other traditional communities, have been lost or diminished. These characteristics can be affected by physical destruction, damage, neglect, alteration, isolation, transfer, sale, or lease of a resource, or alteration of the resource setting. Specific indicators include the extent or intensity of natural weathering, erosion, wildfire, ground disturbance, grazing, recreation use, and unauthorized collection, intrusion, and vandalism. This kind of loss affects the completeness and accuracy of the scientific information that can be derived from a resource, the aesthetic, historic, or interpretive value of a resource, and the importance of a resource in maintaining social and cultural traditions.

Over the past five decades, various large and small cultural projects have been conducted in the planning area (Alpine Archaeological Consultants 2010). Range improvement projects, wildland fire rehabilitation, recreation projects, realty actions, oil and gas development, and minerals extraction, including uranium and coal, continue to expand the number of inventories completed and cultural resources identified.

Alpine Archaeological Consultants, Inc., under contract to the UFO, prepared a synthetic compilation of recorded cultural resources, cultural resource surveys, and excavations in the planning area (Alpine Archaeological Consultants 2010). The prehistoric site types and thematic

historic categories used by Alpine Archaeological Consultants (2010) are condensed into ten different cultural resource management categories:

Open artifact sites. Open artifact sites are either prehistoric or historic cultural resources that are dominated by artifacts (e.g., flaked stone debris, tin cans, and glass) and lack visible architectural features, though other features (e.g., hearths) can be present. These sites are generally considered eligible to the NRHP based on their scientific value (e.g., intactness and depth of surface sediments as well as the quantity and diversity of artifacts), though historic open artifact sites may be eligible because of a connection to people or events of historical importance. Open artifact sites are frequently recorded in all cultural resource units, are found throughout the varied topography encompassed by the planning area, and are the most common type of site, equaling 89 percent of the total prehistoric sites and 17 percent of the historic sites (Alpine Archaeological Consultants 2010). These sites are impacted by energy development, grazing, vegetation treatments, and recreational activities that disturb surface sediments.

Sheltered artifact sites. Sheltered artifact sites contain the same attributes as an open artifact site, with the exception of being located in a rockshelter or protected by a rock overhang. These sites are usually considered eligible to the NRHP because of their scientific value. Scientific value is often ascertained as a product of their uniqueness on the landscape, the intactness and depth of surface sediments as well as the quantity and diversity of artifacts. These resources are less common (five percent of total prehistoric sites) than open artifact sites (Alpine Archaeological Consultants 2010). Sheltered artifact sites are frequently located in the Uncompahgre unit, though they have also been recorded in the West End unit. Any activity that disturbs surface sediments or the shelter, such as vandalism, energy development, and grazing has the potential to disturb this type of site.

Open architectural sites. Open architectural sites are prehistoric and historic cultural resources that contain structural features (e.g., stone circles or alignments, granaries, storage cists, masonry, hunting blinds, sweat lodges, wickiups, homesteads, and corrals), though other artifacts and features may be present. Prehistoric open architectural sites are usually considered eligible to the NRHP because of their scientific value, though connections to important persons, events, or styles of construction are also used. Conversely, historic open architectural sites may be eligible to the NRHP based on their scientific value, though it is more frequently determined based on historical connections to persons, events, or construction styles of importance. Open architectural sites are found in all four cultural resource units. This site type is a small portion (three percent) of the total prehistoric cultural resources recorded, though they constitute a larger portion of the historic resources (45 percent) (Alpine Archaeological Consultants 2010). Activities that disturb the integrity of the structural components or associated sediments, such as vandalism, wildfires, energy development, vegetation treatments, and grazing negatively impact this type of site.

Sheltered architectural sites. Sheltered architectural sites are cultural resources that contain the same attributes as open architectural sites, with the exception of being located in a rockshelter or protected by a rock overhang. Common elements in sheltered architectural sites include masonry walls, rock alignments, storage cists, and fences. Prehistoric sheltered architectural sites are usually considered eligible to the NRHP because of their scientific value. Historic

sheltered architectural sites may be eligible to the NRHP based on their scientific value, though it is more frequently determined based on the site's integrity and its connection to activities, individuals or construction styles of historical importance. Prehistoric sheltered architectural sites have only been recorded in the West End and Uncompahgre cultural units and are a rare (less than one percent of total prehistoric sites) cultural resource. Because of geological constraints historic sheltered architectural sites are also expected to be more frequent in the West End and Uncompahgre units. Vandalism, recreational, and grazing activities negatively impact this type of site, though they can be disturbed by any activity that alter the structural components, local sediments, or associated shelter.

Open quarry sites. Open quarry sites are prehistoric and historic cultural resources that are defined by open pit lithic procurement and processing (e.g., prehistoric lithic procurement sites, prospecting pits, and gravel quarries), though artifacts and features may be present. These sites can be considered eligible because of scientific value, though connections to people, events, or construction techniques of historical importance are also valid. In the planning area, prehistoric open quarry sites are generally associated with outcrops of Cretaceous and Jurassic sediments, being absent in the North Fork unit, and most frequently recorded in the West End unit (Alpine Archaeological Consultants 2010). Historic open quarry sites can be located in any cultural unit, though they are uncommon in the planning area. Energy development, erosion, wildfires, and recreational activities that disturb associated sediments, artifacts, or features have the potential to disturb this type of site.

Mining sites. Mining sites are prehistoric and historic cultural resources that are defined by extraction processes that occur in subsurface contexts (e.g., adits and mine shafts), though external structures, features, and artifacts may be present. These types of sites are generally considered eligible to the NRHP based on their historical connection to people, events, or construction styles of historical significance. While these types of sites occur across the planning area (20 percent of total historic sites), they most frequently occur in the West End and Ouray cultural units. Mining sites are often impacted by vandalism and recreational activities, though wildfires, which can damage external structures, and energy development also impact these sites.

Rock art sites. Rock art sites are prehistoric and historic cultural resources that include petroglyphs or pictographs, though other artifacts and features may also be present. These sites are generally considered eligible to the NRHP due to their artistic value and the potential to recover scientific information. Rock art sites are found in association with rock outcrops and are relatively uncommon in the planning area, accounting for two percent of the total prehistoric site count (Alpine Archaeological Consultants 2010). Rock art sites have been recorded in the Uncompahgre, Ouray, and West End cultural units and are unlikely to be found in the Ouray unit. Vandalism is the most common impact on rock art sites, though any activity (e.g., erosion, energy development, and grazing) that modifies the rock face can degrade this type of site.

Cambium trees. Cambium trees are pine trees that were culturally modified by removal of the bark to access the cambium as a food source. Cambium trees are generally eligible for the NRHP based on their scientific value, though a connection to persons or events of historical

significance is also important. Cambium trees are rarely recorded in the planning area, being less than one percent of the total prehistoric site count (Alpine Archaeological Consultants 2010). Because cambium tree sites are tied to vegetation boundaries, they have only been recorded in the Ouray and West End cultural units. The integrity of cambium tree sites is dependent on the nature and location of logging operations and forest fires that damage and remove the trees.

Human burials. Human burial sites are uncommon in the planning area, consisting of less than one percent of the total prehistoric site count (Alpine Archaeological Consultants 2010). Human burials are frequently considered Traditional Cultural Properties. They are generally considered eligible to the NRHP because of a connection to persons and events of historical importance as well as the potential to provide scientific information. Human burials can be found in above ground (e.g., rock crevices) as well as in subsurface contexts and need not be associated with structural elements. Although rarely encountered, human burials have been located in all cultural units except for the North Fork unit. Any activity, be it vandalism, erosion, energy development, or recreational, that disturbs the burial is considered to have a negative impact.

Linears. Linear sites are cultural resources that are functionally associated with transportation (e.g., roads, trails, and railroads) and infrastructure development (e.g., water control, communication, and energy transfer), though artifacts and other features can be present. These sites are generally considered eligible to the NRHP based on the sites association with activities, individuals or styles of construction that are of historical importance. Linear sites are relatively common (18 percent of total historic sites) and have been recorded throughout the planning area. Any activity that disturbs the structural integrity, associated deposits, or related features (e.g., energy development, wildfires, and recreational activities) has the potential to impact this type of site.

Cultural Resource Units

For ease of discussion, the cultural resources staff has divided the planning area into four cultural resource units (**Figure 3-15** [Cultural Resource Units]), which are described below.

Uncompahgre Unit. The Uncompahgre unit encompasses lands along the northeastern flank of the Uncompahgre Plateau in Ouray, Montrose, Delta, and Mesa Counties, including the Dry Creek Basin, Roubideau Canyon, Escalante Canyon, Little Dominguez and the adobe badland flanks of Grand Mesa north of Delta. Existing data indicates that the unit covers some 498,952 acres, of which 19,859 acres (4.0 percent) have been surveyed for cultural resources. There are 314 survey reports and 2,473 recorded cultural resources, including 880 prehistoric sites, 284 historic sites, 1,226 prehistoric isolated finds, and 83 historic isolated finds in the Uncompahgre Plateau unit.

North Fork Unit. The North Fork unit includes all BLM-administered lands situated north and east of the Gunnison Gorge NCA. The unit encompasses some 433,810 acres, of which 15,240 acres (3.5 percent) have been surveyed for cultural resources. There are 253 survey reports and 371 recorded cultural resources in the North Fork unit. Of these resources, 51 are prehistoric sites, 188 are historic sites, 116 are prehistoric isolated finds, and 16 are historic isolated finds.

Ouray Unit. The Ouray unit is generally characterized by higher elevations and less intensive use. The unit extends along the eastern margin of the UFO from Ouray on the south to the Black Canyon on the north, and includes some 520,270 acres, of which 12,530 acres (2.4 percent) have been inventoried for cultural resources. There are 153 survey reports and 793 cultural resources in the Ouray unit, including 283 prehistoric sites, 311 historic sites, 157 prehistoric isolated finds, and 42 historic isolated finds.

West End Unit. The West End encompasses all BLM-administered lands in the western half of the UFO, including lands on the southern flank of the Uncompahgre Plateau, the San Miguel River drainage, Paradox Valley, and the Dolores River canyons south of Gateway. The unit covers some 631,290 acres, of which 51,090 acres (8.1 percent) have been inventoried for cultural resources. There are 410 survey reports and 4,050 recorded cultural resource sites in the West End. Of these resources, 2,153 are prehistoric sites, 457 are historic sites, 1,359 are prehistoric isolated finds, and 81 are historic isolated finds.

Trends

Factors influencing cultural resource trends include the presence and condition of cultural sites, landscapes, or places of traditional use. The current condition of cultural resources in the planning area is highly variable due to the diversity of terrain, geomorphology, access, visibility, and past and current land use patterns. Adherence to Section 106 of the National Historic Preservation Act and the BLM policy of avoiding impacts on cultural resources provides for the continued identification and preservation of cultural resource sites. Few research-based surveys or Class II inventories have been conducted, and much of the information used to help identify the characteristics of the planning area is generally based only on where disturbance has previously occurred, rather than where sites are likely to occur. Most surveys conducted in the planning area comply with Section 106, meaning that the surveys are conducted as needed to identify cultural resources in a project-specific context and generally are not statistically valid samples of a region.

Decline in Site Conditions

In general, site conditions are considered to be declining, mainly due to natural erosional processes, increased casual use of public lands, and limited site monitoring and protection. Exposed sites and associated artifacts, features, and structures are easily disturbed by natural elements such as wind and water erosion, deterioration, decay, animal and human intrusion, and development and maintenance activities. Vandalism to sites and cultural artifacts, such as illicit surface collecting, unauthorized digging, and pot hunting, has been documented, and is illegal under the Archaeological Resources Protection Act. Archaeological and historic sites are also known to be deteriorating from a variety of causes. Collectively, these agents have adversely affected many known cultural resources.

Conditions have remained stable for cultural resources identified through compliance activities associated with Section 106 and the State Protocol Agreement between the Colorado BLM and the Colorado State Historic Preservation Office. Although realty actions and energy and mineral activities continue to be conducted in proximity to cultural resources, potential impacts are avoided or mitigated under current NEPA guidelines and management measures. In these cases, the trend is toward a desired condition of conservation and protection. Qualitative observations

indicate a downward trend in condition for recorded and unrecorded cultural resources not associated with formal surface disturbing management proposals. Illegal removal of artifacts, ground disturbance associated with recreational activity, limited law enforcement, livestock operations, and a trend toward more intensive use of public lands all contribute to this trend.

3.1.11 Paleontological Resources

Paleontology is the study of prehistoric life, its evolution, and its interaction with the environment (paleoecology). The term "paleontological resources," as used by the BLM, includes any fossilized remains or traces of organisms that are preserved in or on Earth's crust, are of scientific interest, and provide information about the history of life. Paleontological resources, whether invertebrate, plant, trace, or vertebrate fossils, constitute a fragile and nonrenewable record of the history of life on our planet. The BLM's policy is to manage paleontological resources for scientific, educational, and recreational values (e.g., hobby collecting of invertebrate fossils and petrified wood) and to protect these resources from adverse impacts. To accomplish this goal, paleontological resources must be professionally identified and evaluated, and paleontological data should be considered as early as possible any decision-making process.

Paleontological resources are integrally associated with the geologic rock units (formations, members, or beds) in which they are preserved, and the probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping paired with the BLM's Potential Fossil Yield Classification (PFYC) system can be used for assessing the occurrence potential of paleontological resources.

Paleontological resources are managed according to the BLM Manual Section 8270, Paleontological Resource Management, BLM Handbook H-8270-1, General Procedural Guidance for Paleontological Resource Management, and applicable BLM instructional memoranda and bulletins. It should be noted that additional protection measures have now been enacted under the Omnibus Public Lands Act of 2009 (123 Stat. 1174 Public Law 111–11, Subtitle D), giving paleontological resources protection under law. The BLM is currently developing regulations to implement the requirements of this law.

Recent BLM guidance (Instruction Memorandum 2008-009, PFYC system for Paleontological Resources on Public Lands [BLM 2007b]) defines a new classification system for the classification of paleontological resources, the PFYC system. This system is intended to provide a uniform tool to assess potential occurrences of paleontological resources and to allow evaluation of potential impacts on these resources. It is intended to be applied in broad approach for planning efforts and as an intermediate step in evaluating specific projects.

Potential Fossil Yield Classification System

The potential for paleontological resources is currently identified using two indicators: The BLM Fossil Class Condition system, and the newer PFYC system. While the older BLM Fossil Class Condition system has been used extensively in the past, recent BLM guidelines encourage use of the more precise PFYC system.

In the PFYC system, geologic units are classified from 1 (no potential for significant fossils) to 5 (high potential for significant fossils) based on the relative abundance of vertebrate fossils or

significant invertebrate or plant fossils and their sensitivity to adverse impacts. This classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed mappable level. It is not applicable to specific paleontological localities or small areas within units. While widely scattered fossils or localities may occur within a geologic unit, the relative abundance of significant localities determines the class assignment. The BLM in Colorado has classified rock units both statewide and by BLM region (Trujillo 2010).

The PFYC system is meant to provide baseline guidance for predicting, assessing, and mitigating paleontological resources. The classification should be considered at an intermediate point in the analysis, and should be used to assist in determining the need for further assessment and/or mitigation actions. Descriptions of the PFYC classes can be found in BLM Instruction Memorandum 2008-009 (BLM 2007b).

Current Condition

Surface exposures of potentially fossil-bearing rock within the planning area consist of a large number of lithologic types and ages, and they range in age from Pennsylvanian (318-299 Ma) to Quaternary (2.6 Ma to present) (Green 1992). The majority of this rock was deposited during the Mesozoic Era, though older (e.g., Pennsylvanian) and younger (e.g., Tertiary) rocks are exposed. For detailed descriptions of the potentially fossil-bearing rock units in the planning area, see **Section 3.1.3**.

Because a wide variety of terrestrial and marine sedimentary deposits are found within the planning area (**Figure 3-8**), many types of vertebrate, invertebrate, plant, and trace fossils are known. **Table 3-27** (Sedimentary Rock Units, Their Fossil-bearing Potential, and Known Fossil Resources) lists the potentially fossil-bearing rock units in the planning area in stratigraphic order (from oldest at bottom to youngest at top), their PFYC category, and the known fossil resources from each unit both in general and specifically in the planning area. The distribution of PFYC categories across the planning area is displayed in **Figure 3-16**, Potential Fossil Yield Classification Distribution. Because specific geographic information for vertebrate fossil localities is considered confidential by the BLM in order to protect the resource, this information is not included here. Specific geographic information for fossil localities can be obtained through the BLM by qualified personnel.

The Upper Jurassic Morrison Formation rock unit deserves special mention. This formation crops out across a large part of the planning area, and it is one of the most prolific fossil-bearing rock units in the world. Many fossil localities are known from the Morrison Formation in the planning area, several of which are scientifically important. Among these are dinosaur quarries excavated by Brigham Young University (Foster 2005; Turner and Peterson 1999).

Classification for the Planning Area

As seen in **Table 3-27**, several formations with high potential for yielding fossil vertebrates crop out in the planning area, and the probability for impacting fossils during construction in these areas is high. Pedestrian surveys will typically be necessary prior to authorizing any surface-disturbing activities in these units, especially the Morrison Formation, and on-site monitoring may be necessary during construction activities.

Table 3-27
Sedimentary Rock Units, Their Fossil-bearing Potential, and Known Fossil Resources

Geologic Age	Group	Formation	Member	PFYC Rating	Known Fossil Resources	Known Fossil Resources in Planning Area[1]
Quaternary		unconsolidated sediments		3	Pleistocene mammals[7]	Mammoth teeth, camel, horse, rodents
Eocene		Uinta Formation		3	mammals[13]	none known
Eocene		Green River Formation	Parachute Creek Member	3	fish, bats, birds, mammals[12]	none known
Paleocene-Eocene		Wasatch Formation		3	mammals, reptiles, invertebrates[12]	none known
Upper Cretaceous	Mesa Verde	Hunter Canyon Formation Mt. Garfield Formation Sego Sandstone		3	dinosaurs, mammals, reptiles, fish[3, 8]	none known
Upper Cretaceous		Mancos Shelf		3	marine reptiles, invertebrates, shark teeth, wood[6]	mosasaur, invertebrates, wood
Lower Cretaceous		Dakota Formation		3	invertebrates, plants, tracks, mammals[10, 18]	none known
Lower Cretaceous		Burro Canyon Formation		3	dinosaurs, tracks, plants[9, 13]	theropod dinosaur, fish scales, plants, invertebrates
Upper Jurassic		Morrison Formation	Brushy Basin Member	4-5	dinosaurs, mammals, pterosaurs, lizards, amphibians, sphenodonts, crocodiles, turtles, fish, invertebrates[4, 15]	dinosaurs, mammals, pterosaurs, lizards, amphibians, crocodiles, turtles, fish, invertebrates
Middle Jurassic	San Rafael	Wanakah Formation		4-5	fish, plants, trace fossils, invertebrates[7, 11]	Hadrodon (bivalve)
			Salt Wash Member	4-5	dinosaurs, crocodiles, turtles, invertebrates[2, 11]	dinosaurs, crocodiles, turtles, invertebrates
		Entrada Sandstone		3	dinosaur tracks[9]	none known

Table 3-27
Sedimentary Rock Units, Their Fossil-bearing Potential, and Known Fossil Resources

Geologic Age	Group	Formation	Member	PFYC Rating	Known Fossil Resources	Known Fossil Resources in Planning Area[1]
Lower Jurassic	Glen Canyon	Navajo Sandstone		3	dinosaur tracks, rare dinosaur skeleton[9, 14]	none known
		Kayenta Formation		3	dinosaurs, dinosaur tracks[13]	none known
		Wingate Sandstone		3	dinosaur tracks[9]	theropod tracks
Lower Triassic		Chinle Formation		5	Phytosaurs, aetosaurs, dinosaurs, lizards, lungfish, invertebrates[5]	none known
Lower Triassic		Moenkopi Formation		3	tracks[16], invertebrates[2]	plants
Pennsylvanian-Permian		Cutler Formation		3-4-5	amphibians, synapsids, reptiles, invertebrates[17]	Fish, large amphibians, microsaurian amphibians, various reptiles, plants
Pennsylvanian		Hermosa Formation			none known	none known

Sources: [1]Trujillo 2010; [2]Batten and Stokes 1986; [3]Breithaupt 1985; [4]Foster 2007; [5]Irmis 2005; [6]Kass 1999; [7]Kurten and Anderson 1980; [8]Lillegraven and McKenna 1986; [9]Lockley and Hunt 1995; [10]Merewether et al. 2006; [11]O'Sullivan et al. 2006; [12]Roehler 1992; [13]Schoch 1986; [14]Sertich and Loewen 2010; [15]Turner and Peterson 1999; [16]Untermann and Untermann 1964; [17]Vaughn 1962, 1964; [18]Weiscampel 1990

Trends

Qualitative observation indicates that the condition has remained stable for paleontological resources protected or mitigated through the permitting process and other standard operating procedures, such as pre-disturbance clearance, associated with federal management actions. In these cases, the trend has been toward conservation. For resources not associated with direct management actions, the trend has been slightly downward. The primary contributors to this trend include unauthorized collection of fossils, limited law enforcement resources, and ground disturbance associated with recreational activities.

3.1.12 Visual Resources

Visual resources refer to the visible features on a landscape (e.g., land, water, vegetation, animals, and structures). These features contribute to the scenic or visual quality and appeal of the landscape. Visual impact is the creation of an intrusion or perceptible contrast that affects the scenic quality of a landscape. A visual impact can be perceived by an individual or group as

either positive or negative, depending on a variety of factors or conditions (e.g., personal experience, time of day, and weather or seasonal conditions) (BLM 1984).

Current Conditions

Cumulative impacts on the landscape have resulted from increases in recreation and tourism by sightseers attracted to the area for its extraordinary scenic qualities, vehicular travel, and the number of roads and trails. Additional impacts have resulted from an expanding urban interface due to population increase, the development of utility corridors, oil and gas exploration and development, seismic exploration, surface mining, vegetation management, and other land use disturbances.

The increasing number of roads and travel networks in use within the planning area is having an indirect effect on visual resources. Area networks include highways; paved and gravel county roads; dirt roads (two-tracks); foot, equestrian, mountain bike, and OHV trails; railroads; and river corridors. As a result, seldom-seen zones no longer exist, most areas are within three to five miles of a travel route, foreground and middle-ground views are increasing, and changes in visual sensitivity have occurred (Otak 2009). The increased use of two-track roads and routes is creating conditions that allow users to expand surface disturbances and impact visual resources.

The scenic quality of the planning area is of national significance and an important part of the local and state economy. Many people live and recreate in the planning area because of its remoteness and visual qualities. The visual setting is an important part of local lifestyles, and for most travelers, the scenery or visual resource is an important part of their visit. Both tourists and local residents drive across this landscape expecting to see open mountain vistas, rushing water, forested slopes, and vast rolling sagebrush-covered lands.

Visual Resource Management System

The BLM VRM system is a way to identify and evaluate these scenic values in order to determine appropriate levels of management. VRM is a tool to identify and map essential landscape settings to meet public preferences and recreational experiences today and into the future. The VRM system helps to ensure that actions taken on BLM-administered lands today will benefit the visual qualities associated with the landscapes, while protecting these visual resources for years to come.

Visual Resource Inventory

Visual resource inventory involves identifying the visual resources of an area and assigning them to inventory classes using the BLM's resource inventory process. The process involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from travel routes or observation points. This process is described in detail in BLM Handbook H-8410-1, Visual Resource Inventory (BLM 1986a).

The results of the visual resource inventory become an important component of the RMP for the area. The RMP establishes how BLM-managed lands will be used and allocated for different purposes, and it is developed through public participation and collaboration. Visual values are considered throughout the RMP process, and the area's visual resources are then assigned to the management classes with established objectives.

A visual resource inventory of the planning area was completed in September 2009 according to guidelines in BLM Manual Handbook H-8410-1, Visual Resource Inventory (BLM 1986a). The inventory consisted of three components: Scenic Quality Evaluation, Sensitivity Level Analysis, and Delineation of Distance Zones.

Based on the three inventory components, lands in the planning area were placed into one of four Visual Resource Inventory (VRI) classes (as shown in **Figure 3-17** [Visual Resource Inventory]). These class assignments are informational and provide the basis for considering visual values during the RMP process. They do not establish management direction and are not used as a basis for constraining or limiting surface-disturbing activities but are considered a baseline for existing conditions. The Scenic Quality, Sensitivity, and resulting VRI Class distribution for the UFO is presented in **Table 3-28** (Visual Resource Inventory Component Distribution). The entire field office was found to be within the foreground/middle ground distance zone.

Table 3-28
Visual Resource Inventory Component Distribution

Visual Resource Inventory Component	Acres	Percent of Decision Area
Scenic Quality		
A	75,530	11%
B	384,370	57%
C	208,000	31%
Not inventoried	7,860	1%
Sensitivity		
High	187,580	28%
Medium	298,230	44%
Low	182,100	27%
Not inventoried	7,860	1%
VRI Class		
Class I	8,080	1%
Class II	165,380	25%
Class III	313,960	46%
Class IV	180,520	27%
Not inventoried	7,860	1%

Source: BLM 2012a
Non-inventoried lands are the Curecanti National Recreation Area and are managed by the National Park Service.

Visual Resource Management

The designation of VRM classes is ultimately based on management decisions made during the RMP process, which must take into consideration the value of visual resources. During the process, inventory class boundaries can be adjusted as necessary to reflect these resource allocation decisions. The goal of VRM is to minimize the visual impacts of all surface-disturbing

activities, regardless of the class to which an area is assigned. Current VRM classes are summarized in **Table 3-29** (Visual Resource Management Classes) and displayed in **Figure 2-5** (Alternative A: Visual Resource Management).

Table 3-29
Visual Resource Management Classes

VRM Class	Acres
Class I	44,220
Class II	21,930
Class III	280,520
Class IV	9,260
No data	319,770

Source: BLM 2012a

Objectives for each of the four VRM classes are as follows:

Class I. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV. The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The analysis of a visual contrast rating process is used to resolve visual impacts. The process of a visual contrast rating, which involves comparing the project features with the existing landscape features using basic elements of form, line, color, and texture, is described in detail in BLM Handbook H-8431-1, Visual Resource Contrast Rating (BLM 1986b).

Trends

Public lands in the planning area are highly fragmented. The landscape is experiencing a high degree of human modification due to urban development and its associated infrastructure and uses, as well as energy development. Management of multiple resources on public lands can alter

scenic resources. With an increased amount of urban development throughout the resource area on adjacent private lands, increased management activities are also occurring on public lands. Growing pressure is being placed on visual resources due to activities such as oil and gas extraction, fire management, utility corridors, roads and trails, recreation activities, communication sites, pipelines, livestock grazing, and water tanks. Public concern is also on the rise regarding preservation of the visual and scenic qualities associated with open space and scenic backgrounds for recreation and in residential areas.

Cultural modification may be considered a detraction from the scenery in the form of a negative intrusion or may be considered a compliment or improvement to the scenery. As part of the visual resource inventory process, cultural modifications were analyzed. **Table 3-30**, Visual Resource Inventory – Cultural Modifications (acres)[1], shows the degree of modification by the number of acres (the lower the number, the more negative the modification is perceived).

Table 3-30
Visual Resource Inventory – Cultural Modifications (acres)[1]

Degree of Modification	BLM	Local (City, State, etc.)	Private	State (School Board)
-2	19,780	20	13,560	0
-1	58,230	0	380	0
-0.5	202,560	2,110	43,260	0
0	371,830	3,930	217,140	1,470
1	9,640	40	4,980	0
Not Rated	7,340	0	8,530	0

Source: BLM 2012a
[1]Includes mineral estate

In response to growing concern from local communities, the current condition of visual resources is being assessed for major transportation corridors, population centers, and other scenic viewsheds to assess how the BLM can best manage these sensitive viewsheds and corridors.

Tourism also plays a major role in the economy of western Colorado, and much of the planning area is viewed en route to or from major tourist destination areas, such as Telluride. As the population of Colorado grows, more visitors will be attracted to the natural landscapes of public lands. In addition, a high demand is being placed on scenic resources near population centers.

3.1.13 Lands with Wilderness Characteristics

The BLM's authority to conduct wilderness reviews, including the establishment of new WSAs, expired on October 21, 1993, pursuant to Section 603 of the FLPMA. However, the BLM has retained authority under Section 201 of the FLPMA to inventory BLM-administered lands for wilderness characteristics and to consider such information during land use planning. Policy guidance is provided by BLM Manual 6310, Conducting Wilderness Characteristics Inventory on BLM Lands (BLM 2012e) and Manual 6320, Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process (BLM 2012f). Through this planning process, the BLM has discretion to determine which portions of BLM-administered lands with wilderness characteristics would be protected by special management. While the BLM is in the land use

planning process, the BLM will manage lands so as not to forgo management options in the event that new information is presented, evaluated, and incorporated into the planning process as part of one or more RMP alternatives.

The inventory process entails the identification of wilderness inventory units, an inventory of roads and wilderness characteristics, and a determination of whether the unit as a whole possesses wilderness characteristics. Units found to possess wilderness characteristics are evaluated during the land use planning process to address future management for wilderness characteristics. Wilderness characteristics considered in this analysis include naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and supplemental values.

- Size: An area must be a roadless area of 5,000 acres of contiguous BLM-administered lands or, if less than 5,000 acres, must be contiguous with lands which have been formally determined to have wilderness or potential wilderness values (e.g., designated Wilderness and BLM WSAs).
- Naturalness: Lands and resources exhibit a high degree of naturalness when affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable. An area's naturalness may be influenced by the presence or absence of roads and trails, fences, or other developments; the nature and extent of landscape modifications; the presence of native vegetation communities; and the connectivity of habitats. Wildlife populations and habitat are recognized as important aspects of naturalness and would be actively managed.
- Outstanding Opportunities for Solitude or Primitive and Unconfined Types of Recreation: Visitors may have outstanding opportunities for solitude when the sights, sounds, and evidence of other people are rare or infrequent, or where visitors can feel isolated, alone or secluded from others. Visitors may have outstanding opportunities for primitive and unconfined types of recreation where the use of the area is through nonmotorized, nonmechanical means, and where no or minimal developed recreation facilities are encountered.
- Supplemental Values: The area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Current Conditions

The 1989 RMP did not provide special management for areas outside of WSAs with wilderness characteristics. During this current RMP revision process, the BLM completed a review of BLM-administered lands within the UFO to determine whether they possess wilderness characteristics.

Numerous external groups have advocated wilderness designations through legislation and participation in the land use planning processes. The most recent proposal for consideration of protection of wilderness characteristics was submitted to the BLM in May 2007 by the Colorado Wilderness Network, a coalition of citizen groups. The BLM's current review of lands for wilderness characteristics included these external nominations, internal nominations, areas identified through inventory and monitoring, and adjacent designations of other federal and state

agencies. This review includes only BLM-administered lands and does not include portions of wilderness proposals on National Forest lands, within the Gunnison Gorge or Dominguez-Escalante NCAs, or within existing WSAs.

Table 3-31 (Units Inventoried for Wilderness Characteristics) identifies the areas that were assessed for wilderness characteristics outside of WSAs and the Tabeguache Area as part of the RMP revision process. Summaries are included following the table for inventory units that will be evaluated for management in at least one alternative in the RMP/EIS (see Chapter 2, Alternatives, and Chapter 4, Environmental Consequences). Areas found to have wilderness characteristics are depicted on **Figure 2-10** (Alternatives B and D: Lands Managed to Protect Wilderness Characteristics).

Table 3-31
Units Inventoried for Wilderness Characteristics

Inventory Unit	Acres Inventoried[1]	Acreage with Wilderness Characteristics	Acres not Having Wilderness Characteristics
Camel Back WSA Adjacent	8,700	6,950	1,750
Dolores River Canyon WSA Adjacent	3,750	550	3,200
Dry Creek Basin	7,030	7,030	0
Roc Creek	7,650	5,480	2,170
Shavano Creek	6,100	4,900	1,200
Norwood Canyon Unit 1	2,350	0	2,345
Norwood Canyon Unit 2	3,250	0	3,250
Total	**38,830**	**24,910**	**13,920**

[1]Reflects total BLM-administered acreage within the planning area submitted by the Colorado Wilderness Network, including acreage within existing WSAs. Acreages generated through GIS mapping may vary due to rounding inconsistencies and different mapping techniques.

More information on the evaluation of proposed wilderness units, including methodology for analysis, as well as detailed information on and location of all inventoried units, is in **Appendix F** (Summary of the Uncompahgre Planning Area Wilderness Characteristics Inventory: 2011 Update).

Camel Back Wilderness Study Area Addition

This unit is contiguous with the Camel Back WSA and includes 8,700 acres proposed by the Colorado Wilderness Network. A total of 1,750 acres have been excluded from the unit due to substantial evidence of human modification. The remainder of the area retains its natural appearance and provides outstanding opportunities for solitude and primitive and unconfined recreation. Supplemental values include areas of Fremont cottonwood/skunkbush sumac riparian woodland (*Populus deltoides ssp. wislizeni/Rhus trilobata*), which is classified as globally imperiled by the CNHP, as well as important habitat connectivity between the higher-elevation forested lands on the Uncompahgre Plateau to the lower-elevation desert scrub lands at the lower end of the unit.

Dolores Canyon Wilderness Study Area Addition

This unit contains 3,750 acres adjacent to the Dolores River Canyon WSA as identified in the Colorado Wilderness Network proposal. Portions of the unit on Davis Mesa between the WSA boundary on the northeast side of Wild Steer Canyon and Montrose County Road DD16 (approximately 550 acres) are natural in appearance; however, the unit does not contain outstanding opportunities for solitude due to an adjacent county road. Opportunities for primitive and unconfined recreation are available on the previously described 550-acre portion of the unit.

Dry Creek Basin

This unit was identified by the BLM through internal review and update of the UFO wilderness characteristics inventory as required by the FLPMA Section 201. The single-track motorized trails and all-terrain vehicle (ATV) trail within the unit are currently at a low level of use that is consistent with the findings of naturalness and outstanding opportunities for solitude and primitive and unconfined recreation. The Dry Creek Transportation Plan (BLM 2009a) designated both routes. In the southwest portion of the unit, a constructed and maintained road extends into the unit for about two miles and terminates. The route is cherry-stemmed out of the unit. This unit also provides important wildlife habitat connectivity between the higher-elevation forested lands on the Uncompahgre Plateau at the south end of the unit and the lower-elevation lands to the north.

Roc Creek

The original proposal from the Colorado Wilderness Network included Sewemup Mesa WSA and BLM-administered lands in both the BLM Grand Junction Field Office and UFO, as well as National Forest System lands in the Roc Creek vicinity. This inventory focuses on BLM-administered lands outside of existing WSAs and designated wilderness within the RMP planning area. The portion of the proposed unit within the planning area is comprised of 7,650 acres near, but not contiguous with, the Sewemup Mesa WSA. A total of 250 acres on the west side of the remaining proposal were eliminated because they were non-contiguous with the remainder of the unit. Of the remaining acres inventoried, 5,480 acres are natural in appearance. Much of the unit contains steep terrain draining toward the north into Roc Creek. Vegetation is predominantly pinyon-juniper forest. The southeast part of the inventory unit (2,170 acres) is not natural in appearance and contains many vehicle routes and linear disturbances remaining from mineral exploration. Several road spurs have been cherry-stemmed out of the unit. Opportunities for solitude and primitive and unconfined recreation are present, and the area is notable for highly scenic views from the bluffs overlooking the deep drainages within the unit.

Shavano Creek

This unit is just north of but not adjacent to the congressionally designated Tabeguache Area. A total of 1,190 acres were excluded from the initial inventory area when it was found that Road U475 is a constructed and maintained road and, therefore, formed a new boundary for the unit. The remaining 4,900 acres contain wilderness characteristics and are of sufficient size to make practicable its management in an unimpaired condition. There are abundant opportunities for primitive and unconfined recreation. Opportunities for solitude are also outstanding throughout the unit. In addition, this area provides important habitat connectivity between the higher-

elevation forested lands on the Uncompahgre Plateau at the northeast end of the unit and the lower-elevation lands to the southwest.

Trends

Lands within the decision area were not inventoried as part of the previous land use planning processes (BLM 1985; BLM 1989a) and have not been inventoried since the original wilderness characteristics inventory conducted in 1980. It is likely that these areas, found to possess wilderness characteristics during the inventory conducted for this RMP, would have possessed wilderness characteristics in 1980 had the inventory been conducted using current methods and technologies. Additionally, over the intervening decades as more of the natural landscapes in the US have been developed, peoples' sensibilities of what constitutes naturalness, solitude, and primitive and unconfined recreation have changed.

3.2 RESOURCE USES

This section contains a description of the human uses of resources in the planning area and follows the order of topics addressed in Chapter 2:

- Forestry and woodland products
- Livestock grazing
- Recreation and visitor services
- Comprehensive trails and travel management
- Lands and realty
- Energy and minerals
- Renewable energy

3.2.1 Forestry and Woodland Products

The BLM forests and woodlands are managed under the principles of multiple use, sustained yield, and environmental quality protection in accordance with FLPMA and the Colorado Standards for Public Land Health. Values and uses associated with forests, such as timber production, recreation, aesthetics, water quality, wildlife habitat, and wilderness, are managed through an ecologically based program that emphasizes biological diversity, sustainability, and long-term forest health.

Current Conditions

Forest Resources

The BLM manages approximately 5,300 acres of forested land within the planning area (as shown in **Figure 3-18** [Vegetation Types]). Commercial species include ponderosa pine, Douglas fir, Engelmann spruce, subalpine fir, and aspen. Historically, the primary commercial species were ponderosa pine, Engelmann spruce, and aspen. The annual allowable harvest from suitable commercial forested lands established for the San Juan/San Miguel decision area is 14.5 thousand cubic feet. Annual allowable harvests for the Uncompahgre Basin decision area were to be developed as needed, but due to funding constraints and low demand, were never established. Harvest levels over the past decade have averaged less than 36 hundred cubic feet

of forest products per year. This figure is significantly less than annual sustainable harvest limits within the resource area. In Colorado, the low harvest levels have coincided with a reduction in national forest timber harvests and consequent closures and/or very low levels of capacity at the few remaining sawmills since the late 1970s through the early 1990s. **Table 3-32** (Forest and Woodland Products Sold (1998-2008)) shows the number of forest products sold in the UFO from 1998 to 2008.

Table 3-32
Forest and Woodland Products Sold (1998-2008)

Fiscal Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fuelwood Cords #	285	167	309	126	262	199	224	192	291	214	254
Fuelwood Volume	232	136	252	103	214	162	183	157	237	174	207
Revenue	$2,850	$1,400	$2,440	$976	$1,966	$1,592	$1,680	$1,562	$2,220	$1,752	$1,270
Round-wood[1]	33	11	16	20	22	25	16	19	79	150	3
Revenue	$1,501	$395	$1,452	$759	$1,082	$1,140	$601	$776	$494	$182	$863
Christmas Trees #	607	625	603	438	463	289	673	636	580	374	370
Revenue	$3,269	$3,362	$2,412	$2,728	$2,963	$1,788	$3,438	$2,601	$2,008	$1,827	$3,700
Boughs (pounds)							1,000			4,000	
Revenue							$16			$16	
Transplant #		6	62	14	55	242	32	32	20	15	
Revenue		$24	$252	$56	$260	$512	$144	$128	$80	$68	
Total Yearly Revenue	*$7,620*	*$5,181*	*$6,556*	*$4,519*	*$6,271*	*$5,032*	*$5,878*	*$5,066*	*$4,802*	*$3,845*	*$5,833*

[1]Roundwood includes both saw timber and all non-saw timber and fuelwood products sold which are convertible to cubic feet such as posts, poles, and house logs.

Woodland Resources

In addition to commercial forestlands, approximately 107,000 acres of woodland within the planning area are suitable for harvest, consisting mainly of pinyon pine, juniper, and Gambel oak (as shown in **Figure 3-18**). The annual allowable harvest established for woodlands in the San Juan/San Miguel decision area is 10.2 thousand cubic feet; annual allowable woodland harvests for the Uncompahgre Basin decision area were not established. The average annual firewood harvest for the past decade has been 230 cords per year across the entire field office, which is well below sustainable harvest limits. The present demand for fuelwood has been steady and limited almost exclusively to pinyon and juniper. Currently, the collecting of other woodland species, including Gambel oak, is not permitted within the planning area, except on a case-by-

case basis when other management objectives are desired. There are known cases of fuelwood and post and pole removal by the public without permits; however, the level of use has been difficult to document and quantify. Realistically this level of use is likely to comprise an additional 10 to 15 percent of known use (approximately 23-35 cords per year) which, combined with known harvest levels, remains well below sustainable harvest limits.

Christmas Trees and Transplants

Special forest products, including posts, poles, Christmas trees, and transplants, are sold commercially or by the individual item. Seasonal Christmas tree harvesting by local residents is also a common use of woodland resources, with an average of 514 trees sold per year. Pinyon pine and juniper are the only species currently permitted for Christmas tree harvest within the planning area. The annual harvest of Christmas trees has fluctuated over the past ten years, with the greatest demand occurring in 2004 and the lowest demand in 2008. The harvest of transplants has been minimal, reflecting public and commercial demand. Fewer than 60 transplant permits are sold annually, with a preference for pinyon used in the emerging trend of xeriscaping.

Forest Inventories

Given the minimal demand for pinyon-juniper products and relatively small volume contained within stands of commercially viable saw timber in the planning unit, labor-intensive stand inventories have not been utilized. Straight area calculations have traditionally been used to calculate allowable harvest limits under sustained yield principles. Harvest limits are calculated using the following equation:

$$\frac{\textit{Stand Acres}}{\textit{Return Interval/Regeneration Time + Reestablishment Lag}} \times \textit{Productive Capability} = \textit{Sustainable Harvest}$$

An extensive inventory of the planning area known as the Timber Production Capability Classification was conducted in the late 1970s through 1980s in order to identify the various species present within a given stand and calculate the stand's production capabilities, as well as to map the stand on a 1:24,000 scale (commonly known as 7.5-minute quadrangle maps). Given current BLM funding and the decrease in demand for forest products from 1970-1989 levels, these inventories, and the straight area calculations used to determine sustainable allowable cuts, remain valid and useful.

Management Objectives and Practices

The primary focus of forest management practices in the UFO from the early 1950s through the early 1980s was to provide forage for livestock and big game species. These objectives were achieved through the practice of chaining and roller chopping, primarily in pinyon-juniper woodlands, and then seeding with non-native forage species. This practice was applied to approximately 35,000 acres of pinyon-juniper woodland within the planning area. Although the woodlands are lightly stocked, these treated acres are still considered part of the woodland base. These management objectives and practices have continued through the 1990s to the present.

While the emphasis had been on moving towards or maintaining pinyon-juniper woodlands in an early seral state for forage production, there has been a shift in the last decade toward a landscape approach for managing these treatment areas. For example, a percentage of the early seral woodlands within the Spring Creek and Dry Creek watersheds will be allowed to mature, while the remaining pinyon-juniper sites will be managed as early seral, with restoration of the native herbaceous and woody shrub component. Similar approaches could be utilized across the resource area to restore greater ecological integrity to forest and woodland communities.

With implementation of the National Fire Plan, the BLM has conducted numerous fuel treatments in the planning area to manage previously untreated stands through mechanical thinning or prescribed burning. Such efforts represent an attempt to restore areas of woodland and forest that have experienced an increase in numbers of trees per acre or crown closure due to past management practices, such as fire exclusion and grazing. The objective of the treatments has been to minimize fire danger by reducing stocking rates and the continuity of forest canopy.

Trends

Forest Health

Forest and woodlands in Colorado have been affected by drought, insects, and disease. Pinyon ips, mountain pine, spruce bark, and balsam fir beetles have all been increasing in population (Colorado State Forest Service 2009). Within the planning area, aspens are in varying stages of growth, although overall stands are declining. Many stands are on marginal sites exhibiting signs of a relatively unknown phenomenon called Sudden Aspen Decline Syndrome (Colorado State Forest Service 2005).

Fluctuations in Tree Density. Concerns about tree invasion causing major land health problems are lessening in light of recent drought. In addition, recent research on pinyon dendrochronology and stand structure on the Uncompahgre Plateau indicates that many woodland stands have experienced density increases followed by density declines over the past several centuries, apparently linked to climate fluctuations (Romme et al. 2008).

Two prolonged wet periods over the past century have likely contributed to increases in tree density, both within woodlands and through invasion into new communities. Land management practices such as livestock grazing may enhance tree establishment as well, with young trees sprouting in woodland chainings from the mid-20th century. However, the drought has recently killed many of these young regenerating pinyon trees in parts of the landscape, with tree death in some areas as high as 90 percent. Because there is no evidence that frequent fire in shrub communities has repelled tree invasions, the effects of fire repression cannot be implicated thus far.

Demand for Forest Products

Saw Timber. Recent government initiatives, including the National Fire Plan, Healthy Forest Restoration Act, and Healthy Forest Initiative, have called for the treatment of forests and woodlands to reduce fire and insect threats and improve overall forest health, while also providing incentives for local community-based business development of forest products.

Despite these initiatives, the demand for saw timber within Colorado and eastern Utah remains low. With the sawmill in Montrose, Colorado, reopening, and with the development of biomass plants in the region, demand may increase over the life of the RMP.

Fuelwood. The demand for fuelwood has remained steady over the last decade, and this trend is expected to continue, along with fluctuations in response to oil and natural gas price fluctuations. This is due, in part, to strict air quality regulations that deter wood burning within major population centers in the region, and the fact that fuelwood is more readily obtained on adjoining National Forest System lands. Posts and poles account for approximately 75 to 90 percent of all roundwood sales within the planning area over the past decade. This trend can be expected to remain constant, as modestly priced manufactured posts and poles enter the region, due in part to landscape-scale pest epidemics damaging forests throughout the intermountain west.

As communities along the Western Slope continue to grow, and water resources become more stretched, it is reasonable to expect that xeriscaping and xerogardening trends will accelerate, increasing the demand for native transplant trees from public lands. While difficult to project, as community planners impose water restrictions and promote green community development, the demand for water-conserving transplants can be expected to parallel community growth.

3.2.2 Livestock Grazing

The primary laws that govern grazing on public lands are the Taylor Grazing Act of 1934, FLPMA, and the Public Rangelands Improvement Act of 1978. A grazing district is the specific area within which public lands are administered under Taylor Grazing Act Section 3. All Taylor Grazing Act Section 3 permits are contained in grazing districts. A grazing permit is a document that authorizes grazing use of public lands under Taylor Grazing Act Section 3; it specifies grazing preference and the terms and conditions under which permittees make grazing use during the term of the permit. Public lands outside grazing district boundaries are administered under Taylor Grazing Act Section 15. A grazing lease is a document that authorizes grazing use of public lands under Taylor Grazing Act Section 15; it specifies grazing preference and the terms and conditions under which lessees make grazing use during the lease term.

The BLM manages grazing lands under 43 CFR Part 4100 and BLM Handbooks 4100-4180, and it conducts grazing management practices through BLM Manual H-4120-1: Grazing Management (BLM 1987). In addition, the BLM must meet or ensure progress is being made toward meeting the BLM Colorado Public Land Health Standards and Guidelines for Livestock Grazing Management (BLM 1997; **Appendix C**) for each allotment. An allotment is a designated area or management unit that allows grazing and can be made up of multiple pastures. The allowed use of grazing on each allotment is determined based on allocated Animal Unit Months (AUMs). An AUM is equal to the approximate amount of forage needed to sustain one cow, five sheep, or five goats for a month.

Standards and guidelines establish conditions needed to sustain public land health for soils, riparian systems, upland vegetation, wildlife habitat, threatened and endangered species, and water quality (BLM 1997). Guidelines are livestock grazing management tools, methods, strategies, and techniques designed to maintain or achieve healthy public lands as defined by the standards. The standards and guidelines have been implemented through land health

assessments, determination documents, environmental assessments, permit renewals, and other permit changes. These standards not only pertain to impacts associated with livestock grazing, but also to other rangeland impacts from such activities as recreation, development activities, wildlife grazing, and wild horse management. Sustainable livestock grazing and desired rangeland condition requires the collective management of forage, water, soil, and livestock by the BLM and the livestock owners and operators. An interdisciplinary approach ensures effective management of the multiple resource values and uses in the Uncompahgre RMP. Management strategies for livestock grazing are focused on achieving BLM Colorado Public Land Health Standards and meeting objectives for other resources, such as vegetation and soils.

Current Conditions

Currently 658,540 acres (97 percent) of BLM-administered land within the planning area are allocated for livestock grazing. The public range is permitted at a level of 38,364 AUMs of forage. The permitted level includes 36,554 active AUMs and 5,153 suspended use AUMs. Permittees paid to use 29,219 AUMs of forage in 2008. **Appendix E** (Livestock Grazing Allotments and Allotment Levels) details grazing allotments, acreages, permitted AUMs, and grazing periods within the planning area.

Approximately 17,260 acres (3 percent) of BLM-administered land within the planning area are not managed under an active grazing permit. Some of this area may be unsuitable for grazing and some may be vacant grazing areas due to no permittee in place.

Within the planning area, there are 203 allotments and 135 permittees (see **Figure 3-19** [Grazing Allotments]). The allotments vary in size from 40 to 92,198 acres, with grazing allocations ranging from 1 to 4,800 AUMs in each allotment. In 2009, 85 percent of the allotment permits were for cattle, with sheep and horse grazing accounting for the remaining 15 percent. Individual operators graze animals on 188 allotments, while the remaining fifteen are common allotments grazed by two or more operators.

Grazing within the planning area occurs throughout the year, with much of the use concentrated during spring and fall months. Spring and fall allotments are typically located adjacent to National Forest System land, and are utilized for short periods prior to "on" dates and after "off" dates for higher elevation summer allotments on National Forest System land. Summer use allotments are commonly found at higher elevations in the North Fork of the Gunnison River area. The Forest Service and BLM coordinate grazing management when a permittee uses lands managed by both agencies. Winter use allotments are primarily located in the west end of Montrose and San Miguel Counties, at lower elevations associated with a semi-arid climate.

All grazing permits include terms and conditions regarding management of the allotment. In some cases, allotment management plans have been developed, which provide details about the location, amount, and timing of permitted grazing use, and incorporate allotment-specific planned grazing systems.

Some allotments in the planning area contain portions that are only slightly used or not used at all by livestock due to topography, distance from water, limitations caused by natural barriers, or other reasons. Rangeland improvement projects, water developments in particular, have been implemented within the UFO to better distribute livestock grazing.

land health assessments conducted in the planning area between 1998 and 2009 identified causal factors in instances where BLM Colorado Public Land Health Standards were not met or were met with problems. **Table 3-33** (Status of Allotments in Relation to Public Land Health Standards) summarizes the status of grazing allotments in relation to BLM Colorado Public Land Health Standards.

Table 3-33
Status of Allotments in Relation to Public Land Health Standards

Description	Number of Allotments	Acres
Upland Soils, Healthy Plant and Animal Communities, and Threatened and Endangered Species Standards		
Total number of allotments assessed	181	607,760
Allotments meeting standards with problems and/or NOT meeting standards, with current livestock grazing identified as the cause	30	32,744
Allotments meeting standards with problems and/or NOT meeting standards, with causes other than current livestock grazing identified	128	350,923
Riparian and Water Quality Standards		
Allotments meeting standards with problems and/or NOT meeting standards, with current livestock grazing identified as the cause	11	32
Allotments meeting standards with problems and/or NOT meeting standards, with causes other than current livestock grazing identified	84	222

The results of the land health assessments assist the BLM in prioritizing allotment management. Three selective management categories for allotments have been developed: Custodial, Maintain, and Improve. Custodial allotments are those where investment in time or money would not be justified due to size or condition of the allotment. In Maintain category allotments, no serious resource use conflicts or controversy exist or current management is generally achieving desired results. Although some investment in time or money would be justified in these allotments, they are not as high a priority as Improve category allotments. Improve category allotments have resource use conflicts or controversies, opportunities exist to achieve the allotment's potential through management changes, or the allotment contains significant unique resources that would justify investments of time and money. These allotments are the highest priority for monitoring and increased range management.

Appendix E identifies 30 allotments (275,970 acres) in the improve category, 22 allotments (47,970 acres) in the maintain category, and 178 allotments (334,380 acres) in the custodial category. Changes in management may be due to conflicts with other uses, conflicts with other resources, adjustment in authorized active AUMs based on Ecological Site Inventory, or results of a land health assessment where livestock grazing has been determined to be a causal factor. Improve category allotments have priority in completing Allotment Management Plans, but due to new resource issues and increased focus in some areas, some Allotment Management Plans have been established for lower-priority allotments.

Trends

Over the past five years, billed use has averaged 65 percent of total permitted use. This difference can be attributed to a number of variables. Seasonal variations in precipitation and temperature result in more or less available forage from one year to the next. Drought conditions have required a temporary reduction in grazing use in order to maintain good range conditions. Permittees may also opt for voluntary non-use for a variety of reasons, resulting in AUMs that are available but not used. In addition, grazing is typically deferred in an area for two years following land treatments and fire rehabilitation projects, accounting for lower use levels.

As grazing permits within the planning area become available for whatever reason, there is considerable interest among area livestock producers to acquire them. There is also interest in acquiring grazing authorization for lands not currently allocated for grazing. The anticipated demand for grazing on BLM-administered lands within the planning area is expected to continue into the near future.

3.2.3 Energy and Minerals

Energy and minerals are discussed in four separate subsections describing fluid leasable minerals, solid leasable minerals, locatable minerals, and mineral materials.

- **Fluid leasable minerals** are oil (including oil shale) and gas (including shale gas). Leasable minerals are governed by the Mineral Leasing Act of 1920, as amended, which authorized specific minerals to be disposed of through a leasing system. Geothermal heat is also considered a leasable mineral and is governed by the Geothermal Steam Act of 1970.
- **Solid leasable minerals** are coal, sodium, potash, and phosphate. Leasable minerals are governed by the Mineral Leasing Act of 1920, as amended, which authorized specific minerals to be disposed of through a leasing system.
- **Locatable minerals** are gold, silver, platinum, copper, lead, zinc, magnesium, nickel, tungsten, bentonite, uranium, vanadium, and uncommon varieties of sand, gravel, and dimension stone. Locatable minerals can be located and claimed under the Mining Law of 1872.
- **Mineral materials** are common varieties of construction materials and aggregates, such as, sand, gravel, cinders, roadbed, and ballast material. Mineral materials are sold or permitted under the Mineral Materials Sale Act of 1947.

Fluid Leasable Minerals – Oil and Gas

Oil and gas leasing in the UFO is guided by three RMPs or RMP amendments; none are inclusive of the entire Uncompahgre RMP decision area.

- Uncompahgre RMP (BLM 1989a). Applies to oil and gas leasing and development activities proposed on lands from the North Fork area to the eastern edge of the Uncompahgre National Forest boundary in the UFO.
- Colorado Oil and Gas Leasing and Development EIS and RMP Amendment for the San Juan/San Miguel Planning Area (BLM 1991a). Applies to oil and gas leasing and

development activities proposed on lands southwest of the Uncompahgre National Forest in the UFO.

- San Miguel River Special Recreation Management Area (SRMA) and ACEC Amendment (BLM 1993a). Applies to lands within the San Miguel River SRMA and ACEC.

Most of the hydrocarbon production in the Uncompahgre RMP planning area is natural gas, with very little associated oil, natural gas liquids, or water. As of 2010, approximately 15,000 barrels of oil had been produced in the planning area indication that oil production is not a significant activity within the planning area (BLM 2012d). As such, only natural gas production will be discussed in the remainder of this section.

Current Conditions

There are currently three types of natural gas occurrences within the planning area: conventional gas often found in sandstone formations, coal bed methane found in coal seam deposits, and shale gas produced from shale formations using horizontal drilling technologies. Natural gas resources are located generally in two areas within the planning area: the North Fork of the Gunnison River area (North Fork area) and the west end of Montrose and San Miguel Counties area (West End area) (**Figure 3-20** [Oil and Gas Well Locations]). The North Fork area lies in the northeast corner of Delta County and the northwest corner of Gunnison County. In this area, the Mesa Verde Group in the Piceance Basin has gas potential for conventional gas in sandstone units, coal bed methane gas within its coal seams, and shale gas resources in sedimentary strata associated with the Mancos Shale. In the West End area, the Dakota Sandstone Formation has potential for conventional and coal bed methane gas, while the deeper Cutler Formation and Hermosa Formation Group have potential for conventional gas and a deep shale gas play, respectively (BLM 2011b) (**Figure 3-8**). These formations all lie within the Paradox Basin (**Figure 3-9**).

In the last ten years (January 1, 2000, to December 31, 2009), drilling operations have resulted in 57 new exploratory and development natural gas wells. Of these, thirteen were in the Paradox Basin part of the planning area, while 44 were located in the Piceance Basin part of the planning area (BLM 2012d).

Leasing of oil and gas since 2000 has varied from zero acres in 2010 to 54,710 acres in 2005 (**Table 3-34** [Federal Oil and Gas Acreage Leased By Year]). As of August 2012, the planning area had 348 active leases containing 224,950 acres. Because most leases expire after ten years, some of these lands may now be available for leasing. As a result, it is estimated that there are approximately 646,860 acres open to leasing (471,070 acres of BLM surface and 175,790 acres of split-estate lands (private, state, and local surface with federal fluid mineral subsurface) within the planning area.

Table 3-34
Federal Oil and Gas Acreage Leased By Year

Year	Average Lease Acres	Total Leased Acres	Number of Leases
2000	745	16,130	21
2001	545	40,070	71
2002	490	2,240	5
2003	460	14,070	32
2004	635	4,250	7
2005	900	54,710	52
2006	510	15,850	29
2007	500	31,560	48
2008	490	23,540	37
2009	80	390	5
2010	n/a	0	0
2011	40	40	1
2012	800	800	1

North Fork Area. The North Fork area hosts the largest natural gas development activity in the planning area. As of 2010, wells in this area had produced over three billion cubic feet of gas. The bulk of the gas production in this area is from upper Cretaceous sandstone reservoirs in the Mesa Verde Group within the greater Piceance Basin. Primary targets for drilling in the Mesa Verde group include the Cozzette and Corcoran Sandstone members found within the Mount Garfield (or Iles) Formation.

In addition, a high potential exists for the occurrence of coalbed natural gas in the Mesa Verde Group. The South Canyon Coal and Cameo Coal units within the Williams Fork Formation are targets within this group. Producers are also exploring potential sources of shale gas within the Mancos shale (BLM 2012d).

Additional formations within the Cenozoic zone contain natural gas production potential but have not yet been productive (BLM 2012d). According to Colorado State historic records, 116 gas wells have been drilled in the North Fork area on federally managed oil and gas leases, including split-estate lands. Of these wells, 15 are currently producing, 29 are shut-in but capable of production, and 72 have been drilled, abandoned, and plugged (BLM 2011b).

West End Area. Gas exploration in the West End area is occurring in the Mailbox Park, Hamilton Creek, and Wray Mesa areas in portions of Montrose and San Miguel counties west of Telluride. The West End area has a high potential for the occurrence of oil and natural gas; however, the amount of historic oil and gas production to date in this area is very small. According to Colorado Oil and Gas Conservation Commission records, there have been 53 wells drilled on federally managed oil and gas leases (including split-estate lands). Of these wells, two are currently producing, two are shut-in; and 49 have been drilled, abandoned, and plugged (Colorado Oil and Gas Conservation Commission 2012).

The West End area formations lie in the Paradox Basin and are much older than those in the North Fork area. The Dakota Sandstone formation dates to the early Cretaceous period.

Various members of the Permian Cutler Formation and the Pennsylvanian Hermosa Group are also targets for gas production. These formations are generally much deeper than the younger North Fork area formations, with total well depths averaging around 10,000 feet in the West End area as opposed to 5,000 feet in the North Fork area.

Trends

The Energy Information Administration estimates that over the next twenty years United States energy consumption will grow at an average annual rate of 0.5 percent, with natural gas growing at 0.2 percent. Future natural gas supply is projected to grow at an annual rate of 0.9 percent, and the price of natural gas is projected to increase at an annual rate of 1.2 percent. These projections indicate continued industry emphasis on increasing natural gas supplies and searching for additional natural gas supplies in the Uncompahgre RMP planning area. Much of the planning area gas supply growth is expected to come from development of the coalbed natural gas resource and new reservoir discoveries potentially coming from exploration for nonconventional plays. An estimated 1,271 wells could be drilled in the planning area by 2030, with 418 of those wells falling under BLM management. Of those 1,271 wells, approximately 62 percent (up to 782) could be coalbed natural gas wells, and the remaining 38 percent (up to 489) could be conventional wells (including shale wells). As many as ten of the conventional wells could be deep wells located in the Paradox basin (BLM 2012d).

Although the number of wells drilled, both nationally and in the Uncompahgre RMP planning area, is projected to increase, the production per well has been decreasing and is expected to continue this trend. In response, producers are drilling more and more wells in an attempt to maintain current levels of total production (BLM 2012d).

Carbonaceous shale is expected to become an important future source of natural gas in the United States. Some exploration of the shale resources in the UFO planning area has occurred, but it is still in early phases. When and if the Mancos, Gothic, or Hovenweep shale gas plays are fully characterized for the planning area and technology and well completion methods are optimized, these shale gas resources could become an important energy source (BLM 2012d).

Fluid Leasable Minerals – Geothermal Resources

A geothermal lease is for the heat resource of the earth where there is federal mineral estate. Unless specifically owned in fee, the federal government does not own the hot water commonly associated with the heat; this falls under state water laws. Geothermal developers must obtain the appropriate water rights and state permits in addition to the federal lease for the resource.

The BLM has the delegated authority to issue geothermal leases on federal lands. It is the policy of the federal government, consistent with Section 2 of the Mining and Mineral Policy Act of 1970 and Sections 102(a)(7), (8), and (12) of the Federal Lands Policy and Management Act of 1976 (43 USC 1701 et seq.), to encourage the development of mineral resources, including geothermal resources, on federal lands. The Geothermal Steam Act of 1970 (30 USC 1001, et seq.), which was amended and supplemented by the Energy Policy Act of 2005, provides statutory guidance for geothermal leasing by the BLM. New federal geothermal development regulations (43 CFR Parts 3000, 3200, and 3280: Geothermal Resource Leasing and Geothermal Resources Unit Agreements) were made effective June 1, 2007 (72 *Federal Register* 24358, May

2, 2007), as a result of a directive provided in the Energy Policy Act of 2005. These statutes and regulations delineate lands that are available and unavailable for leasing.

All geothermal project applications are subject to environmental review in accordance with the requirements of NEPA. Applications triggering environmental review are typically received at each of the following three phases of a geothermal development project: (1) exploration (e.g., seismic surveys and temperature gradient hole drilling); (2) drilling operations (e.g., full bore exploration well drilling and well testing); and (3) utilization (i.e., construction and utilization of power plants and transmission lines and ancillary facilities).

As of 2010, the BLM's geothermal energy policy is directed by the following regulations and executive orders:

- The Geothermal Steam Act of 1970, as amended, designates the BLM as being responsible for leasing Federal lands and reviewing permit applications for geothermal development. This authority encompasses about 570 million acres of BLM-administered land, National Forest System lands, with concurrence of the Forest Service, and other federal lands, as well as private lands where the mineral rights have been retained by the Federal Government;
- The Energy Policy Act of 2005 (Title II, Sec. 211), which requires the DOI to approve at least 10,000 megawatts of renewable energy on public lands by 2015;
- The Energy Policy Act of 2005 (Title II, Sec. 222(d)), which requires that all future RMPs in areas of geothermal resource potential consider geothermal leasing and development;
- The Energy Policy Act of 2005 (Title II, Sec. 223), which gives the Secretary of Interior authority to identify areas that could be leased exclusively for direct use of geothermal resources;
- Executive Order 13212, Actions to Expedite Energy-Related Projects, which requires federal agencies to expedite review of energy project applications;
- Secretarial Order 3285, which requires the DOI to identify and prioritize specific locations best suited for large-scale renewable energy production; and
- Instruction Memorandum 2009-022, Geothermal Leasing under the Energy Policy Act of 2005 (BLM 2008g), provides guidance for geothermal leasing.

Current Conditions

Of the 909,580 acres of federal mineral estate in the decision area, 44,220 are designated as closed to geothermal leasing.. There are no geothermal facilities, pending applications for geothermal facilities, leases or lease nominations in the planning area.

According to the Programmatic EIS for Geothermal Leasing in the Western US (BLM 2008b) and the Renewable Energy Potential Report prepared in support of this RMP, the planning area has 593,600 acres with geothermal potential. Aside from the westernmost portion, the entire planning area is considered to have geothermal potential. This is shown in Figure 2-2 of the Renewable Energy Potential Report (BLM 2010g). Specific geothermal surface features within

the planning area are limited to Orvis Hot Spring (126 degrees Fahrenheit) and Ouray Hot Spring (156 degrees Fahrenheit), which have the potential for expansion of both direct use and indirect (electrical) use applications for the communities near those resources. While neither of these hot springs are located on BLM-administered lands, such lands are nearby and could potentially be involved in future development of these geothermal resources.

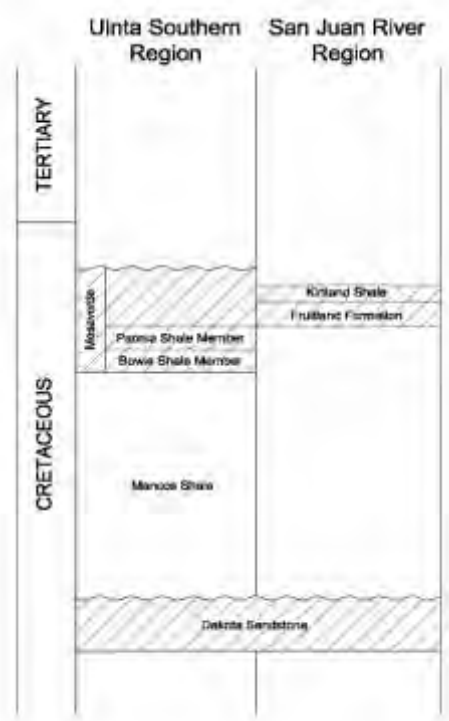
Trends

The main long-term trend that is expected to influence geothermal energy development within the planning area is the ongoing national rapid expansion of renewable energy development and the possible future trend toward locally produced renewable energy.

Solid Leasable Minerals – Coal

Coal in the Uncompahgre RMP planning area is found in three Upper Cretaceous formations. From oldest to youngest, they are the Dakota Sandstone Formation, the Mesaverde Formation and Mesaverde Group (Mesaverde), and the Fruitland Formation. The Mancos Shale Formation lies between the Dakota Sandstone and the Mesaverde/Fruitland Formations. These Upper Cretaceous formations are found within two coal regions in the planning area: the Uinta coal region that is associated with the Piceance Basin, and the San Juan River coal region associated with the Colorado Plateau physiographic province. The generalized stratigraphic column illustrated in **Diagram 3-10** (Stratigraphic Relationship of Coal-bearing Formations in the Planning Area), shows the relationship of the three formations and the coal regions (BLM 2010h).

***Diagram 3-10**, Stratigraphic Relationship of Coal-bearing Formations in the Planning Area*



Source: BLM 2010h

The Uinta and San Juan River coal regions are comprised of seven coal fields, four of which are within the planning area and three adjacent to the planning area (**Figure 3-21** [Coal Fields]). The four fields within the planning area are the Tongue Mesa and Nucla-Naturita coal fields (San Juan River coal region), and the Grand Mesa and Somerset coal fields (Uinta coal region). The three coal fields adjacent to the planning area are the Book Cliffs, Carbondale, and Crested Butte. The Carbondale coal field extends into the northeast corner of the planning area; however, the coal resource in this area has been mostly mined out or is inaccessible due to wilderness status. As such, the coal resource potential for Carbondale is not further discussed in this section (BLM 2010h).

Current Conditions

The coal development potential area identified in the 1985 San Juan/San Miguel RMP (BLM 1985) and 1989 Uncompahgre Basin RMP (BLM 1989a) was carried forward to Alternative A (which reflects current management) in the Draft RMP/EIS. As part of development of the revised RMP,

the BLM developed the *Coal Resource and Development Potential Report* (BLM 2010h) to assess the geographic areas where potential coal resource development may occur in the next 20 years. This report was developed with the assistance of a contractor and included input from geologists and coal mining specialists from the BLM, the Colorado Geological Survey, the Forest Service, and the US Geological Survey, who provided input on coal resource data and activity forecasts. Much of the information came from reports developed by the Forest Service in 2006 and the US Geological Survey in 2004, which identified coal potential for the associated National Forests and surrounding areas. The coal potential area in Alternatives B, C, and D was expanded because of new technology that allows mining of deeper coal and because of the addition of Dakota coal west of Montrose and an expanded Nucla-Naturita Coal Field, neither of which were recognized in the 1985 and 1989 RMPs (as shown in **Figure 3-21**). **Table 3-35** (Coal Fields) illustrates the coal potential area for each coal field, by alternative.

Table 3-35
Coal Fields

Coal Field or Coal Resource Area	Federal Mineral Estate Acres[1]	
	1989 Data Alternative A	2009 Data Alternatives B, C, and D
Coal Fields		
Grand Mesa	25,580	27,740
Nucla-Naturita	2,080	148,440
Tongue Mesa	15,920	16,570
Somerset	44,920	46,220
Coal Resource Areas[2]		
Piceance deep	57,350	57,360
Uncompahgre Plateau	No data	117,260
Other areas	No data	7,910
TOTAL	**145,850**	**421,500**

[1]Acreages shown are those within the decision area and, as such, do not include federal minerals underlying National Forest System lands.
[2]The coal resource areas of Piceance Deep and Uncompahgre Plateau, and other unnamed areas where the coal resource is present, contribute to the coal development potential area, but are not further discussed in this chapter because they have low coal potential and no interest from industry.

The coals in the Grand Mesa coal field are in the Mount Garfield Formation of the Mesaverde Group. The coal is found in the Paonia Shale and Bowie Shale Members. The Rollins Sandstone Member is a whitish, massive sandstone unit that underlies the Paonia Shale and Bowie Shale coal-bearing members and overlies the Mancos Shale Formation that is comprised of marine shale and mudstone and forms the adobe badlands on the lowest slopes of Grand Mesa (BLM 2010h).

The apparent rank of coal in the Grand Mesa coal field is high-volatile C bituminous to subbituminous A. Lee (1912) indicated that the Grand Mesa coal field (known at that time as the Rollins District of the Grand Mesa coal field) produced coal that was typically subbituminous and had lower energy than the bituminous coal in the "Somerset District" to the east. As with most Cretaceous coal in western Colorado, the coal is of high quality, with typically low ash and sulfur content and moderately high energy value. However, because of the lower energy (than coal in

the Somerset field), deep overburden, and inaccessibility to coal-handling and transportation facilities, coal mining activity in this field has limited potential during the next 20 years (BLM 2010h).

Nucla-Naturita Coal Field. The Nucla-Naturita coal field is near the southwest corner of the planning area in the vicinity of the towns of Nucla and Naturita (**Figure 3-21**). Although there are 24 historic surface and underground coal mines in the Nucla-Naturita coal field, the only active coal mine is at the New Horizon Mine, operated by Western Fuels Association and currently located on private land with private mineral estate. The New Horizon Mine is a strip mining operation that supplies coal by truck (because no rail line is available in this area) to the Nucla Power Station, a 100-megawatt power plant owned by Tri-State Generation and Transmission Association. In addition to not having a rail line to haul coal, the coal is not in high demand outside of the area because of its low quality.

The coals in the Nucla-Naturita coal field are in the Middle Carbonaceous Shale Member of the Dakota Sandstone Formation. The Upper and Lower Sandstone Members contain massive sandstone, while the Middle Carbonaceous Shale Member contains coal, carbonaceous shale, and siltstone. Coal beds within the Middle Carbonaceous Shale Member are lenticular, discontinuous, and difficult to correlate across the field. In the Nucla-Naturita area, however, there are three beds of mineable thickness ranging from one to five feet. Due to the fragile nature of Mancos Shale, most of it has been eroded from above the Dakota Sandstone. The Burro Canyon Formation, which underlies the Dakota Sandstone, is a massive sandstone and conglomerate that is often mapped as part of the lower member of the Dakota Sandstone (BLM 2010h).

The apparent rank of the coal in the Nucla-Naturita coal field is high-volatile A to C bituminous to low-volatile B bituminous. The lenticular and discontinuous nature of the coal, as well as the presence of partings (thin interbeds of impurities) and clastic dikes, has limited the quality and economic viability of this coal (BLM 2010h).

Somerset Coal Field. The Somerset coal field is located on the lower, southeastern flank of Grand Mesa, extending from the east side of the Leroux Creek drainage (where it abuts the Somerset coal field to the west), past Paonia and Somerset, and east to drainages near Paonia Reservoir in the North Fork of the Gunnison Valley (**Figure 3-21**). The UFO currently manages several active federal coal leases related to two coal mines in the North Fork Valley near Paonia. The Bowie #2 (operated by Bowie Resources) and West Elk (operated by Mountain Coal Company) mines are actively producing underground (longwall, continuous) coal mines. The Elk Creek (operated by Oxbow Mining, LLC) coal mine is idle and the resumption date of production is unknown. Many inactive historic mines are also distributed throughout this field. Highway 133 passes through the eastern end of this field. The field is roughly 38 miles long and two to ten miles wide. Most of this coal field is in Delta County, with the eastern portion extending into Gunnison County (BLM 2010h).

The coals in the Somerset coal field are in the Paonia Shale and Bowie Shale Members of the Mesaverde Formation. The alluvial plain deposits of the Barren and Ohio Creek Members overlie the coal-bearing members. The Rollins Sandstone Member, a tan, massive sandstone unit, underlies the coal-bearing members and overlies the Mancos Shale Formation (BLM 2010h).

The apparent rank of the coal in the Somerset coal field is high-volatile B and C bituminous. In the eastern portion of the field where the coal has been exposed to laccoliths and other intrusions, the rank of coal is marginal to premium high-volatile A and B bituminous, and some are of good coking quality. As with most Cretaceous coal in western Colorado, the coal is of high quality, with typically low ash and sulfur content and moderately high to high energy value (BLM 2010h). The Somerset coal field is the most active coal field in the planning area with production totals averaging approximately 11.2 million tons per year for the 5 years ending in June 2014. Production for the year ending in June 2015 was 8.009 million tons.

Tongue Mesa Coal Field (San Juan River Region). The Tongue Mesa coal field is along Cimarron Ridge, a prominent ridge southeast of Montrose between the Uncompahgre River and Cimarron Creek (**Figure 3-21**). It extends from south of Cerro Summit (Highway 50) in the vicinity of Coal Hill, south along the Cimarron Ridge to Owl Creek Pass east of Ridgway. Most of the historic mining in this field was on the west side of Cimarron Ridge from Buckhorn Lakes south to the Lou Creek drainage, but no active mining has occurred since 1950. The coal field is roughly 18 miles long from north to south and generally 2 to 3 miles wide. The coal field spans Montrose, Ouray, and Gunnison Counties.

The Fruitland Formation is the primary coal-bearing formation in the Tongue Mesa coal field. It is poorly consolidated, typically forming side slopes, and is exposed mostly in landslide scarps. Coal-bearing strata are located in the lower 200 feet of the Fruitland Formation and correlate with the Fruitland-Kirtland Formation of the San Juan Basin section (south of Durango, Colorado) and with the Paonia Shale section in the Grand Mesa area. Early US Geological Survey geologic quadrangle mapping by Dickinson (1965) identified the coal-bearing units as belonging to the Fruitland Formation, which was carried into the more recent mapping. However, others include the Tongue Mesa coal field as being in the Uinta Coal Region and consider the units to be the Mesaverde Formation. The Cimarron Ridge area is an outlier of Upper Cretaceous age coal-bearing rocks capped and protected by Upper Cretaceous and early Tertiary volcanic and volcaniclastic rocks. Due to the proximity of the Tongue Mesa coal field to the Somerset and Grand Mesa coal fields, it has been determined that it is more closely associated with the stratigraphy and local variations of the Uinta Coal Region. However, for the purposes of this planning effort, it is included in the San Juan River Coal Region (BLM 2010h).

The apparent rank of the coal in the Tongue Mesa coal field is high-volatile B subbituminous and subbituminous C. Some of the coal is reported to be considerably oxidized and bony (impure). As with most Cretaceous coal in western Colorado, the coal in this is field is of high quality, with typically low ash and sulfur content and moderately high to high energy value. An exploration license exercised in the 1970s provided data that revealed the coal resource included one very thick seam but indicated faulting that would hamper longwall mining. There are no existing mines in this coal field and historic production has been minimal (BLM 2011b).

Trends

For the last decade (2000-2010), the number of coal mines in the US has held steady at approximately 1,400 mines, with a total industry value in 2010 of nearly $37 million dollars (National Mining Association 2011). Within the planning area, the Somerset coal field has the greatest potential for continuing to produce the largest amount of coal. Projections by the US

Department of Energy's Energy Information Administration indicate that demand for Somerset's compliant to super-compliant coal will remain high and will likely continue to provide around 40 percent of Colorado's coal (BLM 2010h).

Solid Leasable Minerals – Sodium and Potassium

Potash is the common name given to potassium carbonate and variously mined and manufactured salts containing potassium in a water-soluble form. Potash is used for the manufacture of glass, soap, and soil fertilizer; and it is important for agriculture. Soda ash, or trona, is a mixture of sodium salt and carbonate minerals. Soda ash is used in the manufacturing of various glass products, powdered detergents, and medicine. It is also used in photography, cleaning, and boiler compounds; in the control of pH in water; and as a food additive (BLM 2011c).

Current Conditions

Abundant evidence indicates high potential in the Paradox Valley area for the occurrence of sodium and potassium deposits within the Paradox Member of the Hermosa Group. The Hermosa Group is found above the Paradox Basin in the western portion of the planning area. Although this high potential exists, as of 2011, there had been no reported mineral exploration, development, or production on BLM-administered lands within the planning area. However, in the Paradox Basin portion of the Tres Rios Field Office area, located immediately south of the Uncompahgre RMP planning area, a potash mining company has filed 21 prospecting permit applications. Another company has shown interest in submitting prospecting permit applications for potash in the Paradox Basin (BLM 2011c).

Trends

Along with other natural resources, potash and soda ash have experienced a rise in commodity prices to historic levels. With high demand for sodium and potassium deposits expected to continue, soda ash and potash exploration activity in the planning area is projected to increase over the next fifteen to twenty years (BLM 2011c).

Locatable Minerals – Uranium-Vanadium

Uranium and placer gold (discussed below) are the primary mineral resources found in the planning area, and are therefore the focus of discussion for this section. Vanadium is also present primarily as a byproduct of uranium mining.

Current Conditions

Uranium and vanadium resources are located within the historic uranium mining area designated as the Uravan Mineral Belt in western Montrose County. The host rock for this resource is the Salt Wash Member of the Jurassic-age Morrison Formation. This uranium-rich member outcrops in several locations associated with the Uravan Mineral Belt (BLM 2010i).

Numerous companies are conducting exploratory drilling for uranium-vanadium in the planning area portion of the Uravan Mineral Belt, while a few operations have begun underground bulk sampling excavations. Currently there are 29 active plans of operations or mining notices within the planning area, but there are no active mining operations.

The uranium-vanadium mineral resource potential of the planning area is classified according to the system outlined in BLM Manual 3031. Under this system, occurrence potential ratings are based on the geologic likelihood of a mineral's presence in a particular area. The ratings do not reflect the economic feasibility of developing a resource. The potential for development of uranium-vanadium mineral resources from the Morrison Formation in the Uravan Mineral Belt part of the planning area as projected over the life of the RMP, for twenty years, is rated as high occurrence potential with a high level of certainty (BLM 2011c). **Figure 3-22** (Active Uranium Exploration Sites in the Morrison Formation) depicts active uranium exploration sites in the Morrison Formation within the planning area.

Trends

The last uranium and vanadium mines in the region closed in 1990 due to declining commodity prices. However, because past mining operations did not completely remove all potential uranium and vanadium resources in the area, the potential for new economically profitable mines in the region remains strong. It is reasonable to expect that new exploration, coupled with modern mining and milling methods, will extract additional uranium and vanadium from Uravan Mineral Belt mines (BLM 2011c).

Locatable Minerals – Gypsum

Gypsum is a very soft mineral composed of calcium sulfate dihydrate that is used widely by the construction industry as a major component of wallboard. Paradox Valley, located in the western portion of the planning area, is known for the potential and occurrence of gypsum deposits. However, there are no known commercial deposits of gypsum in the planning area (BLM 2011c).

Current Conditions

Gypsum is an evaporate mineral present at the surface of Paradox Valley, in the Paradox Formation of the Hermosa Group, located in the western portion of the planning area. The planning area does not have a history of exploration, development, or production of any kind for gypsum deposits from this formation. In 2010, an inquiry over the submittal of a mining plan of operations for a gypsum mine was submitted to the UFO, but thus far no plans have been made (BLM 2011c).

Trends

The demand for gypsum is entirely dependent on the status of the construction industry, which has seen a decline in the US due to the recession. Recently there has been an increase in the demand for the export of gypsum to Asia, whose construction industry is booming. The demand for exports is expected to remain high, and the demand for gypsum within the US is expected to increase with recovery from the recession (BLM 2011c).

Locatable Minerals – Placer Gold

Other than uranium and vanadium, placer gold is the other primary mineral resource found in the planning area.

Current Conditions

The other primary locatable mineral is placer gold that is mined along the San Miguel River in western Montrose County. The activity is centered on Pinon, Colorado, and east of Nucla, with

placer mining claims located upstream from this location. Placer gold deposits in the planning area consist of random occurrences of gold particles that have eroded out of gold vein deposits, washed down to the Dolores, San Miguel, and Uncompahgre rivers, and become entrapped in riverbed sand, gravel, and cobble. Seasonal snowmelt and precipitation serve as an intermittent transport system to replenish the deposits annually. Independent operators and mining clubs both use up to a four-inch suction dredge to extract gold from the river bed. This activity is considered casual use and does not require BLM authorization. The UFO tracks this activity by requiring the operators to submit a notification of use. In 2008, the UFO received over 50 notices.

Trends

Placer mining activity largely depends upon the price of gold. In 2011, the price of gold fluctuated between a low of $1,316 per troy ounce and a historic high of $1,854 per troy ounce (Gold Price History 2012). It is anticipated that as the price of gold fluctuates, so will the activity level. In the short term, robust placer mining activity can be expected in the planning area. The historic nature of the mineral ensures a high degree of certainty that placer gold resources are present within the San Miguel River system into the Dolores River, giving the area a high potential rating (BLM 2011c).

Mineral Materials

Mineral materials include sand and gravel, and construction materials that are sold or permitted under the Mineral Materials Sale Act of 1947. Mineral materials are sold at a fair market value or through free use permits to governmental agencies. Local government agencies and non-profit organizations may obtain these materials free of cost for community purposes. County and state road construction divisions are significant users of gravel and sand resources.

Sand and gravel, as construction aggregate, is an extremely important resource. The extraction of the resource varies directly with the amount of development nearby – road building and maintenance, and urban development – as sand and gravel is necessary for that infrastructure development. Even more so than other resources, however, the proximity of both transportation and markets are key elements in the development of a deposit.

Current Conditions

The mineral materials program on BLM-administered lands within the UFO planning area centers mainly around the use of sand and gravel for construction and paving activities. Sand and gravel deposits are found along the San Miguel, Uncompahgre, and Gunnison Rivers and their major tributary valleys. Other sources include widespread glacial outwash, colluvium, and alluvial fans.

There are six county free-use permitted gravel pits and one private, non-competitive gravel pit, two riprap sites, two fill locations, and one clay area scattered across the planning area. In addition, there is currently a sales area for moss rock.

Production is reported annually. The free-use sites consist of erratic use as conditions demand, with a few thousand tons extracted one year followed by no use for many years thereafter. The noncompetitive site is currently in use for the last phase of a road improvement project, during which up to 50,000 tons have been extracted over the past year. Once completed, the project

site is expected to be reclaimed and the surface used to construct a residential housing development. Decorative moss rock is sold on a personal, small quantity basis, with over a hundred permits typically sold per year (BLM 2011c).

Trends

Future demand for mineral materials will vary depending upon market conditions, which differ according to economic conditions and construction activity. It is expected that as the current recession ends, construction activity will increase and economic conditions will improve, resulting in an increased demand for construction materials including gravel from areas within the UFO's planning area. There is a high degree of certainty that high potential for sand and gravel deposits exist in a wide variety of locations within the planning area (BLM 2011c).

3.2.4 Recreation and Visitor Services

Management of recreation is guided by BLM regulations and policies, federal and state laws, current and emerging trends in public demand for recreational activities and opportunities, and an area's physical and natural surroundings. Current management direction is based on objectives in RMPs and RMP amendments, activity level plans, and recreation management guidance, including 43 CFR 8300. The intent of the BLM's recreation-focused laws, policy, and guidelines is to meet public demand for outdoor land- and water-based recreation opportunities, while preventing or minimizing adverse impacts on the natural and cultural resources on BLM-administered lands in Colorado.

Current Conditions

Popular recreation opportunities in the planning area include hunting, fishing, whitewater rafting, OHV use, canoeing, kayaking, camping, hiking, backpacking, mountain biking, horseback riding, rock climbing, photography, and scenery and wildlife viewing. Recreation activities have increased in most areas since the 1985 and 1989 RMPs were adopted, with the greatest increase in OHV use, mountain biking, river recreation use, and rock climbing. In accordance with BLM's multiple-use mandate, per FLPMA, the agency seeks to provide recreational opportunities that include dispersed, organized, competitive, and commercial uses. Recreation in the planning area is managed primarily through licensing, permit fees, and enforcement of federal regulations.

Recreation Tourism Elements

Western Colorado is a world-renowned destination for outdoor recreation enthusiasts, and recreation has emerged as the predominant activity on local BLM-administered lands and national forests. The planning area receives around 320,000 visits per year (BLM 2009d). Visitors utilizing the planning area for recreation come from not only the local area (including cities such as Montrose and Delta and smaller communities such as Ridgway and Paonia) and other regions of Colorado, but also from other national and international locations.

<u>Outdoor Recreation Service Providers</u>. The UFO has a well-defined and diverse group of outdoor recreation service providers including informational and marketing providers such as the Montrose Visitors and Convention Bureau and active chambers of commerce in towns including Telluride, Nucla and Naturita, Delta, and Paonia. The planning area is home to dozens of outdoor gear providers, including bicycle shops, motorcycle and OHV shops, backpacking and sporting goods stores, and rafting and boating stores.

The UFO also supports a wide variety of permitted outfitters providing recreation services from big-game hunting and float trips to rock climbing excursions and mountain biking trips. Recreation and tourism opportunities are also supported by a number of large hotel chains in addition to locally owned lodging and full-service campgrounds that are privately owned or managed by Colorado State Parks.

Tourism. Recreation-based tourism, driven by a diverse set of year-round recreational opportunities, is critical to the local economies within the planning area. Outdoor recreation provides significant positive economic contributions to the local communities because recreationists tend to locally purchase meals, food, fuel, sporting goods, gifts, and lodging.

Regional public land marketing has historically focused on the BLM, NPS units, and Colorado State Parks. The UFO staff routinely attend regional tourism and marketing meetings to assist in the development of outreach campaigns that highlight BLM-administered land.

Recreation Management Areas

Recreation planning guidance and the definitions for recreation management areas (i.e., SRMAs and extensive recreation management areas [ERMAs]) have changed since the San Juan/San Miguel Planning Area RMP (BLM 1985) and the Uncompahgre Basin RMP (BLM 1989a).

Special Recreation Management Areas. Current BLM guidance identifies SRMAs as administrative units where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance and/or distinctiveness, especially as compared to other areas used for recreation. SRMAs are managed to protect and enhance a targeted set of activities, experiences, benefits, and desired recreation setting characteristics. SRMAs may be subdivided into recreation management zones (RMZs) to further delineate specific recreation opportunities. Within SRMAs, recreation and visitor service management is recognized as the predominant land use planning focus, where specific recreation opportunities and recreation setting characteristics are managed and protected on a long-term basis. SRMAs/RMZs must have measurable outcome-focused objectives. Supporting management actions and allowable use decisions are required to: 1) sustain or enhance recreation objectives, 2) protect the desired recreation setting characteristics, and 3) constrain uses, including non-compatible recreation activities that are detrimental to meeting recreation or other critical resource objectives (e.g., cultural or threatened and endangered species).

The BLM issues special recreation permits (SRPs) for commercial outfitters to operate and hold events in SRMAs. The planning area contains two SRMAs (**Figure 3-23** [SRMAs and Developed Recreation Sites]):

- San Miguel River SRMA: A 1993 amendment to the San Juan/San Miguel RMP designated 35,940 acres as the San Miguel River SRMA. The predominant recreation uses in the San Miguel River SRMA include whitewater rafting, kayaking, fishing, camping, picnicking, hiking, mountain biking, and sightseeing. BLM visitor patrols recorded 28,387 visitor days from October 1, 2008 through September 30, 2009. These visits were associated with rafting, fishing, camping, and hunting trips within the San Miguel River corridor. During the summer, the majority of campers are first-time visitors who spend at least two to four days in the area (BLM 2009d).

Camping use peaks during the fall hunting and spring river seasons, and many of these visitors return every year for an average stay of seven days. Camping use occurs on developed and dispersed designated sites along the river corridor. Thirteen river rafting outfitters currently operate under provisional SRPs.

- Dolores River SRMA: The Dolores River SRMA, co-managed with the BLM Dolores Field Office, was designated in 1985 and encompasses the Dolores River corridor from McPhee Dam in Montezuma County to Bedrock, Colorado. The 13,380-acre portion within the Uncompahgre decision area extends from the Dolores Field Office boundary to Bedrock. The Dolores River SRMA provides recreation activities and settings that are unique for BLM-administered lands. BLM visitor patrols recorded 875 visitor use days at the Bedrock boat launch from October 1, 2008 through September 30, 2009 (BLM 2009d). In most years, the Dolores River provides boatable flows from the end of April through mid-June.

Extensive Recreation Management Areas. Current BLM guidance defines ERMAs as administrative units that require specific management consideration in order to address recreation use, demand or recreation and visitor service program investments. ERMAs are managed to support and sustain the principal recreation activities and the associated qualities and conditions of the ERMA. Management of ERMA areas is commensurate with the management of other resources and resource uses. Supporting management actions and allowable use decisions must facilitate the visitors' ability to participate in outdoor recreation activities and protect the associated qualities and conditions. Non-compatible uses, including some recreation activities, may be restricted or constrained to achieve interdisciplinary objectives. There are no ERMAs in the decision area.

BLM-administered Lands Not Designated as Recreation Management Areas. Planning guidance in place when the San Juan/San Miguel and Uncompahgre Basin RMPs were written directed that all BLM-administered land not designated as an SRMA should be designated as an ERMA. However, under current recreation guidance (Instruction Memorandum 2011-004, Revised Recreation and Visitor Services Land Use Planning Guidance, Updated Checklist, and Three Land Use Planning Templates), what was formerly the Uncompahgre ERMA would now be considered "undesignated" (i.e., neither an ERMA nor an SRMA). As such, 626,480 acres (93 percent of the decision area) is "undesignated." These BLM-administered lands that are not designated as Recreation Management Areas are managed to meet basic recreation and visitor services and resource stewardship needs. Recreation is not emphasized, however recreation activities may occur. The recreation and visitor services are managed to allow recreation uses that are not in conflict with the primary uses of these lands. Management actions and allowable use decisions may still be necessary to address basic recreation and visitor services and resource stewardship needs.

Recreation Visits

Most public land use and activity participation estimates depend on a mix of computerized trail counter data, field observations, and professional judgment of the recreation staff and hence are not scientifically based. Recreation data are recorded in the BLM's Recreation Management Information System, which is a web-based application used to track, store, and retrieve data. The system enables the BLM to estimate recreation participation based on visitor registrations,

permit records, observations, and professional judgment. A visitor day is a recreation unit of measure commonly used by federal agencies, and represents an aggregate of twelve visitor hours at a site or area. **Table 3-36** (Visitor Use on BLM-administered Lands) displays the Recreation Management Information System figures for BLM-administered lands within the planning area for fiscal years 2006 through 2009.

Table 3-36
Visitor Use on BLM-administered Lands

Activity	Visitor Days (October 1 – September 30)			
	2005/2006	2006/2007	2007/2008	2008/2009
Boating (Motorized)	416	592	325	636
Boating (Nonmotorized)	12,145	11,443	14,047	16.821
Camping and Picnicking	53,310	53,141	56,255	57,699
Driving for Pleasure	16,971	17,538	18,939	19,772
Fishing	7,340	6,814	7,709	7,718
Hunting	50,417	52,210	55,318	56,486
Interpretation, Education, and Nature Study	13,583	13,568	2,445	2,455
Nonmotorized Travel	21,886	23,065	24,614	25,380
OHV Travel	78,894	81,601	87,699	90,405
Snowmobile and Other Motorized Travel	4,656	4,807	5,186	5,350
Specialized Motor Sports, Events and Activities	6,014	6,214	6,714	6,929
Specialized Nonmotor Sports, Events and Activities	21,369	21,093	22,262	22,870
Swimming and Other Water Based Activities	4,749	4,630	4,769	4,865
Winter/Nonmotorized Activities	3,021	3,122	3,372	3,480
Total	*294,771*	*299,838*	*309,654*	*320,866*

Source: BLM 2009d

Visitation figures provided in **Table 3-36** are estimates as many areas lack direct visitation monitoring facilities, such as traffic counters or visitor registers. In addition, many popular trails and trail networks are not designated for a particular type of recreational use, making it difficult to assess the activity in which each visitor is engaging.

Growth in Recreation Activities. During the past four years, participation in some recreational activities has substantially increased. These activities include OHV travel, camping and picnicking, hunting, nonmotorized travel, pleasure driving, and nonmotorized winter activities. Increased recreation use is attributed to population growth, local marketing efforts, and a desire by local residents and visitors to enjoy a healthy, outdoors-oriented lifestyle.

OHV travel, the most popular recreation activity in the planning area, increased from 78,894 visitor days in 2006 to 90,405 visitor days in 2009, and has become one of the fastest growing activities. Consequently, management actions based on OHV use levels when the 1985 and 1989 RMPs were adopted are often inadequate. Due to its significance, OHV use is more thoroughly addressed in the Comprehensive Trails and Travel Management section of this chapter.

Seasonal Popularity. Recreation activities are common year-round, but the fall hunting and spring fishing seasons are the busiest times of year in the planning area. The CPW manages hunting, primarily through licensing and law enforcement. The CPW issues state rules and regulations, which Colorado State Park Rangers help to enforce. Elk, mule deer, small game, bears, and mountain lions are hunted throughout the planning area and fishing is popular on the Lower Gunnison, Uncompahgre, San Miguel, and Dolores Rivers.

Developed Recreation Facilities

Developed recreation facilities range from designated campgrounds equipped with restrooms and picnic tables, to trailheads with simple bulletin boards. They have been constructed to enhance recreation opportunities, protect resources, manage activities, or reduce recreation use conflicts.

The decision area includes 29 developed recreation facilities, which incorporate amenities such as roads, parking areas, and restroom facilities. Among these sites are 10 boat launches (some are associated with camping areas), 8 restrooms, 9 picnic areas, and 10 parking areas (**Figure 3-23**).

Developed recreation sites occur mainly in the San Miguel River and Dolores River SRMAs. There are several campsites along the San Miguel River corridor which have boat ramps, changing rooms for boaters, cabanas and picnic tables, grills, kiosks, parking areas, and toilets. The Dolores River SRMA has picnic tables, cabanas, a parking area, a boat ramp, and an informational kiosk.

The Dry Creek area, North Fork area, and North Delta OHV Area all contain dispersed staging areas and trailheads with kiosks, picnic tables, and parking areas. There is one developed site along the Uncompahgre River near Ridgway with cabanas and picnic tables, informational signs, benches, toilets, and a nonmotorized paved trail.

BLM upgrades recreation facilities as demand for such upgrades increases. These upgrades will be managed in accordance with the prescribed setting character for each particular area. The need for any upgrades or development of additional facilities is overshadowed by a shortfall in maintenance and rehabilitation funds for existing facilities and the high cost of construction for new facilities. Developed recreation sites are maintained by BLM park rangers, seasonal staff, and volunteers.

Developed Campgrounds. The UFO manages four developed campgrounds in the decision area containing 40 to 50 individual campsites. Both of the developed campgrounds are along the San Miguel River and have basic facilities, including toilets and picnic tables.

Recreation Administration

Cooperative Management. Most developed local trail systems are cooperatively administered with communities and community groups. Each partner shares responsibility for the development, administration, and maintenance of local trail systems. Through these numerous partnerships, the UFO has been able to better meet the local demand for trail-based recreation.

For the past several years OHV trails have been managed in cooperation with the Colorado State Parks State Trails Program. Grant funding has helped a seasonal work crew maintain trails, plan and build new trails, and provide information to OHV users. Without this cooperation very little trail improvement or maintenance would occur on OHV trails.

Special Recreation Permits. As authorized by 43 CFR 2932, the following four types of uses require SRPs: commercial use, competitive events, organized groups, and recreation use in special areas. The BLM also issues SRPs for noncommercial use in certain special areas, including wilderness, rivers, the backcountry, and other areas where it is determined that resources require special protective management and control measures or a permit system for individual use would achieve management objectives.

Commercial SRPs are issued to outfitters, guides, vendors, recreation clubs, and commercial competitive event organizers that provide recreational opportunities or services not requiring permanent facilities. SRPs for competitive and organized group events are also included in this category. SRPs may be issued for ten years or less, with annual renewal. The permits are issued to manage visitor use, protect natural and cultural resources, and accommodate commercial recreational uses. In a typical year, the UFO issues approximately 50 SRPs for use within the planning area, most of which are authorized for river activities and upland hunting outfitting. Other SRPs include those for guided fishing, vehicle shuttles, horseback trail rides, jeep and motorcycle tours, camping, archery tournaments, mountain bike rides, rock climbing, and backpacking. Fifteen percent of SRP fees are expended on program administration, with the remainder going toward visitor services, monitoring, and maintenance.

The BLM also requires noncommercial recreation use permits for individual use of fee-site campgrounds and other uses such as large noncommercial group activities, although none have been issued for the Uncompahgre decision area thus far.

Accessibility

Participation in outdoor recreation can be restricted by age, disabilities, poor health, lack of appropriate facilities within an accessible distance, undesirable recreation settings, lack of information about recreation opportunities, poor transportation, or lack of convenience.

The BLM continually improves facilities to make them more accessible to people with disabilities, and to provide easier access to public lands and better information about recreation opportunities. All construction is reviewed for compliance with Uniform Federal Accessibility Standards and the Americans with Disabilities Act Guidelines. As newer Accessibility Guidelines for Outdoor Developed Areas become final, those standards will also be followed.

Recreation Monitoring and Evaluation
The UFO recreation staff and law enforcement officers monitor all forms of recreation activities and public use for user conflicts, recreation effects on natural and cultural resources, visitor health and safety issues, and conflicts with adjacent private landowners. In addition, recreation staff monitors implementation of recreation management actions and the attainment of management objectives.

Outcomes Focused Management
Landscape attributes affect recreational activities and the outcomes for people, communities, economies, and the environment. For example, an area's remoteness, naturalness, or facilities may facilitate different opportunities for hiking, wildlife viewing, or camping. The outcome of engaging in one of those opportunities in a particular setting may have an impact on the individual, the community, the economy, and the environment. The BLM focuses on providing specific, positive outcomes while at the same time attempting to minimize negative outcomes by engaging recreation-tourism participants, non-participating but affected community residents, and national and international visitors. This holistic approach attempts to satisfy the ever increasing and competing demands which are difficult to manage utilizing a traditional activity-based recreation management model (Driver et al. 2008).

Recreation Setting Character Conditions
Recreation Setting Character Conditions complement Outcomes Focused Management by allowing recreation planners to combine various setting components to produce a variety of recreation opportunities. These settings components are defined as physical, social, and operational.

Physical Setting Character Conditions
The fundamental physical setting character trends for the planning area are clear and predictable, realizing the physical changes in the region. The planning area has experienced rapid growth in the 21 to 25 years since the 1985 and 1989 RMPs. During this time, the natural resource recreation settings have generally become physically less remote due to many factors, including energy development, urban growth, and mechanized/motorized use on public lands.

This change in the physical setting has accelerated change in the social setting character of BLM-administered lands in the planning area.

Social Setting Character Conditions
Socially, BLM-administered lands in the planning area are generally busier than they were 20 years ago. This is especially true near communities and around popular destinations like the Dolores River, San Miguel River, Paradox Valley, Roubideau Canyon, Dry Creek, Tabeguache Trail, and Spring Creek. On weekends and in the evenings, interactions with other people are very common in the more popular recreation areas.

Many upland areas (e.g., Tabeguache Area and Cottonwood Creek) receive low levels of visitation (especially weekdays) and offer uncrowded social settings. However, many residents and nonresident hunters utilize BLM-administered lands in the planning area during big game hunting seasons, and the number of contacts with other visitors dramatically increases throughout the planning area. In addition, more people are seeking out these less-visited areas

as relief from some of the crowded areas, modifying the social setting of the less crowded areas. With use levels growing, the evidence of visitation is also increasing. Evidence of alteration, including vehicle use, litter, manmade structures, tree damage, surface vegetation impacts, hardened campsites, and compacted soils, can be found in more and more places. In addition to these impacts, increases in recreational shooting and human-caused wildfire are occurring in the planning area.

Operational Setting Character Conditions

The UFO has rules and regulations in place to assist in achieving the following goals: maintain natural resource settings; direct recreation use; and protect resources. To achieve these goals, the UFO has also implemented administrative tools such as limiting motorized use in specific areas and by season, increasing signage, increasing field staff, and improving visitor services by creating new brochures and maps. Many of these actions were precipitated by increased accessibility and crowding. Within some recreation areas and in urban-interface areas, new issues such as domestic animals, noise, and visual aesthetics are necessitating BLM to consider additional administrative remedies for recreation use. Currently, no individual user fees for recreational activities are charged on BLM-administered lands in the planning area.

Trends

Five key issues are causing the setting character of the planning area to change:

1. Population growth and changing demographics;
2. Changing public expectations and demand for outdoor recreation opportunities, especially for dispersed recreation;
3. Increased energy development;
4. Close proximity of BLM-administered lands to private property and the growing use of public lands as a backyard recreation destination; and
5. Technological advances in OHVs as well as better outdoor equipment and clothing.

Increased Use and Demand for Recreational Opportunities

Concentrated camping use is increasing across the planning area, particularly during the fall hunting season, as well as in spring and summer. The impacts include rock fire rings, user-created routes, littering, soil compaction and vegetation loss at campsites, and vandalism of signs. As use continues to increase, user conflicts and possible effects on wildlife, cultural resources, soil, and vegetation may increase. Effective management is necessary to mitigate impacts from recreation on other resources in the planning area. Overall recreation use, especially motorized-based, may increase. Additional SRMAs may be prescribed to minimize possible resource impacts. These SRMAs would also address recreational demands in gateway communities. It would be beneficial for the BLM to coordinate with counties and communities to assist in identifying recreational opportunities that local users would enjoy.

3.2.5 Comprehensive Travel and Transportation Management

Travel and transportation are integral parts of virtually every activity that occurs on BLM-administered lands. Comprehensive Travel and Transportation Management is the proactive management of public access, natural resources, and regulatory needs to ensure that all aspects

of road and trail system planning and management are considered. This includes resource management, road and trail design, maintenance, and recreational and non-recreational use of the roads and trails.

The Comprehensive Travel and Transportation Management framework replaces a travel management program focused primarily on motorized vehicle use. The introduction of Comprehensive Travel and Transportation Management significantly expands the planning scope to include all forms of travel, including foot, horseback and other livestock, bicycle, motorized vehicle (e.g., motorcycles, cars, and trucks), and travel by motorized and nonmotorized boats.

Comprehensive Travel and Transportation Management planning means providing clear and specific direction on the proper levels of land and water access for all modes of travel. The Comprehensive Travel and Transportation Management process must address variability among landscapes, users' interests, equipment options, and cultural and biological resource constraints. The primary goal of Comprehensive Travel and Transportation Management is to develop a systematic network of routes with appropriately designated uses that provides opportunities for a diverse set of activities to occur on public lands, such as recreation, energy development, grazing, and wildlife management. Travel management objectives serve as the foundation for appropriate travel and access prescriptions.

There is considerable overlap between travel management and all other uses on BLM-administered lands. For example, many people visit BLM-administered lands for recreation purposes. For these visitors, a route system may serve as either a means to reach a destination where the activity occurs (e.g., a road to a trailhead or parking area) or as the focus of the recreation activity itself (e.g., a four-wheel driving, hiking, or horseback riding trail).

To reduce the duplication of narrative between travel management and the other sections of this document, this section addresses only public travel and access (i.e., OHV management area designations, route designations, types of travel, and seasonal area limitations). The interrelated recreation component narrative is addressed under **Section 3.2.4** (Recreation and Visitor Services). The transportation component of Comprehensive Travel and Transportation Management addressing administrative access, agricultural use, commercial use, commodity use, and road maintenance is addressed in **Section 3.5.3** (Transportation Facilities).

Modes of Travel

Visitors to public lands use roads and trails for a variety of activities involving various modes of travel. Motorized travel in the planning area ranges from standard passenger vehicles driving on maintained roads to OHVs operating on primitive roads and trails. OHV is synonymous with off-road vehicle, as defined in 43 CFR 8340.0-5(a):

> *Off-road vehicle means any motorized/battery-powered vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) Any nonamphibious registered motorboat; 2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) Any vehicle whose use is expressly authorized by the authorized officer or otherwise officially approved; 4) Vehicles in official use; and 5) Any combat or combat-support vehicle when used in times of national defense emergencies.*

OHVs commonly used in the planning area include off-road motorcycles, all-terrain vehicles, utility terrain vehicles, jeeps, specialized 4-by-4 trucks, and snowmobiles. Other modes of travel include mountain biking, cross-country skiing, snowshoeing, horseback riding, pack animal driving, hiking, boating, hang-gliding, paragliding, ballooning, and wheelchairs. The type and amount of use and the location of roads and trails influence physical, social, and administrative recreation setting and the overall quality of the recreation experience.

Travel Designations

Executive Order 11644 and CFR (43 CFR Part 8340) both require the BLM to designate all BLM-administered lands nationally as open, closed, or limited for OHV use. Per BLM Colorado policy, all OHV use must now be restricted to designated routes within limited areas, rather than designating areas as limited to existing routes (Instruction Memorandum CO-IM-2007-20 [BLM 2007d]). The BLM will not be designating routes as part of this planning effort. However, this RMP will set criteria for future route designation. Travel management planning will commence after the ROD for this RMP is signed. Per the BLM's regulations for OHV management, all BLM-administered lands within the planning area have been designated in one of three OHV designation categories, as follows:

Open

Used in areas of intensive OHV or other transportation use where there are no special restrictions and analysis determines that there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

Limited

For areas where OHV travel is limited to designated or existing roads and trails in order to meet specific resource/resource use objectives. Restrictions may include the number or types of vehicles, time, season of use, use of existing roads and trails only, use of designated roads or trails, or licensed use only. The BLM may also impose other restrictions to protect resource/resource use objectives. In addition, the BLM must provide specific guidance about the process for managing motorized vehicle access for authorized, permitted, or otherwise approved vehicles for those specific categories of motorized vehicle uses that are exempt from a limited designation.

Closed

Motorized travel and transportation is not allowed in areas designated as closed. Areas are closed in order to protect resources, ensure visitor safety, or reduce user conflicts. Nonmotorized uses are permitted in these areas.

Approximately 1 percent of the decision area is designated as open to OHV use, 91 percent is limited to designated or existing roads and trails, and 9 percent is closed to motorized and/or mechanized use (**Figure 2-48** [Alternative A: Comprehensive Travel and Transportation Management]).

Emergency Closures

Emergency closures are sometimes necessary to protect public health and safety or prevent unnecessary or undue resource degradation due to unforeseen circumstances. Where off-road vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife,

wildlife habitat, cultural and historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas shall be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.

Instruction Memorandum 2013-035 (Requirements for Processing and Approving Temporary Public Land Closure and Restriction Orders) (BLM 2012m) dictates that temporary closures or restrictions orders on BLM-administered lands must be 24 months or less in duration. If the justification for a closure or restriction order has not been addressed within the 24-month period, a new temporary closure or restriction order must be established in accordance with the Instruction Memorandum. Temporary closures and restrictions should be implemented for the shortest time and in the smallest area necessary to protect resources, public health, and safety.

Federal Regulations

Route designation criteria is described in 43 CFR 8342.1 and states, "The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands."

National Guidance

On a national level and in response to increasing demand for recreation trails on public lands, the BLM first developed an OHV strategy and then a mountain bike strategy. These strategies emphasize that the BLM should be proactive in seeking travel management solutions that conserve natural resources while providing for ample recreation opportunities (BLM 2007e).

The BLM released the current version of the Land Use Planning Handbook (H-1601-1) in March 2005. Guidance on determining OHV designations during the planning process was incorporated into the Recreation Section (Appendix C, Section II C). As field offices implemented the guidance for RMP development, revision, or amendment, they identified a need to clarify how to implement the guidance in the Recreation section and introduce refinements to the existing process. Instruction Memorandum 2004-005, Clarification of OHV Designations and Travel Management in the BLM Land Use Planning Process, emphasized policy and provided clarification and additional guidance for travel management decisions that will be part of RMP planning (BLM 2003).

Current Conditions

Primary factors influencing the current state of travel management within the planning area include:

- Lack of comprehensive travel management planning that considers the relationships between various resources, authorized access, and recreation uses
- Historic routes that predate planning for recreational opportunities
- Unauthorized uses (including user-created routes) emanating from existing routes and impacting other resources

- Subdivision of private property resulting in the creation of new access points to public lands
- Routes/areas open to motorized use, but accessible only to adjacent landowners
- Increasing conflicts between recreational users over route use

Emphasis on Minimizing Impacts
In the current RMPs, OHV designations were made solely to limit impacts by protecting resources, preventing recreation conflicts, and protecting public safety. Recent travel management plans for specific areas have been intended to manage routes and route systems to provide specific recreation opportunities and experiences. However, this planning has focused on a relatively limited area.

Furthermore, even designated routes were not built with recreation experiences in mind. Most follow historic non-recreational routes (such as grazing, mining, or administrative) or were created by repeated cross-country OHV travel. Such trails typically do not provide a desirable recreation experience. The user-created routes in particular are often unsustainable and cause resource impacts.

Increased OHV Use
OHV use has increased dramatically in the planning area since the existing RMPs were written in the 1980s. Lands with little previous history of recreational use now commonly experience impacts on natural and cultural resources, as well as significant impacts on recreation. Areas like Dry Creek, the San Miguel River Basin, and Spring Creek, once considered remote and seldom-visited, are now becoming popular recreation destinations. **Table 3-37** (OHV Designations) shows how OHV use is managed throughout the decision area.

Table 3-37
OHV Designations

OHV Designation	Acres	Percent of Decision Area
Closed to Motorized and Mechanized Travel	44,200	7%
Closed to Motorized Travel *(mechanized travel limited to designated routes)*	11,950	2%
Open to Cross-Country Travel	8,560	1%
Limited to Designated Routes	145,300	22%
Limited to Existing Routes	465,790	69%
Limited to Existing Routes with Seasonal Closures	*59,070*	*9%*
Total	**675,800**	**100**

Source: BLM 2012a

OHV use occurs nearly year-round in lower elevation areas, and for many users OHV riding is the primary reason for their visit to BLM-administered lands. Most of these visitors live within an hour's drive of their destination and enjoy practicing their technical skills, using their

equipment, and spending time with family and friends. During autumn, most parts of the planning area experience heavy OHV use by hunters.

High Use Areas and Trails
The following information provides a basic profile of high use areas in the planning area.

Dry Creek Area. This area, encompassing 110,500 acres of BLM-administered land within a few miles of Montrose, Olathe, and Delta, is easily accessed nearly year round for a variety of purposes. Uses of the area include sightseeing, photography, hunting, hiking, cross-country skiing, camping, horseback riding, mountain bike riding, ATV riding, technical four-wheel driving, motorcycle riding, snowmobiling, livestock grazing management, decorative rock gathering, Christmas tree cutting, firewood gathering, rights-of-way management/operation/maintenance, BLM and Forest Service administrative purposes, and other uses. Much of the travel is heavily influenced by the regional population growth and nearby private land development. A travel management plan for this area was completed in 2009 and created a designated network of trails for motorized and nonmotorized uses (BLM 2009a).

North Delta OHV Open Area. This Open Area covers 8,560 acres of mostly Mancos shale approximately six miles northeast of the town of Delta and receives heavy use in spring, summer, and fall by local and regional OHV enthusiasts. Facilities are limited but include a concrete unloading ramp and kiosk. Use is expected to continue to increase due to the area's close proximity to Delta.

San Miguel River SRMA. The 35,940-acre San Miguel River SRMA encompasses a stretch of the San Miguel River corridor, beginning between Telluride and Saw Pit and terminating where the river intersects Highway 90 northeast of Naturita. The SRMA also encompasses portions of the Unaweep-Tabeguache Scenic Byway and San Juan Skyway. The SRMA sees heavy use in the spring, summer, and fall for hiking, biking, horseback riding, scenic touring, camping, and river recreation (including recreational mining, rafting, kayaking, and fishing). Hunting is also popular in the fall. There are a number of developed facilities, including campgrounds, picnic tables, kiosks, boat ramps, parking areas, cabins, and restrooms. Land ownership patterns within the SRMA provide management challenges in the form of providing education about public as opposed to private land and where those boundaries are located as well as designating trail systems to avoid trespassing on private property or causing safety concerns along the highway.

Spring Creek. This 4,980-acre area is located on the southern portion of the Uncompahgre Plateau approximately 15 miles southwest of Montrose. The area encompasses a beautiful long and deep canyon with narrow ridges and mesa tops. There is a designated nonmotorized trail system on approximately 800 acres and the larger area is popular in spring, summer, and fall for motorcycle and mountain bike riding, hiking, and horseback riding.

Tabeguache Trail. This trail crosses public land for 142 miles and connects Montrose and Grand Junction, Colorado. OHVs and mountain biking are the dominant uses and the trail includes several designated camping areas. It is difficult, but not impossible, for high-clearance 4-wheel drive vehicles to travel all but the single-track sections of the trail.

Effects of Urbanization and Increased Access

In addition to increased OHV use, urbanization of adjacent private lands has created additional nonmotorized and motorized use and new expectations for recreation experiences. Many users recreate on BLM-administered lands because the lands are close to home and provide a convenient place to exercise, relieve stress, and spend time with family and friends. New and evolving BLM land uses include "backyard" hiking, mountain biking, dog walking, rock climbing, fly-fishing, and OHV riding. Recreational boating (fly-fishing, whitewater kayaking, and rafting) occurs heavily on the San Miguel, Dolores, and Lower Gunnison rivers.

At times, uses and expectations conflict with one another. Until recently, there has been very little demand, and consequently very few resources allocated, for nonmotorized recreation travel. This type of use has increased in all of the public lands that border municipalities. The counties of Montrose, Delta, Ouray, San Miguel, Mesa, and Gunnison have all experienced rapid population growth, and the subdivision of private lands adjacent to BLM parcels has accompanied the growth. BLM-administered lands are often isolated and provide limited public access. In these instances, enforcement of travel restrictions can be difficult, and motorized trespass from adjacent private land frequently occurs. Increasing high-density subdivision of private land is changing this scenario. Subdivisions are often designed to provide public access to BLM-administered lands. A new community can offer welcome stewardship to adjacent public lands, while the resulting increased access can make BLM monitoring and management more efficient.

Competing Non-recreational Uses

Increased transportation demands for non-recreational uses, such as oil and gas exploration and development and livestock grazing, have greatly affected recreation travel in some areas. Recreation experiences can suffer when transportation systems for other uses are increased or created.

When the above factors are considered, it is apparent that there is a need for comprehensive travel management for all recreation uses, as well as close coordination with transportation planning for non-recreational uses.

Types of Routes

The majority of the existing route system in the decision area was not built with consideration for sustainability, resource concerns or conditions, or recreation experiences. Most routes either follow historic routes, such as those for grazing, mining, timber, or administrative access, or were user created. Many routes were not necessarily intended to be left open for recreational use. As a result, these trails do not always provide desirable recreation experiences and can have unmitigated impacts on natural or cultural resources.

The Dry Creek area is the only part of the decision area to have undergone a travel management planning process, whereby motorized travel is limited to a system of designated routes. The Dry Creek Travel Management Plan designated a total of 419 miles available to the public seasonally or year-round. This network includes 317 miles of routes open to motorized travel, 44 miles open to nonmotorized and nonmechanized travel, and 23 miles open to nonmotorized and mechanized travel. The plan also closed 258 miles of routes to motorized and mechanized travel, proposed 16 miles of route construction, reserved some routes for

administrative motorized use, and implemented seasonal restrictions to protect resource values (BLM 2009a).

Nonmotorized Travel
Hiking, bicycling, and horseback riding have generally been increasing throughout the planning area, with pockets of growth concentrated along the urban interface (BLM 2009d).

Foot and horse travel is not limited to existing or designated routes and areas closed to motorized use and seasonal closures currently do not apply to foot, horse, or bicycle travel.

Trends
Local population growth is expected to drive a continued increase in OHV use, especially around Montrose, Delta, and Telluride and along the urban interface surrounding the towns of Paonia, Ridgway, Norwood, Naturita, and Placerville. Expanding oil and gas and mining operations in the western and northeastern portions of the planning area are expected to attract new residents and with them an increase in OHV use and requests for improved access. These new routes may also infringe upon current motorized and nonmotorized routes by fragmenting existing trails. Use may also become more concentrated in remote areas as suburbanization drives motorized users to look for areas with fewer recreation conflicts.

Current OHV use exceeds historic levels and new, more-powerful vehicles are capable of accessing steeper and rougher terrain. In the past, visitors drove principally Jeeps, trucks, and motorcycles. Today the BLM has seen an increase in use of OHVs of all types and sizes. Increased visitation and the use of more-powerful vehicles have contributed to the widening, deepening, braiding, and eroding of some existing vehicle routes, and an increasing number of hill-climb, play, and camping areas.

Nonmotorized uses close to urbanizing areas will likely increase as the population grows. It is expected that demand for new hiking and mountain biking trails adjacent to municipalities in the planning area will increase, as well as in areas close to major subdivisions outside of incorporated towns. In addition, the demand for floating and fishing access on the San Miguel River and Lower Dolores River is expected to increase. Continued and expanded collaboration between the BLM and local governments will help provide appropriate access to and stewardship of BLM-administered lands along the urban interface.

The existing travel network, especially those routes lacking professional design, is expected to cause increasing impacts on natural and cultural resources. Research from the past 20 years on the impacts of roads to resources, wildlife, and other users, and actual experience by the BLM on these impacts, is increasing the need for well-designed and integrated transportation planning.

3.2.6 Lands and Realty
BLM-administered lands are used for a variety of purposes. Major focus areas for the lands and realty program include land tenure adjustments, ROWs, utility corridors, communication sites, and management and adjustment of withdrawals. Wind and solar renewable energy projects are also permitted by ROWs through the lands and realty program.

The goals of the lands and realty program are to manage public lands, support the goals and objectives of other resource programs, provide for uses of public lands in accordance with regulations and compatibility with other resources, and improve management of public lands through land tenure adjustments. The lands and realty program is a support program to all other resources to help ensure that BLM-administered lands are managed to benefit the public.

The following section describes the current conditions and characterization of lands and realty within the planning area.

Current Conditions

Lands and realty actions can be divided between land tenure adjustments and land use authorizations. Land tenure adjustments focus primarily on land exchange, acquisition (including purchase and easement acquisition), and disposal, while land use authorizations consist of ROWs, utility corridors, communication sites, and other leases or permits. Management and adjustment of withdrawals focuses on the establishment, management, modification, and revocation of withdrawals. Lands and realty actions help ensure that BLM-administered lands are managed to benefit the public.

Twenty-five distinct and diverse communities exist within the UFO. Numerous communities and subdivisions are also in the wildland urban interface. The population in many of the counties is expected to grow faster than the statewide average over the next 25 years, which will contribute to an expanding urban interface zone. In addition, the planning area is crossed by several major power transmission lines that are critical for maintaining service to the western US. Mineral development is also expected to continue at a rapid pace over the next decade, adding to the complexity of managing public lands and increasing the realty workload.

Land Tenure Adjustments

While BLM-administered lands are typically retained in federal ownership, occasionally there are jurisdictional transfers. Land tenure adjustments are typically accomplished through acquisitions, exchanges, or sales.

Land may be acquired when it is in the public interest, provides resource protection, improves land management through consolidation, provides recreational opportunities, enhances wildlife habitat, provides access to public lands or waters, or preserves archaeological and historical resources.

Lands identified for disposal are typically parcels that are difficult or uneconomical to manage, or will serve important public objectives such as community expansion and economic development. Land exchanges are preferred over sales for disposal of BLM-administered lands.

The Recreation and Public Purposes Act of 1926 was established as a means for state and local government or non-profit organizations to acquire BLM-administered lands at reduced or no cost. The transferred land must be used for an established or proposed public project, need, historic monument, or recreational purpose.

When in the public interest, it is the goal in land tenure adjustments to keep the surface and mineral estates together on both lands disposed of and acquired to avoid the creation of split estate.

Acquisitions. Lands may be acquired through purchase, exchange, and donation. Acquisitions must be consistent with the BLM mission, regulations, and applicable land use plans.

Exchanges. An exchange must be determined to be in the public interest and enhance federal land management objectives. It must be determined that the values and objectives of the lands being acquired are greater than the values of the federal lands being conveyed.

Sales. The criteria to be used for disposal of BLM-administered lands must be identified for disposal in a land use plan, or an amendment to the plan, before being offered for sale. Sales are typically conducted through the competitive bid process and cannot be sold at less than fair market value. Public lands that are classified, withdrawn, reserved or have special designations are generally not available for sale.

Lands identified for disposal or exchange in the decision area are shown on **Figure 2-59** (Alternative A: Lands Identified for Disposal).

In the Uncompahgre Basin RMP (as amended), 10,350 acres of BLM-administered lands were considered suitable for disposal. Nonfederal lands are considered for acquisition through exchange opportunities if such lands met established criteria and enhanced resource management.

In the San Juan/San Miguel RMP, approximately 21,700 acres of BLM-administered lands were considered suitable for disposal. These tracts included parcels of land with limited public value scattered throughout the area. Disposal would be accomplished through sales, exchanges, or any other title transfer means.

Land Use Authorizations

BLM-administered lands throughout the planning area are generally made available for land use authorizations, which are analyzed and issued on a case-by-case basis. Certain lands within the planning area are designated as areas to be avoided or excluded. Examples of designated areas include ACECs, WSRs, SRMAs, and WSAs. Land use authorizations within designated areas generally are not allowed, or if allowed, are subject to stringent stipulations.

Typical land use authorizations within the planning area currently include:

- Roads, including county roads or highways, as well as roads authorized for commercial use or access to private lands. Material storage sites and stock piles may also be included
- Off-lease oil and gas pipelines including transmission and distribution lines and other related facilities, such as compressor stations
- Water facilities including pipelines, irrigation ditches, and canals

- Power lines, including transmission and distribution lines, and other related facilities, such as substations
- Telephone and fiber optic cables
- Communication sites
- Railroads
- ROWs to other federal agencies
- Film permits
- Temporary use or short term permits (less than 3 years) such as temporary construction areas or storage sites

It is the BLM's responsibility to protect the public lands from trespass and encroachment through means of prevention, detection, and resolution. Locations in the planning area where trespass is more likely to occur include areas where residential and commercial development interface with public lands. Trespass does exist and is continually being discovered within the planning area. Instances of trespass are pursued as time, personnel and priorities allow.

Rights-of-Way. A ROW is an authorization to use a specific parcel of BLM-administered land for a certain project, such as roads, pipelines, power lines, and communication sites. A ROW authorizes nonexclusive rights and privileges for a specific use of the land for a designated time. A ROW is granted for a term appropriate to the life of a project. A ROW authorizes the holder to construct, operate, maintain, and terminate a facility over, under, upon, or through BLM-administered lands. Such authorizations are issued for commercial and non-commercial purposes such as roads and utilities and may be for energy or nonenergy-related uses. Land use authorizations are also issued to other federal, state, and local agencies and governments.

Permits are generally short-term authorizations (not to exceed three years) that have a minimal impact on the land, such as film permits and temporary storage areas. Leases are usually long-term authorizations requiring a significant capital investment, such as occupancy leases.

Impacts on resources are analyzed when the BLM evaluates an application for the routing or siting of a proposed ROW. Land use authorizations contain special stipulations for surface reclamation, weed control, and other resource protections. Additional mitigation stipulations to protect resources such as cultural, plant, wildlife, riparian, and soils are applied on a case-by-case basis. Existing ROW locations and corridors in the planning area are shown on **Figure 3-24** (Right-of-Way Locations and Corridors).

Utility Corridors and Communication Sites

Utility Corridors. Utility corridors are preferred routes that co-locate multiple linear ROWs and are generally located adjacent to existing highways or county roads. Facilities within these corridors may include gas and water pipelines, power lines, and communication lines such as telephone or cable. The BLM encourages the placement of new ROWs within existing corridors to the extent possible. However, factors such as origin, destination, purpose, compatibility, and

saturation of an existing corridor may prevent or limit the routing of a new facility within an existing corridor.

Section 368 of the Energy Policy Act of 2005, Public Law 109-58 (HR 6), enacted August 8, 2005, directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate, under their respective authorities, corridors on federal land in eleven western states for oil, gas, hydrogen pipelines, and power lines. As a result of the Act, the West-wide Energy Corridor Programmatic EIS designated corridors, and the ROD was signed on January 14, 2009. Procedures for processing ROW applications within these corridors are in Appendix B, Interagency Agency Operating Procedures, of that EIS. The designated corridors are shown in **Figure 2-56** (Alternative A: Designated Utility Corridors).

Communication Sites. The BLM issues ROW Communications Use Leases for communications facilities on BLM-administered lands. The planning area currently has 11 existing communications sites with 28 authorized uses.

Withdrawals
Withdrawals are formal actions that segregate or reserve federal land by statute or administrative order for specific purposes. Withdrawals are often used to preserve sensitive environmental values, protect federal investments in facilities or improvements, support national security, and provide for public health and safety. The majority of withdrawals issued prior to FLPMA remain in effect until they are specifically revoked. Since FLPMA was enacted, withdrawals typically have a term not to exceed 20 years, unless a term is specifically determined by the Secretary of the Interior based upon resource use. See **Figure 2-32** (Alternative A: Lands Withdrawn and to be Recommended for Withdrawal from Locatable Mineral Entry) for a map of withdrawn lands in the planning area.

Withdrawals typically accomplish one or more of the following:

- Transfer total or partial jurisdiction of federal land between federal agencies, without the land leaving federal ownership;
- Close, segregate, or suspend federal land to operation of all or some of the public land or mineral laws (withdraw land from settlement, disposal, location, or entry); or
- Dedicate federal land to a specific purpose.

Current withdrawn areas within the planning area are outlined in **Table 3-38** (Current Withdrawals by Type) which shows the type, holder and purpose of the withdrawal. These areas are also shown in **Figure 2-82** (Land Withdrawals and Power Site Classifications).

Trends

Land Tenure Adjustments
The BLM will process land exchanges, acquisitions, easements, and potential sales within the decision area on a case-by-case basis as staff and priority workload allow. As opportunities

Table 3-38
Current Withdrawals by Type

Type of Withdrawal	Holder of Withdrawal	Purpose
Public Water Reserve	BLM	Water Resource Protection
Power Site Reserve	BLM	Power
BLM Special Designation	BLM	Tabeguache Special Management Area
BLM Miscellaneous	BLM	Administrative
Reclamation	BOR	Reclamation Projects
Department of Energy	Department of Energy	Energy
FERC	Grand Mesa Hydroelectric	Hydroelectric

Source: BLM 2012a

present themselves, each proposal will be reviewed giving careful consideration to management goals and public benefit.

Land Use Authorizations

Demand for land use authorizations in the planning area is anticipated to increase in correlation with future residential and commercial development, increasing population, and energy demand. There is potential for land use authorizations for renewable energy projects (wind, solar, and geothermal).

Utility Corridors and Communication Sites

Utility Corridors. Use of utility corridors or the co-location of ROWs has become a more common practice within the BLM. As development in the planning area continues for both energy and increased population related needs, the demand for and use of utility or energy corridors will increase accordingly. As existing corridors become saturated, new corridors will need to be identified.

Communication Sites. Demand for communication sites is anticipated to increase in the future, given the fast pace of technological advances and the boom in wireless networking. Whenever possible, new applicants will be encouraged to co-locate their facilities in existing buildings and towers. Ultimately, new communication sites for new facilities will need to be identified as the existing sites become filled to capacity.

Withdrawals

The majority of withdrawals in the planning area were issued between 1915 and 1966, when the withdrawal orders were passed. Withdrawals since 2000 have primarily been designated for creation of special management areas, developed recreation areas, NCAs, and protection of threatened and endangered species or cultural sites. The lands program will continue to administer both new and existing withdrawals in accordance with FLPMA on a case-by-case, site-specific basis. If any existing withdrawals were revoked, the lands would be managed in accordance with the objectives of surrounding or similar lands.

3.2.7 Renewable Energy

Renewable energy includes solar, wind, and biomass resources. As demand has increased for clean and viable energy to power the nation, consideration of renewable energy sources available on public lands has come to the forefront of land management planning.

In cooperation with the National Renewable Energy Laboratory, the BLM assessed renewable energy resources on public lands in the western US (BLM and DOE 2003). The BLM reviewed the potential for concentrated solar power, photovoltaics, wind, and biomass energy on BLM, Bureau of Indian Affairs, and National Forest System lands in the western US, except Alaska. In December 2005, the BLM signed a ROD for the Wind Programmatic EIS (BLM 2005b). In October 2012, the BLM signed a ROD for the Solar Energy Development Programmatic EIS (BLM 2012c). As part of this RMP effort, a Renewable Energy Potential Report containing information from various sources helped determine the potential for development of renewable energy resources within the planning area (BLM 2010g). These documents will serve as the baseline for the assessment of renewable energy resources in the UFO decision area.

Renewable energy potential within the planning area, excluding ROW exclusion areas, the Tabeguache Area, and WSAs, are discussed below under Current Management. Renewable energy potential for all lands within the planning area, including lands excluded under the Current Management discussion, is discussed below under Resource Potential.

While geothermal is a renewable energy source, it is considered a leasable mineral and, therefore, is covered in **Section 3.2.3** (Energy and Minerals).

As of 2010, the BLM's renewable energy policy is directed by the following regulations and executive orders:

- The Energy Policy Act of 2005 (Title II, Sec. 211), which requires the DOI to approve at least 10,000 megawatts of non-hydropower renewable energy on public lands by 2015. The President has requested that BLM produce an additional 10,000 megawatts beyond that mandated in the Energy Policy Act of 2005.
- Executive Order 13212, Actions to Expedite Energy-Related Projects, which requires federal agencies to expedite review of energy project applications.
- Secretarial Order 3285, which requires the DOI to identify and prioritize specific locations best suited for large-scale renewable energy production.

Additionally, the BLM has specific guidance for certain types of renewable energy. The main Instruction Memoranda are summarized here:

- Instruction Memorandum 2007-097, Solar Energy Development Policy (BLM 2007f), establishes policy for the processing of ROW applications for solar energy development projects on BLM-administered lands and evaluating the feasibility of installing solar energy systems on BLM administrative facilities and projects.
- Instruction Memorandum 2006-216, Wind Energy Development Policy (BLM 2006a), provides guidance on implementing the ROD for the Programmatic EIS on

Wind Energy Development (BLM 2005b) and processing ROW applications for wind energy projects on BLM-administered lands.

- Instruction Memorandum 2009-043, Wind Energy Development Policy (BLM 2008h), provides updated guidance on processing ROW applications for wind energy projects on BLM-administered lands.
- Instruction Memorandum 2004-227, Biomass Utilization Strategy (BLM 2004c), updated in July 2005, provides sets of goals to help focus and increase utilization of biomass from BLM-administered lands. In June 2005, the final rule in the *Federal Register* revised the authority of 48 CFR Part 1452 by adding 1452.237-71, which is a new contract clause for removal and utilization of woody biomass generated as a result of land management service contracts whenever ecologically and lawfully appropriate. The BLM issued Instruction Memorandum 2009-120 in May 2009, which updated the contract clause for utilization for woody biomass.

Current Conditions

Potential solar, biomass, wind, and geothermal resources occur in various locations and forms within the planning area.

There are no permit applications or current leases for concentrated solar, wind generation, biomass, or geothermal energy production within the planning area.

The planning area has been assessed for renewable energy potential (BLM and DOE 2003). Although state of Colorado policies and financial incentives are classified as favorable for renewable energy development, the UFO does not rank nationally among the top 25 BLM field offices with potential.

For solar energy, 557,000 acres of BLM-administered lands within the planning area have good concentrating solar power resource potential (6 to 7 kWh/m^2/day), and 118,400 acres have moderate (5 to 6 kWh/m^2/day) concentrating solar power resource potential. Photovoltaic solar potential is very good on all 675,700 acres of BLM-administered lands within the planning area. The identified high-potential areas for both concentrating solar power and photovoltaic solar resources are predominantly found in the western and central regions of the planning area. Figure 3-1 of the Renewable Energy Potential Study Report prepared in support of this RMP shows the solar potential areas within the planning area (BLM 2010g).

For wind energy, wind potential is generally marginal to poor within the planning area. Outstanding wind potential areas (class 6) have been identified on 40 acres, while 50 acres have excellent (class 5) wind potential, and an additional 60 acres have good (class 4) wind potential. The identified high-potential areas are located on the eastern side of the planning area and are shown with these potential classes in Figure 4-1 within the Renewable Energy Potential Study Report prepared in support of this RMP (BLM 2010g).

Biomass potential has not been quantified for this report but vegetation types across the planning area are shown in Figure 5-1 of the Renewable Energy Potential Study Report prepared in support of this RMP (BLM 2010g). Biomass productivity from the lands supporting these vegetation types depends on how the BLM is managing the vegetation (i.e., how much of the

vegetation is removed and how often), vegetation productivity and growth rate, how accessible those lands are to roads, the slopes of the lands (i.e., the technical feasibility of harvesting biomass), and the private-sector demand for biomass feedstock in the region. The UFO has not been involved in any biomass harvesting activities.

Trends

As part of the RMP effort, the Renewable Energy Potential Report (BLM 2010g) containing information from the various sources helped to determine the potential for development of renewable energy resources within the planning area.

The demand for renewable energy-related ROWs should increase nationally, although within the planning area, the potential for wind, solar, and biomass energy is considered to be low relative to other field offices in BLM.

3.3 SPECIAL DESIGNATIONS

This section is a description of the special designation areas in the planning area and follows the order of topics addressed in Chapter 2:

- Areas of critical environmental concern
- Wilderness and wilderness study areas
- Wild and scenic rivers
- National trails and byways
- Watchable wildlife viewing sites

There are no designated watchable wildlife viewing sites managed by the BLM in the planning area. However, management alternatives may include the identification, designation or management of such areas.

3.3.1 Areas of Critical Environmental Concern

An ACEC is defined in FLPMA, Section 103(a), as an area on BLM-administered lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and ensure safety from natural hazards. BLM regulations for implementing the ACEC provisions of FLPMA are found in 43 CFR 1610.7-2(b).

Special management attention refers to management prescriptions developed expressly to protect the important and relevant values of an area from the potential effects of actions permitted by an RMP or RMP amendment, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP (BLM Manual 1613, Areas of Critical Environmental Concern [BLM 1988]). Such management measures would not be necessary or prescribed if the critical and important features were not present.

To be designated as an ACEC, the area must meet both the criteria of relevance and importance found in 43 CFR 1610-7-2(a)(b) and as defined in BLM Manual 1613, Areas of Critical Environmental Concern (BLM 1988). An ACEC possesses significant historic, cultural, or

scenic values; fish or wildlife resources including habitat, communities, or species; natural processes or systems; or natural hazards. In addition, the significance of these values and resources must be substantial in order to satisfy the importance criteria.

ACECs differ from some other special management designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The special management attention is designed specifically for the relevant and important values and, therefore, varies from area to area. Restrictions that arise from an ACEC designation are determined at the time the designation is made and are designed to protect the values or serve the purposes for which the designation was made. The BLM identifies goals, standards, and objectives for each proposed ACEC as well as general management practices and uses, including necessary constraints and mitigation measures. The RMP will identify a reasonable range of alternatives that will include current management for existing ACECs, as well as management for proposed ACECs. In addition, ACECs are protected by the provisions of 43 CFR 3809.1-4(b)(3), which requires an approved plan of operations for activities resulting in more than five acres of disturbance under the mining laws.

Current Conditions

The decision area has five ACECs totaling 30,000acres: Fairview South Research Natural Area/ACEC, Needle Rock Outstanding Natural Area/ACEC, Adobe Badlands Outstanding Natural Area/ACEC, San Miguel River ACEC/SRMA, and Tabeguache Creek Outstanding Natural Area/ACEC (see **Figure 2-63** [Alternative A: Areas of Critical Environmental Concern]).These ACECs were designated in the two existing RMPs, as amended. The size of each area and the values it is designed to protect are listed in **Table 3-39** (Existing Areas of Critical Environmental Concern). Current ACECs were reevaluated as part of the RMP revision process to determine whether the relevance and importance of each ACEC were still present and required continued management attention; whether threats of irreparable damage to the values had been identified; and whether current management is sufficient to protect the values.

Table 3-39
Existing Areas of Critical Environmental Concern

Fairview South Research Natural Area/ACEC	
Acres in planning area	The south tract located within the planning area includes 210 acres. The north tract is in the Gunnison Gorge NCA planning area.
Natural Values	The ACEC contains a significant portion of one of the largest populations of the federally endangered clay-loving wild buckwheat (*Eriogonum pelinophilum*). This species is endemic to the adobe badlands of Montrose and Delta Counties, with the known range restricted to less than 35 square miles. Fairview South Research Natural Area/ACEC also contains native plant communities representative of the sparsely vegetated adobe badlands.
Current Uses/ Management	• Managed to protect endangered and rare plant species. • Open to fluid mineral leasing with no surface occupancy stipulations. • Sheep grazing permits reauthorized in 2008. Recent grazing management changes include minimizing overall use, restricting sheep bedding activities in clay-loving wild buckwheat habitats, and

Table 3-39
Existing Areas of Critical Environmental Concern

	incorporating longer rest periods for the affected allotments. • Mechanical vehicular travel is limited to a single designated route used for maintenance of an irrigation canal and associated facilities. • Closed to development of new pipelines. • Closed to mineral materials disposal.
Valid Existing Rights	A BOR irrigation canal and operation and maintenance road runs through the far northern portion of the ACEC.
Management Issues/ Trends	• Lack of patrol and enforcement of regulations. • Potential impacts on clay-loving wild buckwheat from authorized and trespass grazing. Monitoring plots for clay-loving wild buckwheat have been established to examine trend and potential impacts of sheep grazing. • ROW development increases the risk of noxious weeds; weeds dominate several roads and ROWs in the area, including the South Canal. However, these appear to pose minimal risk to clay-loving wild buckwheat populations at this time. • Recreation impacts, namely OHV activity, are an issue in the area.
Needle Rock Outstanding Natural Area/ACEC	
Acres in planning area	80
Natural Values	This site consists mainly of a volcanic geological structure with high-value scientific, interpretive, and scenic characteristics. The spectacular volcanic formation rises almost 1,000 feet above the Smith Fork River valley.
Current Uses/ Management	• Managed to protect the scientific, interpretive, and scenic qualities of the site. • Open to fluid mineral leasing with no surface occupancy stipulations. • Managed as unallotted for livestock grazing use. • Travel is limited to designated roads and trails. • Managed as VRM Class I • Closed to development of major utility facilities. • Closed to mineral materials disposal. • Recreation opportunities include sightseeing, picnicking, and geological study in a roaded but natural environment. BLM has constructed a small parking lot, interpretive sign, shelter, and walking trail.
Valid Existing Rights	A county road and utilities cross the southeast corner of the ACEC.
Management Issues/ Trends	• Lack of public information regarding recreation opportunities. • Lack of on-the-ground monitoring, patrol, and enforcement of regulations. • Lack of an effective information and education campaign promoting a sound land-use ethic.
Adobe Badlands Outstanding Natural Area/ACEC	
Acres in planning area	6,370
Natural Values	This area consists of Mancos shale hills and flats which, through wind and water erosion, have formed unique scenic formations. The area's soils are

Table 3-39
Existing Areas of Critical Environmental Concern

	highly erodible and saline, resulting in high sediment loads and high salinity runoff. The ACEC contains occupied habitat for the threatened Colorado hookless cactus (*Sclerocactus glaucus*) and other native plants. The area supports small populations of the BLM sensitive species white-tailed prairie dog and provides potential habitat for other sensitive species, such as burrowing owls, ferruginous hawk, and kit fox.
Current Uses/Management	• Managed to protect its unique scenic qualities, improve threatened and endangered species habitat, provide for semi-primitive nonmotorized recreation opportunities and use, and reduce active erosion. • There are a total of three sheep grazing allotments in the ACEC. • Open to fluid mineral leasing with no surface occupancy stipulations. • Closed to coal leasing. • Closed to mineral materials disposal. • Closed to off-road-vehicle use, managed for nonmotorized recreation opportunities. • Managed as VRM Class I. • Closed to major utility development. • Erosion and salinity control measures are prohibited from using structures or land treatments that would alter scenic values.
Valid Existing Rights	There are no valid existing rights in the ACEC.
Management Issues/Trends	• Lack of on-the-ground monitoring, patrol, and enforcement of regulations, particularly for recreational use. • Lack of an effective information and education campaign promoting a sound land-use ethic. • OHV incursions from adjacent North Delta OHV open travel area. OHV use may be impacting threatened species including Colorado hookless cactus, which has known populations in the ACEC boundary with the OHV open area.
San Miguel River ACEC/SRMA (BLM 1993a)	
Acres in planning area	22,780
Natural Values	The ACEC preserves the high quality riparian vegetation resources, relic riparian communities, habitat for many bird species, and the scenic value of the corridor. It protects high quality native riparian communities that are mainly due to the undammed San Miguel River and its intact hydrology. Such communities are becoming increasingly rare in Colorado. The ACEC has been designated as an Important Bird Area by Audubon Society. This site represents one of the finest protected southwest canyon riparian habitats in the US, and it provides breeding sites for a wide variety of species and primary migratory routes for nearly all of the West's songbirds. More than 300 bird species have been observed at the site. The expanding black phoebe (*Sayornis nigricans*) population, which has been moving up the San Miguel River, reached the lower end of the original ACEC in 1999. The river also has yellow-billed cuckoo habitat.
Current Uses/ Management	• Managed to protect the high quality riparian habitat, including important bird habitat.

Table 3-39
Existing Areas of Critical Environmental Concern

	• Managed to preserve scenic values. The majority of the ACEC is managed under VRM Class II guidelines, except for the forest management areas from the original RMP, which are managed under Class IV. • Recreational uses in the area include rafting and kayaking on the San Miguel River and dispersed recreational use such as hiking, cross country skiing, snowshoeing, camping, mountain biking, hunting, and off-highway-vehicle use. • Camping is limited along the river between Placerville and Sanborn Park Road to two designated sites only. • Maximum camping stay is 14 days. • Beaver Creek Canyon, Saltado Creek, and the San Miguel River Canyon from the Sanborn Park road to Horsefly Creek are closed to OHVs. Within the remainder of the ACEC, vehicle use is limited to designated roads or trails. • Contains 10 active grazing allotments for cattle. Riparian areas not currently allotted, including acquired lands, are closed to livestock use. • Open to oil and gas leasing subject to standard stipulations and timing limitations. • Mineral development is managed to minimize impacts on riparian and recreation values. • Closed to major utility corridors, with the exception of overhead electric transmission lines at Beaver and Saltado creeks. • All facility construction is required to protect riparian and scenic values. Where possible, facility development is located outside the 100-year floodplain. • BLM-permitted actions, such as ROWs, bike trails, camping areas, etc., are prohibited in relic riparian communities.
Valid Existing Rights	• Existing oil and gas leases are found throughout the ACEC, occurring on a total of 10,410 acres. • State Highway 145 runs the length of the ACEC adjacent to the river. • Two transmission lines run through portions of the ACEC.
Management Issues/ Trends	• Recreational demand is increasing. • Livestock grazing, existing oil and gas leases, and ROWs provide potential conflicts with protection of the area's natural values.
Tabeguache Creek ACEC/Outstanding Natural Area	
Acres in planning area	560
Natural Values	The Outstanding Natural Area and is confined topographically. The ACEC/Outstanding Natural Area is within the Tabeguache Area, which was designated by congress in 1993. Historically there was not vehicle access into much of the canyon and, as a result, many cultural sites remain in pristine condition. The scientific value of the sites within the canyon, their association, and their setting are values that qualify this district for National Register listing.

Table 3-39
Existing Areas of Critical Environmental Concern

Current Uses/ Management	• Managed to protect Cultural resources and aquatic/riparian values. • Has a no surface occupancy stipulation, but is in a No Leasing area (Tabeguache Area). • Closed to off-road vehicle use. • Assigned as VRM Class II, but managed as Class I because it is within the Tabeguache Area, which is managed as Class I.
Valid Existing Rights	• There are no valid existing rights in the ACEC.
Management Issues/ Trends	• The ACEC/Outstanding Natural Area is within the congressionally designated Tabeguache Area (1993), and, as such, is managed to protect its wilderness values (see **Table 3-41** [Wilderness Study Areas]). There is no motorized or mechanized access.

In accordance with BLM Manual 1613, Areas of Critical Environmental Concern (BLM 1988), the UFO Interdisciplinary Team reviewed all BLM-administered lands in the planning area to determine whether any areas should be considered for designation as ACECs. The BLM review included both internal and external nominations, areas identified through inventory and monitoring, and adjacent designations of other federal and state agencies. Areas determined to meet the relevance and importance criteria, as defined by 43 CFR 1610.7-2(a)(1) and 43 CFR 1610.7-2(a)(2), and guidance in BLM Manual 1613 (BLM 1988), are provided temporary management to protect human life and safety or significant resource values from degradation until the area is fully evaluated through the RMP process.

3.3.2 Wilderness and Wilderness Study Areas

In 1964, Congress passed the Wilderness Act, thereby establishing a national system of lands for the purpose of preserving a representative sample of ecosystems in a natural condition for the benefit of future generations. Until 1976, most land considered for, and designated as, wilderness was managed by the NPS and the Forest Service. With the passage of FLPMA in 1976, Congress directed the BLM to inventory, study, and recommend which public lands under its administration should be designated wilderness. Within the decision area there are wilderness study areas (WSAs) and a congressionally designated area, the Tabeguache Area, which is not designated wilderness, but receives similar protections.

Wilderness Study Areas

Section 603 of FLPMA specifically required the BLM to provide Congress with recommendations as to the suitability or nonsuitability of roadless areas greater than 5,000 acres and roadless islands for wilderness designation. Congress gave the BLM 15 years to complete the wilderness inventory, which was done on a state-by-state basis. Only Congress can decide which areas, if any, will be designated as wilderness and added to the National Wilderness Preservation System. In 1991, the Colorado BLM issued its final wilderness study reports that included discussion and recommendations for 54 WSAs throughout Colorado (BLM 1991b). The recommendations were based on the findings of the 15-year wilderness study process that included each area's resource values, present and projected future uses, and manageability as wilderness; the environmental consequences of designating or not designating

the areas as wilderness; mineral surveys; and public input. Until Congress acts on the recommendations and either designates them as wilderness or releases them for other uses, these areas are managed according to BLM Manual 6330, Management of Wilderness Study Areas (BLM 2012b) to preserve their wilderness values. Activities that would impair wilderness suitability are prohibited in WSAs. There are six primary provisions of FLPMA with regard to interim management of WSAs:

- WSAs must be managed so as not to impair their suitability for preservation as wilderness
- Activities that are permitted in WSAs must be temporary uses that create no new surface disturbance nor involve permanent placement of structures
- Grazing, mining, and mineral leasing uses that existed on October 21, 1976, may continue in the same manner and degree as on that date, even if this would impair wilderness suitability of the WSAs
- WSAs may not be closed to appropriation under the mining laws to preserve their wilderness character
- Valid existing rights must be recognized
- WSAs must be managed to prevent unnecessary or undue degradation

In summary, WSAs must be managed in a manner that would not impair the suitability of the area for preservation as wilderness and to prevent unnecessary or undue degradation. Except for grandfathered uses and valid existing rights, permitted activities in WSAs are temporary uses that create no new surface disturbance and don't involve placement of permanent structures. The BLM's authority to conduct wilderness reviews, including establishing new WSAs, expired in 1991. However, the BLM has authority under Section 201 and 202 of FLPMA to maintain an inventory of all BLM-administered lands and their resources, including wilderness characteristics, and to consider such information during land use planning. Through the land use planning process, BLM will consider all available information to determine the mix of resource use and protection that best serves the FLPMA multiple-use mandate. Wilderness characteristics findings are discussed in **Section 3.1.13** (Lands with Wilderness Characteristics).

Current Conditions

Five WSAs lie completely or partially within the decision area: Camel Back (10,400 acres), Adobe Badlands (10,430 acres), Dolores River Canyon (13,350 acres within the decision area), and Sewemup Mesa (1,800 acres within the decision area), and Needle Rock (80 acres within the decision area). The findings of the 1991 wilderness study report for areas within the planning area are shown in **Table 3-40** (Wilderness Recommendations). In this ROD, the BLM recommended as nonsuitable for wilderness designation all of Camel Back and Adobe Badlands WSAs and the Needle Rock Instant Study Area (ISA). The Dolores River Canyon WSA was recommended as suitable for wilderness designation and Sewemup Mesa WSA was also recommended as suitable for wilderness designation with the exception of approximately 130 acres (BLM 1991b). It should be noted that the Sewemup Mesa WSA extends into the Grand Junction Field Office to the north. The acreages discussed here are only for the portion of the WSA in the decision area. As such, acreage figures differ slightly from the 1991 study report and recommendation.

Table 3-40
Wilderness Recommendations

WSA/ISA	Acres Recommended for Wilderness
Camel Back	0
Adobe Badlands	0
Needle Rock ISA	0
Dolores River Canyon	13,350
Sewemup Mesa	1,800

Source: BLM 1991b, BLM 2012a

The WSAs are designated and protected under the authority of Section 603 of FLPMA, are managed according to BLM Manual 6330, Management of Wilderness Study Areas (BLM 2012b) to preserve their wilderness values until Congress either designates them wilderness or releases them for other uses. The interim management policy recognizes valid existing rights and grandfathered uses. Grandfathered uses include grazing, mining, and mineral leasing conducted in the manner and degree in which these uses were being conducted on October 21, 1976, as long as they do not cause unnecessary or undue degradation of the lands under wilderness review. Only Congress can designate a WSA as wilderness or release it from the protective mandate of Section 603 of FLPMA. The status of these WSAs will not change as a result of the Uncompahgre RMP revision.

Tabeguache Area

Current Conditions
The Colorado Wilderness Act (HR 631) passed by Congress in 1993, designated the Tabeguache Area (7,750 acres within the decision area) as a special area, the management for which is similar to that of a wilderness area (**Figure 2-67** [Alternatives A, B, C, and D: Tabeguache Area and Wilderness Study Areas]).

A description of each WSAs and the Tabeguache Area are provided in **Table 3-41** (Wilderness Study Areas) and **Table 3-42** (Tabeguache Area).

Table 3-41
Wilderness Study Areas

Camel Back Wilderness Study Area	
Description	The Camel Back WSA is located nine miles southwest of Delta and 20 miles northwest of Montrose, adjacent to the Uncompahgre National Forest. The WSA's northern boundary follows the cliff line of the east rim of Roubideau Canyon and private land boundaries. Its southern boundary is contiguous with the Uncompahgre National Forest. Private property also makes up a small part of the southern boundary.
Acres in planning area	10,680
Natural Values	• The geomorphic features of the · Camel Back WSA are canyons, mesas, and the · Camel Back ridge

Table 3-41
Wilderness Study Areas

	• Opportunities for solitude in the Camel Back WSA are extensive due to a variety of factors including difficulty of access. • Opportunities for primitive · and unconfined recreation including cross county hiking and horseback riding, rock climbing, camping, hunting, photography, and sightseeing. • Approximately 19 miles of aquatic and riparian habitat are provided by perennial creeks within or immediately adjacent to the WSA.
Current Uses/Management	• The entire area is closed to motorized and mechanized travel. • Approximately 73 percent of the WSA is crucial deer and elk winter range. • Improvements for livestock include three stock ponds, one water catchment facility, and 1.25 miles of fence.
Valid Existing Rights	• There are no unpatented or patented mining claims located in the WSA. • The Winter Mesa allotment has a total of 514 AUMs of spring and fall cattle use and comprises approximately 7,700 acres, or 76 percent, of the WSA.
Management Issues/Trends	• The WSA is popular with local area residents for unauthorized off-road vehicle use and fuelwood cutting. There has been an increase in off-road vehicle use in and along the numerous roads and ways which border the WSA. This use highlights the lack of on-the-ground monitoring, patrol, and enforcement of activities as well as a conflict between management for wilderness qualities and recreational use. • Potential conflicts exist between management for wilderness qualities and livestock grazing.
Adobe Badlands Wilderness Study Area	
Description	Located three miles northwest of Delta, the area is surrounded by both public and non-public lands, and the northern boundary is contiguous with the Grand Mesa National Forest.
Acres	10,320
Natural Values	• Approximately 82 percent, of the Adobe Badlands WSA is composed of the Badlands type Mancos shale formations. Topography of the area is characterized by abrupt sloping hills dissected by rugged serpentine canyons. The northern 18 percent of the WSA is characterized by the foothills of Grand Mesa, vegetated in pinyon-juniper. • Approximately 6,780 acres in the southern two-thirds of the area is managed as an Outstanding Natural Area and ACEC to protect scenic values, threatened and endangered plants, and reduce active erosion. • The WSA provides many opportunities for solitude in the maze-like badlands and upper elevation pinyon-juniper vegetation. • The WSA offers yearlong opportunities for hiking, backpacking, horseback riding, photography, and sightseeing. • Contains occupied habitat for the threatened Colorado hookless cactus, sensitive Adobe Hills beardtongue (*Penstemon retrorsus*), and other native plants. The white tail prairie dog and kit fox, which are sensitive animal species, inhabit the area.

Table 3-41
Wilderness Study Areas

Current Uses/Management	• The Adobe Badlands WSA is closed to motorized and mechanized travel. • Approximately 1,930 acres in the northern portion is managed for deer and elk winter range.
Valid Existing Rights	• There are approximately 75 placer mining claims scattered throughout the WSA. These claims were located in 1982 and 1984, and no activity has occurred on them to date. • Three livestock grazing allotments are located within WSA. A total of approximately 878 AUMs of winter sheep use is authorized on these allotments. There are no range facilities.
Management Issues/Trends	Lack of on-the-ground monitoring, patrol, and enforcement of recreational activities, particularly off-road vehicle use, which is environmentally damaging to the area's highly erodible, saline soils.
Dolores River Canyon Wilderness Study Area	
Description	The Dolores River Canyon WSA is located 18 miles west of Naturita and is surrounded by BLM-administered land.
Acres	The area contains 28,670 acres of BLM-administered land with the northernmost 13,340 acres in the decision area. Approximately 29,420 acres, including an additional 950 acres from outside the WSA boundary, were recommended for wilderness designation by the BLM.
Natural Values	• The WSA is predominantly natural with negligible human imprints. The focal point of the area is the Dolores River Canyon characterized by massive, sheer canyon walls interspersed with several individually unique side canyons such as Bull, Leach, Spring, Coyote Wash, La Sal, and Wild Steer. The rugged canyon system is cut through a series of sedimentary strata which results in many colorful ledges and massive cliffs interspersed with talus slope. • Outstanding natural scenery, opportunities for solitude and primitive, unconfined recreation, and for its ecological diversity. The area is relatively low in elevation and can be reached by maintained roads on both the north and south boundaries making it accessible for year-round wilderness recreation opportunities such as hiking, backpacking, photography, geologic study, hunting, and rock climbing and scenic whitewater river opportunities for float boating, kayakers, and canoeists. • Contains pinyon-juniper woodland and Great Basin sagebrush vegetation zones. The WSA provides potential habitat for a number of threatened, endangered, and candidate plant and wildlife species.
Current Uses/Management	• This WSA is closed to motorized and mechanized travel. • Current use focus on wilderness recreational activities.
Valid Existing Rights	• No pre-FLPMA oil and gas leases. • Several mining claims are located primarily in La Sal Creek, Wild Steer Canyon, Coyote Wash, and near Buck Mesa, which are peripheral areas and not in the main river canyon.

Table 3-41
Wilderness Study Areas

	• Contains all or portions of five grazing allotments totaling approximately 580 AUMs.
Management Issues/Trends	• Lack of on-the -ground monitoring, patrol, and enforcement of recreational activities. • Lack of an effective information and education campaign promoting a sound land-use ethic. • Inadequate signing, posting, and maintenance, especially in spring and fall, of access routes.
Sewemup Mesa Wilderness Study Area	
Description	The Sewemup Mesa WSA is located south of Gateway, west of Highway 141, approximately 15 miles northwest of Uravan. The southwest portion is adjacent to Manti-La Sal National Forest.
Acres	The WSA contains 19,140 acres of BLM-administered land, with the southernmost 1,740 acres in the decision area. Of the entire WSA, approximately 18,840 acres were recommended by the BLM as suitable for wilderness designation and 310 acres were recommended as non-wilderness.
Natural Values	• Sewemup Mesa is an isolated mesa top with sheer cliff faces that are 500 to 700 feet high. The mesa top is highly dissected by numerous shallow canyon systems. Pinyon-juniper woodlands are the predominate vegetation of the mesa top. • The upland area of Sewemup Mesa contains no imprints of man and is considered to be a pristine natural environment. • Outstanding opportunities for solitude. • Outstanding opportunities for day hiking, backpacking, scenic viewing, nature study, and technical rock climbing. • Uncommon and sensitive plants occur in the WSA. Sensitive plants found in the WSA include Eastwood monkeyflower (*Mimulus eastwoodiae)*, spike pappusgrass (*Enneapogon desvauxii)*, purple lovegrass (*Eragrostis spectabilis)*, and wolftail (*Lycurus phleoides)*. • The geology of the WSA is of scientific, educational and scenic value. • Sewemup Mesa WSA provides important wildlife habitat for deer, elk, peregrine falcon and golden eagles.
Current Uses/Management	• Suitable area is closed to motorized travel. • Contains critical deer winter range. • Managed to provide for nonmotorized recreation use such as hiking and backpacking in a natural or predominantly natural setting.
Valid Existing Rights	• One unpatented mining claim within the UFO portion of the WSA. The surface has not been noticeably disturbed. • There are no oil and gas leases within the UFO portion of the WSA. Conventional oil and gas potential is high, with moderate potential for development (BLM 2012d). • Contains all or portions of three grazing Allotments. The existing level of livestock use is 212 AUMs.

Table 3-41
Wilderness Study Areas

Management Issues/Trends	• Nonmotorized recreation use in the area is increasing. This use highlights the need for signing and maintenance, of access routes as well as the need for additional access routes. • Lack of on-the-ground monitoring, patrol, and enforcement of recreational use. • Lack of an effective information and education campaign promoting a sound land-use ethic.
Needle Rock Instant Study Area	
Description	Needle Rock towers 800 feet above the floor of the Smith Fork of the Gunnison River valley. It originated as the throat of a large volcano about 28 million years ago (Miocene epoch) when molten rock intruded between existing sedimentary formations. As the surrounding country rocks eroded over millions of years, the resistant igneous core was exposed.
Acres	The ISA contains 80 acres of BLM-administered land. Of the entire WSA, zero acres were recommended by the BLM as suitable for wilderness designation and 80 acres recommended as non-wilderness.
Current Uses/Management	• Needle Rock is an Instant Study Area (ISA), defined as an area formally identified as natural or primitive areas prior to November 1, 1975. • The WSA is closed to motorized and mechanized travel, except for on the county road.
Valid Existing Rights	None
Management Issues/Trends	None

Table 3-42
Tabeguache Area

Tabeguache Area	
Description	The Tabeguache Area is located on the west-central side of the Uncompahgre Plateau, approximately seven miles north of Nucla and adjacent to the Uncompahgre National Forest. The Colorado Wilderness Act (HR 631) passed by Congress in 1993 designated the Tabeguache Area.
Acres	A total of 8,060 acres of the area lies within the decision area. The Congressionally designated area contains an additional 9,492 adjacent acres of land in the Uncompahgre National Forest.
Natural Values	• One of the last pristine canyons along the Uncompahgre Plateau. Tabeguache Creek Canyon contains a perennial stream and characterized by steep talus slopes and rocky ledges of Wingate and Entrada sandstone. • Rugged terrain has excluded most human use of the area while enhancing opportunities for solitude. • Opportunities for hiking, backpacking, hunting, and fishing. • High potential for the existence of important archeological sites due to

Table 3-42
Tabeguache Area

	the topography, year-round water supply, and proximity to known archeological sites.
Current Uses/Management	The Tabeguache Area must be managed by the BLM and Forest Service in order to maintain the area's "presently existing wilderness character and potential for inclusion in the National Wilderness Preservation System." The entire Tabeguache Area is closed to motorized and mechanized travel, mineral entry, and leasing.
Valid Existing Rights	There are no pre-FLPMA oil and gas leases and no patented mining claims. Contains all or portions of four grazing allotments totaling 286 AUMs.
Management Issues/Trends	• Lack of on-the-ground monitoring, patrol, and enforcement of recreational use. • Lack of an effective information and education campaign promoting a sound land-use ethic. • Lack of public access, inadequate signing, posting, and maintenance, especially in spring and fall, of access routes.

3.3.3 Wild and Scenic Rivers

Wild and scenic rivers are streams or segments of streams designated by Congress under the authority of the Wild and Scenic Rivers Act of 1968 (Public Law 90-542, as amended; 16 USC 1271-1287) for the purpose of preserving the stream or stream section in its free-flowing condition, preserving water quality, and protecting its outstandingly remarkable values (ORVs). ORVs are identified on a segment-specific basis and may include scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

Section 5(d)(1) of the Wild and Scenic Rivers Act directs federal agencies to consider potential wild and scenic rivers in their land and water planning process. To fulfill this requirement, the BLM evaluates streams when developing or revising its RMPs. In order to fulfill its obligations under Section 5(d)(1) of the Wild and Scenic Rivers Act, the UFO is considering the eligibility and suitability of streams in the planning area for inclusion in the National Wild and Scenic Rivers System (NWSRS).

Determination of Wild and Scenic River Eligibility

The initial step in the eligibility phase of the wild and scenic river analysis is to generate an inventory of all streams within the evaluation area. Every known stream with a perennial or intermittent flow regime within the planning area was identified using a variety of BLM and other data sources. Some waterways were further segmented based on differences in level of development, physiographic character, land status, or the existence of in-channel diversions or dams.

The stream segments were then evaluated to determine whether they meet the dual criteria of being free-flowing and possessing one or more outstandingly remarkable value, as defined in the Wild and Scenic Rivers Act. Eligible segments were preliminarily classified as wild, scenic, or recreational based on water quality and level of human development along the river corridor.

The Final Wild and Scenic River Eligibility Report for the Uncompahgre Planning Area (BLM 2010d) details stream segments determined to be eligible for inclusion in the NWSRS, as defined by the Wild and Scenic Rivers Act of 1968. The final eligibility report also lists all streams within the planning area that were evaluated and found to be not eligible, along with supporting rationale. The report, including detailed maps of eligible stream segments, is available at the UFO in Montrose, Colorado, and on the Uncompahgre RMP Planning Web site (http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html).

Determination of Wild and Scenic River Suitability

Stream segments found to be eligible for inclusion in the NWSRS are carried forward to the suitability phase of the wild and scenic river analysis. The suitability phase considers tradeoffs between corridor development and stream protection by applying eight criterion to each eligible segment. The Draft Wild and Scenic Rivers Suitability Report details the suitability study process and the draft suitability determinations for each segment (see **Appendix P** [Summary of Draft Wild and Scenic Rivers Suitability Report]). A final determination of suitability will be issued in the RMP ROD.

Current Conditions

There are no streams in the planning area designated as a Wild and Scenic River. In 1975, the Wild and Scenic Rivers Act was amended and identified 105 miles of the Dolores River, from McPhee to Bedrock, as a Study River (Public Law 93-621). In 1976, a joint study by the Colorado Department of Natural Resources, Forest Service, and DOI, Bureau of Outdoor Recreation identified the entire length as suitable for inclusion in the NWSRS and such a recommendation was made to Congress (Colorado Department of Natural Resources et al. 1976), but Congress did not act on the recommendation. The river was again studied in a joint effort between the BLM and the Forest Service as part of the San Juan Public Lands Draft Land Management Plan, and the river was again preliminarily determined to be eligible and suitable for inclusion in the NWSRS (BLM and Forest Service 2007). The draft plan acknowledges that the lowest 11.9 miles of the river is within the UFO and that the UFO has decision-making and on-the-ground management responsibility in this area. As such, the UFO reviewed the eligibility analysis of the San Juan Public Lands Center and concurred with the findings. As part of this plan, the UFO will review the segment for suitability.

After evaluating all streams identified during the inventory phase, 18 streams separated into 28 segments, were determined to be free-flowing and possessing one or more ORV necessary for Wild and Scenic Rivers eligibility. While a portion of the Gunnison River Segment 3 (0.5 mile) is within the decision area for this RMP, the entire segment will be considered for suitability during the preparation of the RMP for the Dominguez-Escalante NCA. The 18 streams (28 segments) are carried forward for suitability analysis (**Appendix P**) (**Figure 2-68** [Alternatives A and B: Segments Eligible (Alternative A) or Suitable (Alternative B) for Inclusion in the NWSRS]). **Table 3-43** (Eligible Stream Segments) shows those eligible segments in the planning area being studied for suitability analysis, the identified ORVs associated with each segment, and the preliminary classification assigned to each segment.

Table 3-43
Eligible Stream Segments

River or Creek	Length on BLM Land (miles)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
Gunnison River Segment 2	0.4	90	Recreational	Fish
Monitor Creek	9.4	2,610	Wild	Vegetation
Potter Creek	9.8	2,830	Wild	Vegetation
Roubideau Creek Segment 1	10.0	2,700	Wild	Recreational, Wildlife, Cultural, Vegetation
Roubideau Creek Segment 2	3.5	1,330	Scenic	Wildlife, Vegetation
Deep Creek	0.6	130	Scenic	Fish
West Fork Terror Creek	0.5	150	Scenic	Fish
Beaver Creek	14.2	3,710	Scenic	Vegetation
Dry Creek	10.4	2,640	Wild	Scenic, Geologic
Naturita Creek	10.0	3,240	Scenic	Fish
Saltado Creek	4.1	1,450	Wild	Vegetation
San Miguel River Segment 1	17.3	6,680	Recreational	Scenic, Recreational, Wildlife, Historic, Vegetation, Paleontology
San Miguel River Segment 2	3.6	1,110	Wild	Scenic, Recreational, Wildlife, Vegetation
San Miguel River Segment 3	5.3	1,880	Scenic	Recreational, Fish, Wildlife, Vegetation
San Miguel River Segment 5	2.6	2,660	Recreational	Recreational, Fish, Historic, Vegetation
San Miguel River Segment 6	2.3	810	Recreational	Recreational, Fish, Historic, Vegetation
Tabeguache Creek Segment 1	3.6	1,080	Wild	Vegetation
Tabeguache Creek Segment 2	7.9	2,480	Recreational	Cultural, Vegetation
Lower Dolores River	6.9	1,990	Scenic	Scenic, Recreational, Geologic, Fish, Wildlife
North Fork Mesa Creek	5.8	1,740	Scenic	Vegetation
Dolores River Segment 1a *(portion within the Dolores River Canyon WSA)*	8.7	1,880	Wild	Recreational, Scenic, Fish, Wildlife, Geology, Ecologic, Archaeology
Dolores River Segment 1b *(portion from the Dolores River Canyon WSA to Bedrock)*	0.9	460	Recreational	Recreational, Scenic, Fish, Wildlife, Geology, Ecologic, Archaeology
Dolores River Segment 2	5.4	1,820	Recreational	Scenic, Recreational, Geologic, Fish, Wildlife, Vegetation
Ice Lake Creek Segment 2	0.3	100	Scenic	Scenic
La Sal Creek Segment 1	0.6	720	Recreational	Fish, Vegetation
La Sal Creek Segment 2	3.8	1,030	Scenic	Fish, Vegetation

Table 3-43
Eligible Stream Segments

River or Creek	Length on BLM Land (miles)	Area on BLM Land (acres)	Preliminary Classification	Outstandingly Remarkable Values
La Sal Creek Segment 3	3.4	900	Wild	Scenic, Recreational, Fish, Cultural, Vegetation
Lion Creek Segment 2	1.3	400	Scenic	Vegetation
Spring Creek	1.5	630	Recreational	Vegetation

Sources: BLM 2010d; BLM and Forest Service 2007

Trends

A discussion of trends specific to each eligible segment can be found within the Draft Wild and Scenic River Suitability Report (**Appendix P**).

3.3.4 National Trails and Byways

Current Condition

National Trails System

The National Trails System includes National Historic Trails, National Scenic Trails, and National Recreation Trails, which are congressionally designated by the Secretary of Interior per the National Trails System Act of 1968 (Public Law 90-543).

National Historic Trails

A National Historic Trail is a congressionally designated trail that is an extended, long-distance trail, not necessarily managed as continuous, that follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of a National Historic Trail is the identification and protection of the historic route and the historic remnants and artifacts for public use and enjoyment. A National Historic Trail is managed in a manner to protect the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, including the primary use or uses of the trail. The BLM manages 13 National Historic Trails.

The Old Spanish National Historic Trail was designated on December 4, 2002, by the Old Spanish Trail Recognition Act of 2002 (Public Law 107-325). The Old Spanish National Historic Trail passes through a portion of the planning area. Fifty-one miles of the Old Spanish National Historic Trail are within the planning area. However, only nine miles of the trail are under BLM jurisdiction, as the remaining portions are on land with other surface ownership (**Figure 2-83** [Alternative A: National Historic Trails and State and BLM Byways]).

The Old Spanish National Historic Trail was a 2,700-mile trade route linking Santa Fe, New Mexico, and Los Angeles, California, passing through New Mexico, Colorado, Utah, Arizona, Nevada, and California. The trail had brief but heavy use between 1829 and 1848. During that period, Mexican and American traders took woolen goods west over the trail by mule train and returned eastward with California mules and horses for the eastern US and Mexican markets (Old Spanish Trail Association 2010).

Spanish traffic was fairly constant between 1765 and 1821 to trade with the Ute. Some trail users chose to trade with the Utes as far north as Salt Lake, and followed a path now labeled the "North Branch," which led to Grand Junction, Colorado before heading south to rejoin the other major route from Santa Fe via Green River, Utah. Mexican trader Antonio Armijo made the first commercial, round-trip journey along a southern variant of the route in 1829 to 1830. William Wolfskill and George Yount's commercial pack train of 1830 to 1831 inaugurated consistent use of the entire route from 1830 to 1848. Use lapsed after the end of the Spanish American War in 1848, and by 1853, the Old Spanish National Historic Trail had been abandoned as a principal trade route (NPS 2001). The various historical routes together make up what is today known as the Old Spanish National Historic Trail.

BLM and NPS jointly administer the Old Spanish National Historic Trail in collaboration with the Old Spanish Trail Association, which serves as the primary nonfederal partner. A Draft Comprehensive Management Plan and EIS are being prepared for the entire trail. The Comprehensive Management Plan will provide strategic direction and guidance for the future administration and management of the Old Spanish Trail. The plan includes identification of the nature and purposes, goals and objectives, high-potential sites and high-potential segments (historic trails), and the selection of the National Trail ROW.

National Trails

The Tabeguache Trail crosses public land for 142 miles, connecting Montrose and Grand Junction, Colorado. The trail begins in Shavano Valley and weaves through the canyons, mesas, and highlands of the Uncompahgre Plateau before ending in No Thoroughfare Canyon, a few miles west of Grand Junction. Most of the trail is on remote lands administered by the Forest Service and BLM (Colorado Plateau Mountain Bike Trail Association 2012).

The Paradox Trail was established in 1995 by the Colorado Plateau Mountain Bike Trail Association in collaboration with Montrose West Recreation, the Forest Service, and the BLM. The 110 mile long Paradox Trail traverses the unique landscape of western Montrose County, utilizing some of the hundreds of miles of backcountry jeep roads and trails that exist here. The route links two other long distant trails in the region, the Tabeguache Trail to the east on the Uncompahgre Plateau and the Kokopelli Trail to the west in the La Sal Mountains of Utah. Together, the three trails form the "Grand Loop," a grueling 360 mile backcountry system.

The Paradox Trail forms the southern leg of the Grand Loop and even though no singletrack was created (as of 2011) for the trail, the area offers trail users some of the most rugged and remote backcountry terrain in the lower 48 states. There are six large tracks of public lands being administered as wilderness or wilderness study areas in the region, and the trail is predominantly on two-track. While there are trail sections that utilize some seasonally graded county roads, much of the Paradox Trail is inaccessible to motorized vehicles, although vehicle access points exist at many places (Colorado Plateau Mountain Bike Trail Association 2012).

Byways

The RMP planning area includes portions of four byways. The UFO works cooperatively with each byway committee and considers each corridor management plan when making management decisions on BLM-administered lands that may affect a byway.

National Scenic Byways

The National Scenic Byways Program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and reauthorized in 1998 under the Transportation Equity Act for the 21st Century. The program recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. All-American Roads must exhibit multiple intrinsic qualities. To be considered for inclusion in the program, a highway must provide safe passage for passenger cars year-round, be designated a State Scenic Byway, and have a current corridor management plan in place. Installation of off-site outdoor advertising, such as billboards, is not allowed along byways. Within the UFO, there is one All American Road and one National Scenic and Historic Byway (**Figure 2-83**).

San Juan Skyway. The San Juan Skyway was designated as an All-American Road in 1996. This 236-mile scenic byway travels southwest from Ridgway over Dallas Divide and along Leopard Creek on Highway 62. The loop joins Highway 145 near Placerville and continues past Mountain Village through the San Juan National Forest to Cortez. From Cortez, the skyway heads east on Highway 160 to Durango, and then north along Highway 550, passing through Silverton and Ouray before returning to Ridgway.

Grand Mesa Scenic and Historic Byway. In 1996, Colorado Highway 65 over Grand Mesa was designated as a National Scenic Byway. This 63-mile route begins in Cedaredge, heads north through Mesa, and ends at the junction with Interstate 70. A spur road on top of the mesa leads to Land's End.

Colorado Scenic and Historic Byways

The Colorado Scenic and Historic Byways program is a statewide partnership intended to provide recreational, educational, and economic benefits to Coloradans and visitors. This system of outstanding touring routes provides travelers with interpretation and identification of key points of interest and services, while protecting significant resources. Scenic and Historic Byways are nominated by local partnership groups and designated by the Colorado Scenic and Historic Byways Commission for their exceptional scenic, historic, cultural, recreational, and natural features. There are two Colorado Scenic Byways within the planning area (**Figure 2-83**).

Unaweep/Tabeguache Scenic Byway. This 133-mile southwest Colorado route begins in Placerville on Highway 145 and heads northwest through Naturita and Uravan. The byway continues on Highway 141 through Gateway, past the Gateway Canyons Resort, and ends in Whitewater.

West Elk Loop. The 205-mile West Elk Loop begins in Carbondale, Colorado, and travels south along Highway 133 through the towns of Redstone and Paonia. The route continues south and then east along Highway 92 towards the town of Gunnison. At Gunnison, the loop heads north along Highway 135 through Crested Butte and meets up once again with Highway 133, where it continues north back to Carbondale.

Trends

National Historic Trails
The Comprehensive Management Plan will examine trail resources along the entire route of the Old Spanish National Historic Trail. At the local level, the BLM will continue to work with the local branch of the Old Spanish Trail Association to manage trail use and provide educational opportunities.

Byways
Driving for pleasure is expected to increase through the planning area, particularly along the existing scenic byways. Development may occur along portions of the scenic and historic byways. The BLM continues to work with partnership groups to enhance and promote the scenic byways in the planning area.

3.3.5 Watchable Wildlife Viewing Areas

The federal Watchable Wildlife Program is a cooperative nationwide effort among 13 organizations, including the BLM, to foster the conservation of wildlife and wildlife habitats by:

- Providing enhanced opportunities for the public to enjoy wildlife
- Promoting learning about wildlife and habitat needs
- Contributing to local economies
- Enhancing active public support for resource conservation

Current Condition
There are no existing watchable wildlife viewing sites within the planning area. However, the potential to develop watchable wildlife viewing sites exists on BLM-administered land near the Billy Creek State Wildlife Area, the Uncompahgre Riverway, and along the San Miguel River. These areas have been proposed as watchable wildlife viewing sites based upon their ability to provide exceptional opportunities for wildlife viewing, and to create opportunities for interpretation and education. Both the Billy Creek State Wildlife Area and the San Miguel River area are included as part of the Colorado Birding Trail, which is designed to provide opportunities for visitors to observe birds and other wildlife. The Ridgway State Park, which neighbors the Uncompahgre Riverway, is also part of the Trail.

The Billy Creek State Wildlife Area lies along Highway 550 in Ouray County, southwest Colorado. The vegetation in the area consists largely of sagebrush, oakbrush, and pinon-juniper, with some cottonwood habitat in the riparian zones along Uncompahgre River and Billy Creek (Colorado Department of Natural Resources 2012a). The Billy Creek State Wildlife Area provides habitat for elk *(Cervus canadensis)*, bald eagles *(Haliaeetus leucocephalus)*, golden eagles *(Aquila chrysaetos)*. Large stretches of Gambel Oak shrubland in the area provides habitat for a wide array of birds, including the Bushtit, Blue-gray Gnatcatcher, Virginia's Warbler, and Spotted Towhee (Colorado Field Ornithologists 2006).

The Uncompahgre Riverway provides habitat for bald and golden eagles, ospreys *(Pandion haliaetus)*, harriers *(Circus cyaneus)*, great horned owls *(Bubo virginianus)*, and several species of

hawks. Over 140 species of birds have been identified in the neighboring Ridgway State Park (Colorado Department of Natural Resources 2012b).

The San Miguel River area is within the existing San Miguel River ACEC in southwest Colorado. The area consists primarily of high elevation and lowland riparian habitat, including southwest canyon riparian habitat, which is known for being the richest terrestrial bird habitat type in North America. The site provides habitat and breeding sites for a large array of bird species and is within the primary migratory corridor for nearly all western songbirds. Over 300 bird species have been observed in the area. Because of the habitat and species richness found here, the Audubon Society recognizes it an Important Bird Area. Minor threats to the area include invasive plants, introduced animals, such as feral cats, and disturbance to birds and their habitat (National Audubon Society 2012).

Opportunities for wildlife viewing, education, and interpretation exist in these three proposed watchable wildlife viewing sites and would be enhanced in the event any of the three sites were identified as watchable wildlife viewing sites.

3.4 SOCIAL AND ECONOMIC CONDITIONS

This section is a description of the support conditions in the planning area and follows the order of topics addressed in Chapter 2:

- Native American tribal interests
- Public health and safety
- Socioeconomics
- Environmental justice

3.4.1 Native American Tribal Interests

The BLM has traditionally viewed its responsibility toward Native American concerns and tribal interests within the narrow scope of consultation on specific issues, typically involving development and individual NEPA actions on public lands. The BLM is mandated to consult with Native American tribes concerning the identification of cultural values, religious beliefs, and traditional practices of Native American people that may be affected by actions on federal lands. The 1989 RMP does not contain any specific decisions or guidance relating to tribal interests. The BLM has developed several sets of guidelines for consulting with Native American groups and evaluating cultural resources, with an emphasis on traditional use values. BLM Manual 8160, Native American Coordination and Consultation (BLM 1990), and BLM Handbook H-8120-1, Guidelines for Conducting Tribal Consultation (BLM 2004d), provide consultation requirements and procedural guidance to ensure that the consultation record demonstrates "that the responsible manager has made a reasonable and good faith effort to obtain and consider appropriate Native American input in decision making" (BLM 1994b). BLM Handbook H-8110, Identifying and Evaluating Cultural Resources (BLM 2004b), offers guidelines for determining authorized uses of a cultural resource, including considerations for traditional use values.

Current Conditions

Present practices in the protection of tribal interests are limited to project and site specific Native American consultations. Tribal leaders and historians generally view the process of consultation in its entirety as one in which representatives of Sovereign Nations meet to discuss and resolve potential conflicts. From tribal perspectives, most issues center on the appropriate use and protection of landscapes and places. The BLM's approach has been far narrower, and places emphasis on specific sites, with the goal of protecting tribal interests in the framework of archaeological resources. The resulting miscommunications between the broad landscape focus of tribes and the narrow site management goals of the BLM are frequently frustrating to all parties concerned.

Places, as opposed to sites, of traditional cultural importance to Native American people, generally referred to as Traditional Cultural Properties, may include:

- locations associated with traditional beliefs, such as tribal and human origins, oral tales and tribal history, religious and ceremonial practices, and past or present significance and use
- ancestral habitation and burial sites
- trails
- areas where food, plant, mineral, and water resources that possess healing powers or were used for subsistence may be, or were historically obtained

Some of these locations may also be regarded as sacred by particular Native American tribes or individuals. Under the framework of existing laws, including the National Historic Preservation Act of 1966, the American Indian Religious Freedom Act of 1978, Executive Order 13007 regarding Indian Sacred Sites, and the Native American Graves Protection and Repatriation Act of 1990, the BLM must take into account the effects of federally linked projects or land uses on these types of locations.

The planning area is not contiguous with any current tribal lands, nor have any trust assets or resources been identified by tribes. Portions of the planning area in San Miguel and southern Ouray Counties are within lands covered by the Brunot Agreement of 1873 which resulted in moving the Ute tribe to lands away from the San Juan Mountains.

The Brunot Agreement, ratified by Congress in 1874, withdrew over 5,000 square miles in the mountains of southwestern Colorado from the 1868 Ute Reservation. The agreement, entered into between the United States (as represented by Felix Brunot) and the Ute Indians in Colorado, was passed into law (18 Stat., 36) by the House of Representatives and the Senate of the U.S. Congress on April 29, 1974. Under the "reserved rights doctrine," hunting rights on reservation lands relinquished by the Utes were retained; that is, the tribes retained such rights as part of their status as prior and continuing sovereigns. Article II of the Bruno Agreement specified that "the United States shall permit the Ute Indians to hunt upon said lands so long as the game lasts and the Indians are at peace with the white people." These hunting rights currently apply only to the Ute Mountain Ute Indian Tribe, acknowledged when the tribe sued the State of Colorado for their historical hunting rights in 1978. The rights were granted to the

tribe under a consent decree that gives enrolled members of the Ute Mountain Ute Tribe the right to hunt deer and elk in the Brunot area for subsistence, religious, or ceremonial purposes. The consent decree specifies that tribal members may hunt deer and elk without a State license year-round, providing that they obtain a tribal hunting permit. Other game animals may be hunted without a license and without bag limits, but only during hunting seasons established by the CPW.

None of the provisions of that agreement or the subsequent Memorandum of Understanding between CPW and the Southern Ute Tribe are administered by the BLM. The BLM and area tribes currently have not entered into any programmatic agreements, memoranda of understanding, or joint plans. The UFO has invited the Southern Ute Indian Tribe, the Northern Ute Indian Tribe, and the Ute Mountain Ute Tribe to become cooperating agencies during the RMP revision process. To date, none of the tribes have signed a memorandum of understanding with the BLM to become a Cooperating Agency.

As part of the cultural resource management planning program, the UFO, in cooperation with the Grand Junction and Glenwood Springs field offices, has initiated consultation in connection with the Ute Ethnohistory Project. A series of face-to-face consultations and field visits were conducted with representatives of the Northern Ute Tribe inhabiting the Uintah and Ouray Reservation in Utah, and the Ute Mountain Ute Tribe. Representatives of the Southern Ute Tribe also participated in the initial planning stages. The project has thus far produced a report that will serve as the foundation for addressing tribal interests during the upcoming RMP. Titled "Perspectives on Ute Ethnohistory in West Central Colorado" (Ott et al. 2010), the report identifies the following key issues in the continued identification and protection of tribal interests:

- Legal, social, scientific and religious points of view attached to cultural resources on public lands. Each of those perspectives must be considered, in good faith, in land management planning, policy and programs.
- The traditional and historical culture of the Utes is based in nature and places deeply held values on the living landscapes that were home to their ancestors. Their spiritual and emotional connections to their Colorado homelands remain strong and are growing.
- Consultation and partnership with the Utes is vitally important to the BLM's planning and cultural resource management decisions in its efforts to keep pace with increasing development and population pressures on public lands in the project area.
- Cultural programs that provide opportunities for Ute people–including elders, families, and young people–to widely participate in and contribute to cultural resources research and preservation efforts are of immense benefit to all heritage stakeholders.
- Partnership and collaboration requires information parity. Much work is needed to improve information flow between tribal and agency cultural resource departments.
- Meaningful and effective tribal consultation, as well as informed land management decision-making, requires more than narrowly focused archaeological site

information. Landscape-scale inventories, including environmental, ethnohistorical, and ethnographic contexts, are generally lacking in the project area.

- Consultation processes are inconsistent across both tribal and agency cultural programs. Past efforts to clarify and improve communication and procedural protocols, including those undertaken in the course of this project, should be continued and expanded.

A number of recent trends in cultural heritage preservation and cultural resource management, and within the disciplines of archaeology, anthropology, and history, are beginning to address past shortcomings in regard to Native American culture and history. This project is a good beginning toward integrating and applying these new ways of understanding to the challenges of preserving and protecting Ute heritage on the public lands of Colorado.

The report examines these themes in some detail, looks at how they may apply to current and future BLM planning activities, and recommends future actions that the BLM can take to more fully integrate Ute heritage concerns into cultural programs (Ott et al. 2010).

Trends

During previous consultation, the Ute Tribes have indicated that the UFO is part of their ancestral homeland, thereby increasing the potential of traditional cultural properties and sacred sites. At present, the Ute Tribes have identified several sacred/religious sites and special use areas. Continuing consultation with Native American tribes will help redevelop traditional ties to the landscape, and identify and protect sacred and traditional use areas. Native American consultation on both a programmatic and project-specific basis continues to identify traditional cultural properties, sacred/religious sites, and special use areas through letters, phone calls, and on-site visits. Field site visits have been conducted to share the results of compliance projects when sites affiliated with the Ute tribes are recorded.

Native American heritage considerations are just being discovered through consultation with the Ute tribes. The BLM perspective of managing significant cultural resources as distinct properties differs from that of traditional tribal leaders who view cultural resources as part of a larger heritage setting. The following management practices are seen as important for the UFO to continue in managing tribal interests within the planning area:

- Continue consultation with Ute tribal members to identify traditional areas of importance
- Continue programs to redevelop traditional ties to the landscape, and identify and protect sacred and traditional use areas
- Designate heritage areas as ACECs or special management areas to meet the BLM's commitment to the Ute tribes to recognize areas to manage as traditional landscapes and protect cultural resources holistically by focusing on community stewardship

3.4.2 Public Health and Safety

Public health and safety topics include law enforcement, hazardous materials and sites, illegal dump sites, target shooting, abandoned mines, energy development, motor vehicle operations, and remoteness and natural hazards. Public health and safety management is intended to protect public health and safety on BLM-administered lands, to comply with applicable federal and state laws, to prevent waste contamination, and to minimize physical hazards due to any BLM-authorized actions or illegal activities on public lands. When health and safety hazards from past grazing, mining, or milling activities, illegal dumping, and natural hazards are identified, they are reported, secured, or cleaned up in accordance with federal and state laws and regulations, including the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (or the Superfund Act). Parties responsible for contamination are liable for cleanup and resource damage costs, as prescribed by law.

Current Conditions

Visitor safety is a high priority for the UFO. The BLM is required to address abandoned mines, target shooting, unexploded ordnance, mass movement, hazardous waste, and other public hazards. The primary concern for public safety within the planning area is the illegal use, storage, and disposal of hazardous materials.

Major Safety Concerns in the Planning Area

Abandoned Mines. The Abandoned Mine Lands Program is a national and state BLM safety priority, with an emphasis on ensuring public safety and protecting watersheds from hazardous materials and mine drainage. At the field office level, the program's role is to identify and characterize inactive mine sites, inventory hazards or potential hazards to human health, safety, and the environment, and store data in a national or state database. Specific sites may be closed or remediated in order to protect human health or the environment.

There are over 400 documented abandoned uranium mines in the planning area. Abandoned mines and prospects are found throughout the planning area. Workers conducting natural resource extraction and development may encounter hazardous, abandoned mine sites. In addition, visitors often find abandoned mines and prospects attractive to explore and may be exposed to hazards at these sites. Features that could pose public safety hazards at abandoned mine sites include open and unstable shafts, adits, drifts, pits, tailings, wells, or other excavations, dilapidated, unstable, or collapsed buildings and other structures, mining implements, construction debris, and hazardous or toxic materials.

The uranium mining industry began in the 1940s, primarily to produce uranium for weapons and later for nuclear fuel. Although there are about 4,000 mines with documented production, a database compiled by EPA, with information provided by other federal, state, and tribal agencies, includes 15,000 mine locations with uranium in 14 western states. Most of those locations are found in Colorado, Utah, New Mexico, Arizona, and Wyoming, with about 75 percent of those on federal and tribal lands.

The majority of these sites were conventional open pit and underground mines. The mining of uranium ores by both underground and surface methods produced large amounts of bulk waste material, including bore hole drill cuttings, excavated top soil, barren overburden rock, weakly

uranium-enriched waste rock, and subgrade ores (or protore). At some abandoned mine sites, ore enriched with uranium was left on site when prices fell, while transfer stations at some distance from remote mines may contain residual radioactive soil and rock without any visible facilities to mark their location. While most pose minimal risk to the public since radiation exposure is likely to be short and intermittent as a result of visitation and recreation, they may pose other physical safety risks (BLM 2008i).

According to the Colorado Division of Reclamation, Mining and Safety, approximately 23,000 abandoned mines are located in Colorado, and of those, only 6,127 have been made safe.

Energy Development

Energy development can include oil, gas, coal, and renewable energy sites. Energy development is often associated with concerns over public health and safety, and there are potential impacts on public health from materials used in production to workers. For example, hazardous chemicals are used and produced by oil and gas extraction processes (Witter et al. 2008). Spills of oil and gas wastes and chemicals used in production can pollute surface and groundwater and soil. Active wells can also produce hazardous chemical emissions.

The BLM requires operators to comply with applicable regulations designed to protect the environment and the public, and with additional requirements imposed by the BLM as part of the land use lease or ROW grant.

Recreation

There are potential risks associated with activities the public participate in on public lands in the planning area. Motorized vehicle use includes two- and four-wheel-drive vehicles, as well as ATVs, motorcycles, and snowmobiles. The risk of a single- or multiple-vehicle accident or a collision between a vehicle and a pedestrian, equestrian, or bicyclist is potentially associated with the participation in motorized or nonmotorized activities throughout the planning area. Risks may also occur due to interactions of recreationalists with guard dogs used for livestock grazing management.

Exposure to natural hazards such as inclement weather, wildfire, rough terrain, and dangerous animals is an inherent risk in any activity conducted within the Uncompahgre RMP planning area. Proper equipment and adequate planning should be taken prior to conducting activities in order to prepare for the remoteness and natural hazards present in much of the planning area.

Target Shooting. While there are no designated target shooting areas within the planning area, target shooting is generally allowed on BLM-administered lands. The planning area has several unofficial shooting areas in old barrow pits, gravel pits, and other disturbed areas where there is a history of such use. Cleanup of targets, shell casings, and trash is required. Due to public safety concerns, shooting is specifically prohibited at developed recreation sites per 43 CFR, 8365.2-5.

Unexploded Ordnance. An area known as the Delta Range (Delta National Guard Range) is located in Delta County approximately 7.5 miles northwest of the town of Delta, and covers approximately 14,510 acres. The Delta Range was used by the US Army Reserve and Army National Guard for training exercises, which included firearms, mortars, artillery, light anti-tank rounds, 3.5-inch rockets, and practice grenades. An unknown amount of unexploded munitions

remain on the site. The Army National Guard has designated the Delta Range a Munitions Response Site (**Figure 3-25** [Unexploded Ordnance]). A remedial investigation was completed in 2011. Work on characterizing the site and detonating munitions found is on-going.

Areas in and around northwest Delta where inherent ordnance dangers exist require continued regulated access, close monitoring, and user notification. In public access areas, any identified unexploded ordnance reported would be cleared and disposed of according to applicable US Army policies and procedures.

Hazardous Materials. There are no approved hazardous waste disposal facilities within the planning area. Hazardous material is defined as any material that, because of its quantity, concentration, or physical or chemical properties, may pose a real hazard to human health or the environment. Hazardous materials include flammable, combustible, toxic, poisonous, infectious, and corrosive materials; oxidizers; aerosols; biohazards; and compressed gases.

Hazardous materials may legitimately be brought onto BLM-administered lands during authorized weed and insect control or resource development projects. Hazardous materials used for weed and insect control include herbicides, algaecides, and pesticides. The general types of hazardous materials that may be present during resource development projects include, but are not limited to, petroleum products (e.g., fuels and lubricants), solvents, surfactants, paints, explosives, batteries, acids, biocides, gases, and antifreeze. Many hazardous material incidents involve illegal disposal of hazardous materials on BLM-administered lands. These types of materials include, but are not limited to, petroleum products, household wastes, paints, biocides, and methamphetamine manufacturing wastes. The majority of illegal dumping activity within the planning area involves solid waste, which is problematic regardless of whether hazardous materials are involved.

Mass Movement. Unstable slopes occur on hillsides or cliffs, or in areas that are susceptible to landslides, mudflows, rock falls, or accelerated creep of slope-forming materials. Unstable slopes occur naturally and are widespread in the planning area. Most unstable slopes consist of weathered sedimentary strata and recent colluvium deposits that move downhill due to gravity. Unstable slopes can be active or inactive. Slope failure can be initiated by a change of conditions, either natural or man induced. Natural factors contributing to slope instability include weathering and erosion, changes in the hydrologic characteristics of the hillside, loss of vegetation cover, earthquakes, and the slow natural deterioration of slope strength. Artificial factors that can undermine slope strength include cut and fill operations, alteration of surface drainages, removal of vegetation cover, excessive irrigation, blasting, and vehicular traffic.

Within the planning area, there is an area of mass movement in the Paonia-McClure Pass area. Here the Cretaceous Mesa Verde Group and Tertiary Wasatch Formations have resistant sandstone units overlying weaker, more easily erodible shale, siltstone and mudstone units. These weaker units are easily weathered and eroded, undercutting the more competent sandstone. This differential weathering causes the sandstone to slide and fall once its underlying support is removed.

In general, mass movement is a dynamic process that can be activated by earthquakes, rapid snowmelt, intense rainstorms, or gravity. Whereas mass movement plays a major role in the

evolution of a hillslope by modifying slope morphology and transporting material from the slope to the valley, it also poses a potential natural hazard. Prediction of the location and volume of transported mass on potentially unstable slopes is an important issue in the assessment of mass movement hazards and hillslope evolution. A promising approach is to examine the relationships of area, volume, length, height, and width of existing movements through ratio quantification (Regmi et al. 2008).

A technical study mapped 683 movement features in the Paonia to McClure Pass area of western Colorado from aerial photographs and field surveys. The area covers approximately 600 square kilometers. The total area of movement was classified as debris flows (29 percent), rockslides (26 percent), debris slides (23 percent), soil slides (15 percent), and forest road and highway-influenced landslides (7 percent) (Regmi et al. 2008). Future hazard analysis studies will produce landslide hazard zone maps that BLM can use in its planning process.

Flood and debris flow hazards are discussed in **Section 3.1.3** (Soils and Geology).

Trends

Hazardous Materials and Sites. The frequency of hazardous materials incidents in the past has mirrored the rate of economic activity and population growth, with economic boom and population growth usually resulting in more illegal dumping and more materials transportation accidents and accidental spills.

Target Shooting. Requests for dispersed shooting areas are expected to increase. Concerns from adjacent landowners, especially in regards to dispersed target shooting, are also expected to rise.

Abandoned Mines. If abandoned mines are discovered, they will be addressed in accordance with the AML program.

Energy Development. Trends in well activity on BLM-administered lands within the planning area have mirrored economic conditions and change in accordance with market demand. In addition, technological developments such as drilling and modern drilling rigs used to improve access to energy resources may increase development, while regulations or requirements that increase costs to developments may decrease development and associated risks.

Recreation. As population increases in the surrounding area, recreation is increasing; the potential for conflicts between users is also likely to increase.

3.4.3 Socioeconomics

This section discusses the social and economic conditions of the planning area. These conditions are discussed in greater detail in the Socioeconomic Baseline Assessment Report prepared in support of the Uncompahgre RMP planning effort (BLM 2010j). Please note that since the release of the Socioeconomic Baseline Assessment Report, multiple state and federal agencies released finalized data for 2010 and later. This section has been updated to include this new information where possible to provide a more accurate description of the planning area.

Economic and demographic statistics are primarily reported by county. For these reasons, demographic, economic, and social data are presented for the socioeconomic study area, which is defined as all lands within the five counties that primarily comprise the planning area (Delta, Gunnison, Montrose, Ouray, and San Miguel). The five counties were identified as the socioeconomic planning area because the BLM-administered lands of the UFO lie primarily within these counties, and most of the effects on the population and economy would occur within this region. Although portions of the planning area fall within Mesa County and Mesa County was included in the Socioeconomic Baseline report (BLM 2010j), Mesa County is not discussed in detail in this analysis for the following reasons:

- The majority of BLM-administered lands within Mesa County are administered by the Grand Junction Field Office, and baseline conditions are discussed in the Grand Junction Field Office RMP.
- Mesa County contains the largest city in the region, Grand Junction, the planning area excludes Grand Junction and the surrounding metropolitan area and the portion of Mesa County within the planning area is largely rural. As a result, county-wide data, which include Grand Junction, are generally not reflective of the portion of the county within the planning area.
- Mesa County has not accepted formal cooperating agency status and submitted no comments during the Uncompahgre RMP scoping period.

Data for Colorado is presented for comparison and wider context. It is important to note that data reported for counties includes demographics that fall outside the planning area. It is likely that the counties containing the most BLM-administered land, the most intensively used BLM-administered land, or the most split-estate minerals within the planning area would be most affected by changes in resource management. Similarly, the counties with the most BLM-administered lands are likely to be the most affected by funding to states and counties through federal payments in lieu of taxes (PILT) and uses of the public lands. Tables presenting socioeconomic information by county and for the study area as a whole, where appropriate, are included in the Socioeconomic Baseline Assessment Report (BLM 2010j).

Information was collected from several sources, including Headwater Economics' Economic Profile System (Headwaters Economics 2010), US Census Bureau, US Bureau of Economic Analysis, Colorado Department of Local Government, and other data for planning area counties and the State of Colorado. Current, historic, and forecasted population statistics, age distribution, housing, and education level are the demographic data provided. Economic characteristics discussed include employment levels and industries, major employers, income, government revenues and expenditures, and dependence on BLM resources.

Important general social and economic indicators for local communities include employment by job sector, personal income, population change, housing affordability, and ethnic and racial makeup of the area. Indicators specific to public lands include recreational use (including hunting and fishing visitor days, as well as motorized and nonmotorized recreational use), livestock grazing as measured in AUMs, and energy development and production, particularly for coal, oil and gas, and uranium mining. Right-of-way and other land use information are also important to

examine. For additional information on subjects not included in this chapter, refer to the Socioeconomic Baseline Assessment Report (BLM 2010j).

The UFO encompasses a geographically and socioeconomically varied region. The population is diverse and includes recent immigrants and multigenerational families. Most residents have a strong connection to BLM-administered lands and the surrounding National Forests and view them as playing a role in their personal quality of life. For local residents, these lands provide economic opportunities, recreation, open space, a connection to the western historic landscape, and other intangible benefits. Current social issues related to public land management in the planning area include increased demand of public land use for recreation and continued importance of the local oil and gas, coal, and uranium industries. Additional social themes identified include a desire to preserve undeveloped areas of the UFO and the need to allow access for traditional land uses such as hunting and livestock grazing. This chapter describes the communities and interest groups whose social or economic interests are tied to public lands.

Current Conditions and Trends

Study Area Counties

The following section provides brief summaries of the demographic and economic trends for each of the six study area counties as reported in county-wide data. Refer to the Socioeconomic Baseline Assessment Report (BLM 2010j) for more comprehensive data.

Delta. Delta County has important agricultural lands and is home to the study area's third-largest city, Delta. Within the planning area, Delta is the second largest city. Delta County has shown steady growth in the number of farms between 1987 and 1997 (Delta Area Development Inc. 2010). The North Fork Valley, including the towns of Hotchkiss, Paonia, and Crawford, has become known for wine and produce production. Locally, coal mining is also an important industry.

The population of Delta County was estimated to be 30,952 in 2010, a more than 11-percent increase since 2000. Since 1970, population growth has generally been slower than the state but has outpaced the nation (Headwaters Economics 2010). Population density is 27.1 people per square mile, compared to 48.5 for Colorado as a whole (US Census Bureau 2010a). Median per capita income for the county was $22,080 in 2010, and 13.1 percent of people fell below the poverty level. Unemployment rates in the county have ranged from a high of 9.7 percent in 2010 to a low of 4.1 percent in 2006. Unemployment in 2010 was 9.7 percent (US Bureau of Labor Statistics 2010). Delta County is generally faster than the state and the nation at recovering from economic downturns (Headwaters Economics 2010).

Delta County contains approximately 120,700 acres of planning area public lands, not including additional acres in the Gunnison Gorge NCA which is excluded from the planning area. There are 85,590 acres of split-estate land.

Gunnison. Gunnison County is dominated by a mountain landscape and is home to a variety of recreational opportunities on the BLM-administered and National Forest System lands that dominate the county. Population density is only 4.7 people per square mile, the lowest in the study area, compared with 48.5 for Colorado as a whole (US Census Bureau 2010a). The

population of Gunnison County was 15,324 in 2010, a 9.8 percent increase since 2000. The county has the lowest median age in the study area and a high level of people who have obtained bachelor's degrees or higher. Median per capita income for the county was $28,490 in 2010, and 10.8 percent of people fell below the poverty level in 2008. Unemployment rates in the county have ranged from a high of 7.3 percent in 1990 to a low of 2.7 percent in 2000. Unemployment in 2010 was 7.1 percent (US Bureau of Labor Statistics 2010). Gunnison County is generally faster than the state and the nation at recovering from economic downturns (Headwaters Economics 2010).

Gunnison County contains approximately 13,400 acres of BLM-administered lands and 49,900 acres of split-estate land in the planning area.

Montrose. Montrose County is the second-most populous county in the study area with a population of 41,276 in 2010, an increase of 23.5 percent since 2000. Population density is 18.4 people per square mile, compared with 48.5 for Colorado as a whole (US Census Bureau 2010a). Montrose County contains the second-largest city in the study area and the largest city within the planning area, Montrose, a regional hub. Montrose is the most ethnically diverse county in the study area with a significant Hispanic/Latino population. Median per capita income for the county was $23,613, median household income was $46,590, and 10.9 percent of people fell below the poverty level in 2010. Unemployment rates in the county have ranged from a low of 3.3 percent in 2000 and again in 2007 to a high of 11.1 percent in 2010 (US Bureau of Labor Statistics 2010).

The majority of Montrose County is under federal land management. Montrose County contains over 448,000 acres of BLM-administered lands in the planning area and additional acres in a portion of the Gunnison Gorge NCA, which is excluded from the planning area. There are approximately 94,700 acres of split-estate land.

Ouray. Ouray County has a rich history of mining, and today has a local economy focused on tourism and recreation. Ouray County is the smallest county in the study area with a population of 4,436 in 2010. Population density is 8.2 people per square mile, compared with 48.5 for Colorado as a whole (US Census Bureau 2010a). Median household income for the county was $58,393 in 2010, the second-highest in the study area, and 8.2 percent of people fell below the poverty level. Housing prices have increased in median value and decreased in affordability over the past decades (Headwaters Economics 2010). Unemployment rates in the county have ranged from a low of 2.6 percent in 2000 to a high of 9.7 percent in 1990. Unemployment in 2010 was 7.8 percent (US Bureau of Labor Statistics 2010). Major employment sectors include accommodations, real estate, and construction. Non-labor income and sole proprietors also provide significant contributions to the local economy.

Ouray County contains approximately 24,500 acres of BLM-administered lands and 32,800 acres of split-estate in the planning area, and additional acres in the Gunnison Gorge NCA, which is excluded from the planning area.

San Miguel. This county has a long history of mining and employment based in natural resource extraction. Today there is a dichotomy in the local social and economic structure in the communities. Agriculture in the west end of the county has long been valued and still plays an

important role in the local economy, as does uranium mining. Recreation and tourism are increasingly dominating the economy, particularly in the area around Telluride and Mountain Village.

San Miguel County had a population of 7,359 in 2010. Population density is 5.7 people per square mile compared with 48.5 for Colorado as a whole (US Census Bureau 2010a). San Miguel County has the highest per capita and median household income in the study area, likely influenced by the residents of Telluride and Mountain Village in particular. Housing prices in this county are the highest and least affordable in the planning area (Headwaters Economics 2010). Unemployment rates in the county have ranged from a low of 3.0 percent in 2000 to the high of 7.7 percent in 2010 (US Bureau of Labor Statistics 2010). Major employment sectors include the accommodations industry, retail, real estate, and construction in the Telluride area, with agriculture and mining locally significant in other parts of the county.

San Miguel County contains approximately 57,300 acres of BLM-administered lands in the planning area and approximately 32,100 acres of split-estate land.

Socioeconomic Units

As previously discussed, while data is available at the county level, county boundaries do not correspond with planning area boundaries. Furthermore, counties tend not to reflect the diversity of socioeconomic conditions within them due to natural topography boundaries and proximity to public lands in the area. Therefore, this analysis utilizes socioeconomic units as delineated in the Community Assessment report (BLM 2009e). Key issues identified for the different socioeconomic units are presented below. **Figure 3-26** (Socioeconomic Units) depicts these units.

Socioeconomic Unit 1. This unit encompasses the communities of Bowie, Paonia, and Somerset and contains land in Gunnison and Delta Counties. Coal mining represents a key component of the economy in this unit, as do oil and gas development and agriculture. Recreational use of land is important for local area residents. The key issues are providing the continued access to public lands for traditional agricultural and extractive resource uses while preserving the quality of life for local residents.

Socioeconomic Unit 2. This unit encompasses the communities of Austin, Cedaredge, Crawford, Hotchkiss, and Orchard City and contains land in Delta, Montrose, and Gunnison Counties. Issues in this unit relate to growing the economy in concert with the natural landscape. Utilization of public land and enhancing environmental values, while preserving open space, are also important. The key issue is finding the balance that allows residents to retain a lifestyle that meets their needs and provides recreational opportunities for visitors to the area.

Socioeconomic Unit 3. This unit encompasses the communities of Delta, Montrose, and Olathe and contains land in Delta and Montrose Counties. The economy in this area is oriented toward agriculture, mining, and timber production. The area also contains geological features that provides recreational opportunities for the local population and attracts visitors. The community of Delta along the US Highway 50 corridor is within easy commuting distance of Grand Junction, the regional center for western Colorado. The key issue for the Delta area is providing maximum public land access for local residents and extracting resources for continued

community economic support, while preserving ecologic features that attract visitors to the area.

Like the community of Delta, Montrose lies along the US Highway 50 corridor and is the largest city within the Uncompahgre RMP planning area. The regional airport also provides Montrose ready access to areas outside the planning area. Also, the majority of county population resides within eastern Montrose County and thus gives the area an urban economic feel. Though there is less dependence on public lands for economic stability within the urban setting, access to public lands within the UFO attracts visitors to the recreational economic activities, which provides economic opportunities. The key issue in this unit is providing continued access to public lands for an area with a growing population center and increasing importance as a regional destination.

Socioeconomic Unit 4. This unit encompasses the communities of Mountain Village, Norwood, Ouray, Placerville, Ridgway, Sawpit, and Telluride, and contains land primarily in Ouray and San Miguel Counties. The eastern portion of the unit is located in Ouray County and eastern San Miguel County. This area is destination oriented and takes advantage of unique geologic features and remote access. Economic opportunities are limited to those activities that fit the landscape. Retaining local businesses and developing tourist- and recreation-oriented activities are important aspects of economic growth. Retirees and self-proprietors make a significant contribution to the local economy. The main issue is maintaining the landscape in its "old west" setting, while providing a "new west" economic structure.

The western portion of Socioeconomic Unit 4 is located in the area surrounding the town of Norwood in western San Miguel County. Agriculture represents a significant portion of the local economy. A number of residents commute to Telluride to work in the accommodation sector. Water is a limiting resource, which severely restricts development within the Norwood area. Hunting and fishing provide seasonal economic activity. The main issues are access to public lands for livestock grazing and hunting.

Socioeconomic Unit 5. This unit encompasses the communities of Naturita, Nucla, Redvale, and Paradox and contains land primarily in western Montrose County. Agriculture and mining represent significant portions of the area economy. Uranium mining is particularly significant, which has led to boom/bust cycles throughout the past 40 years. Some residents commute from Naturita and Nucla to Telluride for work in the accommodation sector. The remoteness of the area requires travel to Montrose, Delta, or Grand Junction for all major shopping activities. The main issue is making public land resources available for livestock grazing and extractive uses.

Communities of Interest/Affected Groups and Individuals

In addition to geographic regions within the planning area, there are specific groups to whom management of public lands is of particular interest. These include private livestock grazing permittees and lessees (see definitions in **Section 3.2.2**, Livestock Grazing, and the Glossary), mineral estate owners, oil and gas leaseholders, renewable energy leaseholders, and, as interest in using public lands in the planning area for recreation grows, recreational visitors. Furthermore, special interest groups and individuals who represent resource conservation or resource use perspectives constitute additional groups with an interest in planning area public lands management. Refer to the Socioeconomic Baseline Assessment Report (BLM 2010j) and to

the Community Assessment of the Uncompahgre Planning Area (BLM 2009) for more information on the social values of affected groups and individuals.

Livestock Grazing Permittees and Lessees. Ranching is an important part of the planning area's history, culture, and economy. Ranchers face such challenges as fluctuating livestock prices, increasing equipment and operating costs, fluctuating water availability, and changing federal regulations. Additional income sources are often necessary to continue ranching, and ranchers or their family members may also work in other sectors of the economy. Livestock grazing is a historical use of public lands in the UFO and continues to be important to the way of life in the region despite the decreasing contribution to the economy over the past 20 years (Headwaters Economics 2010).

Private Landowners. Much of the land within the planning area (1.1 million acres) is privately owned. Neighboring landowners adjacent to public lands are an important group to consider in the planning process. On the boundary between community and public lands, wildland-urban interface issues are important to consider in the planning process. The wildland-urban interface is defined as a geographical area where two diverse systems meet and affect each other, giving rise to conflicts between societal values and expectations concerning the management of natural resource systems. Issues in the wildland-urban interface include wildfire protection, recreational access, and land health, particularly related to the spread of invasive species. Additional planning issues of importance to private landowners include rural lifestyle preservation.

Minerals and Oil and Gas Leaseholders. Mineral estate leases cover the various extractable minerals found within the planning area, including oil and gas, coal, and uranium resources. Leaseholders are particularly interested in keeping restrictions on leasing minimal in order to keep and costs and delays of production low. Leaseholders involved in the economic strategy workshops held in March 2010 stated the importance of recognizing valid existing rights of those who hold mineral claims and leases.

Renewable Energy Leaseholders. Due to increasing fossil fuel prices and federal incentives for renewable energy development, interest in non-traditional energy leasing opportunities on public lands is of increasing importance. Renewable energy resources available in the planning area include solar, biomass, wind, and direct use geothermal. Renewable energy leaseholders would be interested in management direction that supports development of these resources in a timely, cost-efficient manner.

Right-of-way Holders. The UFO currently manages approximately 2,500 rights-of-way for land uses such as roads, power lines, natural gas pipelines, water lines, telephone lines, communication sites, and ditches and canals on public land. Right-of-way holders are primarily concerned with continued access to right-of-way lands. Requests for rights-of-way are likely to increase in the next 20 years due to increased growth and development on private land, and the interface of private and urban land with public land. As energy development continues, energy rights-of-way, such as electric transmission lines and natural gas pipelines are likely to increase in importance.

Recreational Users. Recreational visitors to the planning area include both local residents and destination visitors from communities outside the planning area. Approximately 245,000 people live within the six-county study area, and many of these residents utilize public lands for

recreation activities such as off-highway vehicle use, horseback riding, hiking, mountain biking, camping, fishing, and hunting. In addition, the planning area has become a destination for visitors, particularly for big game hunting and fishing, as well as motorized and nonmotorized recreation. Rapid community growth within the planning area and in the region has led to an increased importance of public lands as open space and for recreation use. The population of the socioeconomic study area is expected to continue to increase over the next 20 years; therefore, the importance of recreation on public lands is likely to increase. Access, delineation of recreation types (e.g., quiet or passive recreation vs. motorized or intensive recreational opportunities), and sustainability are important to this user group.

Outfitters. Local recreational outfitters represent another important group with an economic interest in the management of public lands. Outfitters include retailers and guides who provide services for activities such as river rafting, hunting and fishing expeditions, and four-wheel-drive tours of the area. Outfitters, like all recreations users, have a vested interest in keeping access to public lands open and user fees low.

Individuals and Groups Who Prioritize Resource Protection. Various individuals and groups at the local, regional, and national levels are interested in how the BLM manages public lands. Many of their concerns regard wildlife, water quality, and visual quality. They value public lands for wildlife, recreation, education, scenic qualities, wilderness, and open space, among other aspects. While there are individuals who prioritize resource protection throughout the planning area, this group has a particularly strong presence in the Socioeconomic Units 1 and 4.

Individuals and Groups Who Prioritize Resource Use. Many individuals and groups are concerned about limitations being put on the availability of public lands for commercial uses, such as mineral and energy development and livestock grazing. They indicate that public lands should be managed to be as productive as possible and that the survival of local economies and local communities depend upon resource-use industries. Public land resource use plays a large role in the local economy of some regions of the planning area, most notably those in western Montrose and San Miguel Counties in Socioeconomic Unit 5, but also in units 1 and 2. In particular, development of energy resources including coal, oil and gas, and uranium is important for local economies.

Study Area Demographics

Population. **Table 3-44** (Study Area Population Totals (1980–2010)) shows that total population increased dramatically in all six study area counties since 1980, with the highest growth rates occurring from 1990 to 2000. It should be noted that despite the rapid growth, total population density remains low in the study area.

Population growth in the area is expected to continue over the next few decades, particularly in the current population centers along major travel arteries (**Table 3-45** [Study Area Population Projections (2015–2030)]). In-migration of people from other Colorado regions and throughout the West is the likely source of much of the anticipated population growth. Increasing population will continue to add pressure on area public lands as residents seek recreational activities close to home. Population growth is therefore likely to intensify conflicts between users public land resources.

Table 3-44
Study Area Population Totals (1980–2010)

Location	1980	1990	1980–1990 Percent Change	2000	1990–2000 Percent Change	2010	2000–2010 Percent Change	1980–2010 Percent Change
Delta County	21,225	20,980	-1.15%	27,834	32.7%	30,952	11.20%	45.8%
Gunnison County	10,689	10,273	-3.89%	13,956	35.9%	15,324	9.8%	43.3%
Montrose County	24,323	24,423	0.3%	33,423	36.9%	41,276	23.5%	69.7%
Ouray County	1,925	2,295	19.2%	3,742	63.0%	4,436	18.6%	130.4%
San Miguel County	3,192	3,653	14.4%	6,594	80.5%	7,359	11.6%	130.5%
Study Area Total	*61,354*	*61,624*	*-0.44%*	*85,549*	*39.44%*	*99,347*	*16.13%*	*61.92%*
State	2,889,733	3,294,394	14.0%	4,301,261	30.6%	5,029,196	16.9%	74.0%

Source: Colorado Division of Local Government, State Demography Office 2012
US Census Bureau 1980, 1990, 2000, 2010a

Table 3-45
Study Area Population Projections (2015–2030)

County	2015	2020	2025	2030
Delta	37,356	43,227	49,410	54,772
Gunnison	16,394	17,766	18,966	20,018
Montrose	49,417	56,638	64,010	71,042
Ouray	5,748	6,430	6,671	6,833
San Miguel	9,507	10,952	12,489	13,920
State	5,632,137	6,186,161	6,718,452	7,227,385

Source: Colorado Division of Local Government, State Demography Office 2010

For more detailed population information and data, including tables which describe population density, age of population, and immigration, refer to the Socioeconomic Baseline Assessment Report (BLM 2010j).

Household Characteristics. The number of housing units in the study area has increased since 2000 for all counties, ranging from a 14-percent increase in Delta County to a more than 38-percent increase for Ouray County. Refer to **Table 3-46** (Study Area Household Characteristics 2000–2010 Comparison). Housing vacancy rates in the study area are extremely high for some counties. Based on 2010 Census data, the majority of the vacant housing units, including 84 percent in Gunnison, 70 percent in Ouray, and 72 percent in San Miguel Counties, are second homes used for seasonal, recreational, or occasional use. In contrast, seasonal properties comprise 40 percent and 28 percent of vacant units in Delta and Montrose Counties respectively (US Census Bureau 2010a).

Table 3-46
Study Area Household Characteristics 2000–2010 Comparison

		Delta County	Gunnison County	Montrose County	Ouray County	San Miguel County
Total Housing Units	2010	14,572	11,412	18,250	3,083	6,638
	2000	12,374	9,135	14,202	2,146	5,197
Housing Units Percent Change 2000–2010		17.7%	24.9%	22.2%	43.6%	27.7%
Occupied Housing Units	2010	12,703	6,596	16,484	2,022	3,454
	2000	11,058	5,649	13,043	1,576	3,015
Vacant Housing Units	2010	1,869	4,816	1,766	1,066	3,184
	2000	1,316	3,486	1,159	570	2,182

Source: US Census Bureau 2000; Colorado Division of Local Government, State Demography Office 2012

Between 1990 and 2000, the cost of study area housing increased, and the percentage of the median income level necessary to purchase the median house also increased. Housing prices for all counties other than Ouray and San Miguel remained relatively affordable. The housing affordability index, which is calculated based on a 20 percent down payment and no more than 25 percent of a family's income going toward mortgage payments, was close to or above 100 in Delta, Gunnison and Montrose Counties in 2000, indicating that the median family can afford the median house. However, in Ouray and San Miguel Counties, housing remained out of the median family's reach. Household affordability is described in further detail in the Socioeconomic Baseline Assessment Report (BLM 2010j).

Study Area Employment. Employment can be viewed as a key economic indicator, as patterns of growth and decline in a region's employment are largely driven by economic cycles and local economic activity. Employment patterns are shown for the six study area counties in **Table 3-47** (Study Area Employment Characteristics (2001-2011)).

Table 3-47
Study Area Employment Characteristics (2001-2011)

Industry	Year	County Employment Totals				
		Delta	Gunnison	Montrose	Ouray	San Miguel
Farm employment	2001	1,417	300	1295	131	135
		10.6%	2.6%	6.4%	5.6%	1.8%
	2011	1,410	247	1,205	126	135
		9.3%	2.0%	5.5%	4.7%	1.7%
Forestry, fishing, related activities	2001	324	70	287	NA	NA
		2.4%	0.6%	1.4%	NA	NA
	2011	338	80	327	NA	NA
		2.2%	0.7%	1.5%	NA	NA

Table 3-47
Study Area Employment Characteristics (2001-2011)

Industry	Year	County Employment Totals				
		Delta	Gunnison	Montrose	Ouray	San Miguel
Mining	2001	549	676	154	33	47
		4.1%	5.9%	0.8%	1.3%	0.6%
	2011	850	828	309	82	NA
		5.6%	6.8%	1.4%	2.7%	NA
Construction	2001	1,180	1,464	2,418	465	1,218
		8.8%	12.9%	11.9%	18%	16.3%
	2011	1,058	1,057	1,925	329	802
		7.0%	8.6%	8.8%	10.9%	10.2%
Manufacturing	2001	637	160	1,626	85	134
		4.8%	1.4%	8.0%	3.3%	1.8%
	2011	666	159	1,330	71	134
		4.4%	1.3%	6.0%	2.4%	1.7%
Services	2001	7,198	7,235	11,799	1,486	5228
		53.9%	63.5%	57.9%	57.5%	69.8%
	2011	8,369	7,694	13,738	1,803	5,854
		55.4%	63.6%	62.5%	59.7%	74.7%
Utilities	2001	69	60	203	NA	15
		0.5%	0.5%	1.0%	NA	0.2%
	2011	58	62	226	NA	16
		0.4%	0.5%	1.0%	NA	0.2%
Wholesale trade	2001	340	91	463	23	46
		2.5%	0.8%	2.3%	0.9%	0.6%
	2011	221	81	469	20	41
		1.5%	0.7%	2.1%	0.7%	.5%
Retail trade	2001	1,702	1244	2556	224	586
		12.7%	10.9%	12.5%	8.7%	7.8%
	2011	1,662	1,102	2,670	249	569
		11.0%	9.1%	12.1%	8.3%	7.3%
Transportation and warehousing	2001	171	160	614	44	86
		1.3%	1.4%	3.0%	1.7%	1.1%
	2011	229	196	634	46	103
		1.5%	1.6%	2.9%	1.5%	1.3%
Information	2001	167	120	243	42	115
		1.2%	1.1%	1.2%	1.6%	1.5%
	2011	198	180	235	37	117
		1.3%	0.9%	1.1%	1.2%	1.5%
Finance and insurance	2001	420	295	603	66	214
		3.1%	2.6%	3.0%	2.6%	2.9%
	2011	524	403	844	157	259
		3.5%	3.3%	3.8%	5.2%	3.3%
Real estate and rental and leasing	2001	495	772	949	225	998
		3.7%	6.8%	4.7%	8.7%	13.3%
	2011	842	978	1351	282	1068
		5.6%	8.1%	6.1%	9.3%	13.6%

Table 3-47
Study Area Employment Characteristics (2001-2011)

Industry	Year	County Employment Totals				
		Delta	Gunnison	Montrose	Ouray	San Miguel
Professional, scientific, and technical services	2001	400	547	927	147	434
		3.0%	4.8%	4.6%	5.7%	5.8%
	2011	655	636	1,084	225	498
		4.3%	5.3%	4.9%	7.5%	6.4%
Management of companies and enterprises	2001	42	6	24	0	23
		0.3%	0.0%	0.1%	0.0%	0.3%
	2011	144	5	215	5	106
		1.0%	0.0%	1.0%	0.17%	1.4%
Administrative and waste services	2001	582	355	765	63	305
		4.4%	3.1%	3.8%	2.4%	4.1%
	2011	559	439	894	84	336
		3.7%	3.6%	4.1%	2.8%	4.3%
Educational services	2001	44	201	58	NA	63
		0.3%	1.8%	0.3%	NA	0.8%
	2011	86	173	163	NA	149
		0.6%	1.4%	0.7%	NA	1.9%
Health care and social assistance	2001	992	406	1,631	NA	150
		7.4%	3.6%	8.0%	NA	2.0%
	2011	1,363	415	2,157	NA	256
		9.0%	3.4%	9.8%	NA	3.3%
Arts, entertainment, and recreation	2001	193	726	268	120	570
		1.4%	6.4%	1.3%	4.6%	7.6%
	2011	249	1,003	353	119	708
		1.6%	8.3%	1.6%	3.94%	9.0%
Accommodation and food services	2001	837	1,639	1,281	413	1,175
		6.3%	14.4%	6.3%	16%	15.7%
	2011	769	1,418	1,225	438	1,206
		5.1%	11.7%	5.6%	14.5%	15.4%
Other services, except public administration	2001	744	614	1,214	119	448
		5.6%	5.4%	6.0%	4.6%	6.0%
	2011	810	676	1218	142	442
		5.4%	5.6%	5.5%	4.7%	5.4%
Government and government enterprises	2001	2,133	1,604	2,863	295	752
		16.0%	14.1%	14.1%	11.4%	10.0%
	2011	2,429	2,041	3,151	384	821
		16.1%	16.9%	14.3%	12.7%	10.5%
Total Employment	2001	13,366	11,392	20,372	2,587	7,488
	2011	15,120	12,100	21,985	3,019	7,836

Source: US Department of Commerce, Bureau of Economic Analysis 2001, 2011 reported in Headwater Economics 2013
NA – Data not available

Based on these data, government employment, retail services, and construction are major sectors of employment throughout the study area. Accommodation and food services are important sectors in Gunnison, Ouray, and San Miguel Counties, as is real estate (including rental and leasing). Health care is a significant employment sector in Delta and Montrose

Counties. Trends for employment sectors for 1970 to 2000 based on Standard Industrial Classification data are demonstrated in the Socioeconomic Baseline Assessment Report (BLM 2010j). Since the 1970s, service and government jobs have increased for all counties, while the role of agriculture has remained flat or decreased (Headwaters Economics 2010). From 2000 to 2010 similar trends were observed in North American Industry Classification System data (Headwaters Economics 2013).

It should be noted that for some industries average annual wages are higher than others. In the study area, data is not available for all sectors for all counties, however highest average annual wages are typically seen in the government sector and natural resources extraction, particularly in mining. Average wage per job numbers are typically lower in the hospitality sector and in agriculture (Headwaters Economics 2010). In 2011, the three industry sectors with the highest average wages were natural resources and mining, federal government, and professional and business services. See **Table 3-48**, Study Area Average Annual Wages by Industry (2001-2011).

Unemployment levels in the study area for 2010 ranged from a low of 7.1 percent in Gunnison County to a high of 9.7 percent in Delta County. In comparison, the Colorado annual unemployment rate in 2010 was 9.0 percent, while the national level was 9.6 percent (US Bureau of Labor Statistics 2012). Refer to **Table 3-49** (Study Area Unemployment Levels by County) for additional information, including historical data from 1990 to 2010.

Income Distribution. The study area population represents a wide range of income levels. Overall median household income was $52,238 for the study area in 2010, up approximately 34 percent from 2000. Among the counties in the study area, median household income in 2010 was highest in San Miguel County ($66,399) and lowest in Delta County ($40,451) (US Census Bureau 2000, 2010a). See **Table 3-50**, Study Area Income Distribution. Per capita income followed similar trends and averaged $28,296 in the study area in 2010, up approximately 23 percent from 2000, with the highest per capita income reported in San Miguel County ($38,247) and the lowest in Delta County ($22,080).

Local Economic Activity Affected by Public Land Uses

Local economies realize direct and indirect benefits from expenditures and revenues generated by a variety of activities in the BLM UFO decision area. Activities that tend to have the greatest local economic influence include recreation, mining and energy resource development, and livestock grazing. BLM-administered lands in the UFO cover approximately 2.4 percent of total land area in the five-county study area. Activities that are directly and indirectly impacted by BLM management decisions are discussed in the sections below.

Activities Directly Impacted by UFO BLM Management. The BLM collects revenues from recreational and commercial activities, and these revenues are redirected back to the state and county governments. These revenues are collected from facilities, such as fees from campgrounds, from BLM recreation permits (special, competitive, organized group activity, and event use permits), mining leases and mineral revenues, grazing fees, and timber sales. Revenues collected in the UFO in 2008 are listed in **Table 3-51** (UFO Receipts (Fiscal Year 2008)).

Table 3-48
Study Area Average Annual Wages by Industry
(2001-2011)

Sector	Year	Delta County	Gunnison County	Montrose County	Ouray County	San Miguel County	Colorado
Total	2001	22,374	23,254	24,856	23,466	28,010	37,952
	2011	32,721	34,390	34,196	29,817	34,711	49,082
Private	2001	20,806	34,802	23,380	22,966	27,434	65,782
	2011	30,998	60,123	31,902	28,419	33,549	84,138
Service Providing	2001	18,232	17,081	22,225	17,087	24,287	36,834
	2011	25,125	24,651	30,374	25,562	31,405	47,424
Goods Producing	2001	27,986	34,802	26,070	33,314	38,051	43,686
	2011	44,699	57,983	37,180	39,023	46,074	59,253
Natural Resources and Mining	2001	33,882	49,053	25,570	41,328	33,372	47,033
	2011	53,876	80,057	45,195	53,890	52,459	73,873
Construction	2001	22,997	25,681	28,109	34,066	38,632	38,940
	2011	33,873	36,129	37,345	43,859	44,905	48,865
Manufacturing	2001	25,468	21,977	24,577	17,847	35,263	47,543
	2011	34,404	25,248	34,383	18,991	49,904	61,668
Trade, Transportation and Utilities	2001	19,212	19,400	24,923	16,142	23,452	33,578
	2011	27,792	25,856	30,757	22,488	27,471	41,041
Information	2001	23,951	23,975	24,688	28,633	18,901	65,782
	2011	26,971	30,832	31,270	42,095	28,784	84,138
Financial Activities	2001	27,593	26,066	26,918	31,234	35,294	48,743
	2011	31,808	35,447	38,224	35,043	42,438	65,321
Professional and Business Services	2001	19,463	24,164	26,737	29,733	32,614	46,647
	2011	33,861	45,600	49,050	50,373	41,696	66,821
Education and Health Services	2001	18,065	20,429	23,360	23,792	23,746	33,545
	2011	23,557	32,096	32,123	30,771	37,082	44,084
Leisure and Hospitality	2001	10,817	12,078	9,664	12,627	20,871	16,043
	2011	12,952	16,427	15,436	18,222	28,138	20,174
Other Services	2001	18,676	16,869	22,774	21,755	20,920	25,574
	2011	27,313	22,408	29,205	25,116	32,298	33,951
Unclassified	2001	18,634	10,920	33,600	NA	29,699	47,535
	2011	32,444	57,502	8,792	NA	25,920	69,681
Government	2001	39,699	38,203	45,715	34,793	41,000	36,464
	2011	60,189	49,190	61,510	52,942	53,348	48,759

Source: Bureau of Labor Statistics 2011

Table 3-49
Study Area Unemployment Levels by County

Year	Delta	Gunnison	Montrose	Ouray	San Miguel
1990	7.0%	7.3%	6.3%	9.7%	5.1%
1995	5.9%	6.1%	5.6%	4.9%	4.0%
2000	3.7%	2.7 %	3.7%	2.6%	3.0%
2005	5.1%	4.0%	4.8%	3.5%	4.3%
2006	4.1%	3.2%	4.1%	3.2%	3.5%
2007	3.4%	2.9%	3.7%	3.0%	3.2%
2008	4.4%	3.6%	5.0%	3.7%	4.0%
2009	8.1%	6.2%	9.2%	6.4%	6.8%
2010	9.7%	7.1%	11.1%	7.8%	7.7%

Source: US Bureau of Labor Statistics 2012
Note: Levels are not seasonally adjusted

Table 3-50
Study Area Income Distribution

Income		Delta County	Gunnison County	Montrose County	Ouray County	San Miguel County	Study Area Average
Median Household Income	2010	$40,451	$49,356	$46,590	$58,393	$66,399	$52,238
	2000	$32,785	$36,916	$35,234	$42,019	$48,514	$39,094
Per Capita Income	2010	$22,080	$28,490	$23,613	$29,051	$38,247	$28,296
	2000	$17,152	$21,407	$17,158	$24,335	$35,329	$23,076

Source: US Census Bureau 2000, 2010a
Data from 2000 census in 1999 dollars

Table 3-51
UFO Receipts (Fiscal Year 2008)

Resource	Total
Recreation fees	$27,795
Grazing Fees	$36,380
Right-of-way	$53,443
Salable Mineral Materials	$13,792
Forestry	$6,253

Source: BLM 2010k

Revenues collected from royalty payments for oil and gas and minerals extraction also represent a significant source of revenue, with over $5 million directly distributed to planning area counties and communities in 2009. Details of royalty distribution are provided below and in the Socioeconomic Baseline Assessment Report (BLM 2010j).

Non-market Values. Some of the most important socioeconomic factors associated with BLM-administered lands in the planning area are the non-market values offered by public lands management. Non-market values are the benefits derived by society from the uses or experiences that are not dispensed through markets and do not require payment. These values include unique and sensitive natural and cultural resources on public land. These values enhance the quality of life and enjoyment of place, thereby improving regional and local economic conditions. Proximity to undeveloped natural lands and the resources they harbor, including scenic vistas and recreational and wildlife viewing opportunities, add non-market value to the area. Some studies indicate that the importance of non-market values of federal lands are increasing in the west as the role of resource extraction decreases. Rasker et al. (2004) found that only three percent of western counties were classified as resource-extraction driven. In addition to quality of life factors, undeveloped lands may add value by providing ecosystem services, those goods that an ecosystem provides for human use. Examples are provision of fresh water and air, regulation of wastes, control of climate, formation of soil, and protection from natural hazards. Details of all non-market contributions are included in the Socioeconomic Baseline Assessment Report (BLM 2010j).

Market and Commodity Values. Market and commodity values include economic contributions to the local economy from recreational visitors, mineral and energy development, and livestock ranching. Summaries of contributions are included below, additional details are provided in the Socioeconomic Baseline Assessment Report (BLM 2010j).

Recreational Use. Planning area public lands provide recreational opportunities for both local residents and tourists from outside the area, and these recreational opportunities represent an important contribution. Trends in visitation and use are included in **Section 3.2.4** (Recreation and Visitor Services). In terms of economic activity, recreation generates additional spending in the local economy that in-turn supports jobs and income. Economic stimulus occurs as non-residents to the area spend money in the local economy, which may also generate additional spending by local residents. Employment in recreation and tourism is not collected as a separate industry category; therefore, data on jobs generated are estimates only. Jobs are generally reflected in the accommodation services and retail trade sectors. Together, those industries account for approximately 20 percent of the jobs in the study area (US Department of Commerce, Bureau of Economic Analysis 2009). It should be noted that not all of this employment is related to travel and recreation and that other industrial sectors may also contribute jobs. Furthermore, some of this employment is likely related to the other federal lands in the area, notably National Forest System lands, although the BLM contribution to employment is expected to be significant.

Mineral and Energy Resources. The BLM manages all facets of environmental review and leasing on over 2.2 million acres of federal mineral estate within the planning area. Mineral resources are discussed in detail in **Section 3.2.3** (Energy and Minerals). The economic contributions of different categories of resources in the UFO are examined briefly below and in depth in the Socioeconomic Baseline Assessment Report (BLM 2010j).

- Leasable Minerals – Oil, Gas, and Coal. The UFO currently manages several active federal coal leases related to three coal mines in the North Fork Valley near Paonia

in an area known as the Somerset coal field. Employment for the three mines totaled 948 miners in 2008 and 974 in 2009 (Colorado Department of Natural Resources 2010). A fourth active mine within the planning area, the New Horizon Mine located near Nucla, is strip mining coal from privately owned mineral estate for use at the local power plant. Annual production from the New Horizon Mine in 2009 was 373,758 tons, and the mine provided employment for 23 people (Colorado Department of Natural Resources 2010). County employment figures indicate for oil, gas, and coal extraction are included in the employment for mining industries category. This category varies from 5.9 percent of county employment in Gunnison County to 3.5 percent in Delta County. Estimates can be made for the economic contributions based on the production of levels reported. Coal production contributions for the UFO area BLM mines in 2009, for a total production of 12,175,195 tons and a price of $32.20 per ton, are estimated at $397,763,620 (US Energy Information Administration 2009).

- Locatable Minerals. Numerous companies are conducting exploratory drilling for uranium-vanadium in the planning area portion of the Uravan Mineral Belt, while a few operations have begun underground bulk sampling excavations. Currently there are 29 active plans of operations or mining notices within the planning area, but there are no active mining operations. No figures are available for specific employment of uranium mining; however, recent analysis of economic contributions of uranium in Montrose County suggests that the opening of the proposed Pinyon Ridge uranium processing mill alone would support over 300 direct, indirect, and induced jobs in construction and between 500 to 600 jobs in mill operations (Economic and Planning Systems 2010).
- Saleable Minerals. Sand and gravel deposits located throughout the planning area are primarily extracted for use as road base. In 2009, receipts for gravel sales paid to UFO totaled $13,792.
- Renewable Energy. The study area contains potential resources for renewable energy production including geothermal, solar, wind, and biomass (BLM 2010g). There is some potential that geothermal and solar resources will be developed on a commercial scale in the next 20 years.

Tax Revenue. Tax revenue from utilization of public lands in the planning area primarily results from coal extraction and oil and gas production. Two primary sources exist, the Colorado state severance tax and the state's share of federal mineral lease royalties.

Colorado Severance Tax is a tax imposed upon nonrenewable natural resources that are removed from the earth. The severance tax is graduated, ranging from 2 percent for income under $25,000 to 5 percent for income of $300,000 and over. Very small operations are exempt. Severance tax revenues are distributes with 50 percent to the Colorado Department of Natural Resources to fund water conservation, wildlife, and environmental programs and the remaining 50 percent to Local Impact Fund Department of Local Affairs. Of the amount that goes to the Local Impact Fund Department of Local Affairs, 70 percent goes to local government projects and 30 percent is directly distributed to local communities. The direct payments from Department of Local Affairs to Colorado communities are often used to offset

the impacts of drilling on roads, schools and public services. Revenue received in direct distributions to area counties is shown in **Table 3-52**, Study Area Severance Tax Distribution (Fiscal Year 2010); note that additional funds are distributed to local communities.

Table 3-52
Study Area Severance Tax Distribution
(2010)

County	Total
Delta County	$633,868
Gunnison County	$837,989
Montrose County	$493,583
Ouray County	$3,076
San Miguel County	$377,152
Total	$2,345,668

Source: Colorado Division of Local Government 2010

Royalties to the state and county provide an additional economic benefit of mineral resource extraction. Federal mineral lease revenues are collected by the Office of Natural Resources Revenue of the Department of the Interior. Lease holders competitively bid and initially pay a "bonus" to use the land. Lease holders also pay rent for the right to develop mineral production on those lands. Finally when minerals are extracted and sold, the federal government receives a royalty from the production from federal mineral estate at a rate of 12.5 percent based on the current on-shore federal royalty rate. Approximately 50 percent of the revenues are transferred to the Colorado State Treasurer. In FY 2009, Colorado received $187 million in royalties and rents distributed by the federal government from energy and mineral production on all state federal lands (Office of Natural Resources Revenue 2012). In turn, about 50 percent of federal royalties received by the state are then distributed to cities and counties through the Department of Local Affairs direct and grant distributions based on Senate Bill 08-218. Two factors determine the allocation of federal mineral lease revenue to each county pool for further distribution, 1) The proportion of residents in the county employed in mineral extraction to the total employed statewide, and 2) The proportion of the moneys credited to the mineral leasing fund generated in the county to the total generated statewide (Colorado Division of Local Government 2009). The contribution of federal mineral extraction directly to study area communities is shown in the distribution of federal mineral lease revenues to study area counties and select municipalities (**Table 3-53**, Study Area Federal Mineral Lease Revenues (Fiscal Year 2009) Additional funds are distributed directly to area school districts. In Gunnison County, although much of the County is outside the field office boundaries, the large majority of Mineral Lease revenue is from the area within the UFO.

An additional source of taxes for study area governments is ad valorum taxes. Ad valorum taxes are levied based on the assessed value of property. The assessed or taxable values for most properties are established on a county basis by the appropriate County Assessor and property is taxed at fair market value.

Table 3-53
Study Area Federal Mineral Lease Revenues
(Fiscal Year 2009)

County/Municipality	Total
Delta County	$814,079
City of Delta	$212,057
Town of Paonia	$66,218
Town of Hotchkiss	$37,556
Town of Cedaredge	$54,138
Town of Crawford	$16,185
Gunnison County	$882,155
Montrose County	$113,947
City of Montrose	$48,270
Town of Nucla	$3,837
Town of Naturita	$5,179
Town of Olathe	$5,409
Ouray County	$234
Town of Ouray	$33
Town of Ridgeway	$40
San Miguel County	$334,132
Town of Telluride	$54,282
Town of Norwood	$65,372
Town of Sawpit	$811
Town of Ophir	$3,369
Total	**$2,717,303**

Source: Colorado Division of Local Government 2009

Taxable real property classified as residential, commercial, industrial, agricultural, and vacant land. Assessment includes real property associated with oil and gas wells Property taxes are determined by multiplying the assessed (taxable) value of the property by the tax rate. The tax rates are set by local government entities and vary by location. The current residential assessment rate is 7.96 percent of assessed value. In contrast, the assessment rate for most classes of non-residential property is fixed at 29 percent (SEC 2012). Total assessed value and property tax revenue is provided by County below in **Table 3-54**, Study Area Property Tax Revenue (2010).

Table 3-54
Study Area Property Assessed Value and Revenue (2010)

County/Municipality	Assessed Property Value	Revenue
Delta County	$355,260,450	$18,247,661
Gunnison County	$840,863,260	$54,322,742
Montrose County	$622,391,570	$37,473,591
Ouray County	$210,799,580	$10,547,773
San Miguel County	$965,915,150	$38,367,239

Source: Colorado Department of Local Affairs, Division of Property Taxation. 2011

The Colorado property tax system provides revenue exclusively for local government services. The largest share of property tax revenue (49.9 percent) goes to support the state's public schools. County governments claim the next largest share (24.9 percent), followed by special districts (18.8 percent), municipal governments (5.2 percent), and junior colleges (1.2 percent).

The state sales tax rate in Colorado is 2.9 percent. City and county local taxes vary. These local taxes would be in addition to the 2.9% state sales tax rate (Colorado Department of revenue 2013). Additional county taxes applied include the following: Delta 3.9 percent, Gunnison 5.6 percent including county and local taxes, Montrose 1.75 percent, Ouray 2 percent, and 1 percent in San Miguel County.

Agriculture and Livestock Grazing. Agriculture represents a traditional source of employment in the planning area. Based on 2010 employment numbers, the percentage of jobs in the agricultural industry ranges from a low of 1.7 percent in San Miguel County to a high of 9.3 percent in Delta County (US Department of Commerce, Bureau of Economic Analysis 2009).

Livestock grazing on public land continues to be important to local economies within the UFO. In the planning area, 628,754 acres (93 percent) of BLM-administered land are allocated for livestock grazing. The UFO currently has 135 authorized permittees. Over the past five years, billed use has averaged 65 percent of total permitted use (BLM 2010l). The BLM-administered range in the planning area is permitted at a level of 43,491 AUMs of forage. This figure includes 38,200 active AUMs and 5,291 AUMs of suspended use. The BLM calculates federal grazing fees annually in March based on a formula that is calculated using the 1966 base value of $1.23 per AUM for livestock grazing on public lands in western states. Annual adjustments are based on three factors: current private grazing land lease rates, beef cattle prices, and the cost of livestock production. The federal grazing fee for 2010 was $1.35 per AUM. The grazing fee has been at this level since 2007 (BLM 2010m). The grazing fee formula was established by the Public Rangelands Improvement Act of 1978.

Generally, there is a correlation between ranch land values and federal grazing permits, with ranches that hold such permits having a higher value. This value is based on the premise that the permit's value reflects, at least to some extent, the capitalized difference between the grazing fee and the competitive market value of federal forage. The permit value is also based on access to additional forage and the capacity to raise more livestock than on the private base property alone. It also reflects the requirement for the permittee to hold private base property to which the federal permitted use is attached, giving the base property holder priority for renewal over other potential applicants. This value is recognized by lending institutions during a loan process and by the Internal Revenue Service when a property transfer occurs.

Permit values fluctuate based on market forces but generally depend on the number of AUMs and other terms of the lease or permit. Permit values may vary widely, depending on the location and the estimated average value of replacement forage. Grazing fees on public lands compared to equivalent fees on private lands represent one component of permit values. In 2008, the average fee per AUM on private lands in Colorado was $14.50 (US Department of Agriculture, National Agricultural Statistical Service 2010). Based on 38,200 active AUMs in the planning area, the fee for grazing leases on private land would be approximately $553,900. Based on the 2010 federal rate of $1.35 per AUM (BLM 2010m), the total annual grazing fee on public

lands would be $51,570, more than $500,000 less than the private grazing fee for active leases in the planning area. It should be noted, however, that additional "non-fee" costs (supplementary costs incurred by the lessee to utilize the leased forage) are also incurred by lessees. Non-fee costs associated with factors such as required upkeep on range improvements (e.g., fences, ponds, catchments, and springs), loss of animals, and transportation are often higher on public lands and not accounted for in this comparison (Rimby and Torell 2011, Tassel et al. 1997).

Payments in Lieu of Taxes. PILT are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries. Congress appropriates PILT annually, and the BLM administers disbursement to individual counties. PILT are determined according to a formula that includes population, the amount of federal land within the county, and offsets for certain federal payments to counties, such as timber, mineral leasing, and grazing receipts. PILT payments are transferred to state or local governments, as applicable, and are in addition to other federal revenues, including those from grazing fees. The study area counties received over $3.5 million in PILT in 2010 (**Table 3-55** [Study Area PILT (Fiscal Year 2010)]).

Table 3-55
Study Area PILT (Fiscal Year 2010)

Location	PILT Amount
Delta County	$135,020
Gunnison County	$541,778
Montrose County	$1,836,443
Ouray County	$353,399
San Miguel County	$702,986
Study Area Total	$3,569,626
Colorado	$28,281,042

Source: DOI 2010

3.4.4 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, requires that federal agencies identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. It focuses on environmental hazards and human health to avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Low-income populations are defined as persons living below the poverty level based on total income of $11,139 for an individual and $22,113 for a family household of four for 2010 data (US Census Bureau 2010b). Black/African American, Hispanic, Asian and Pacific Islander, American Indian, Eskimo, Aleut, and other non-White persons are defined as minority populations.

Current Conditions and Trends

Low-income Populations

The study area is characterized by a diverse range of individual in poverty, as demonstrated in **Table 3-56**, Study Area Poverty Estimates by County and **Table 3-57**, Study Area Key Community Poverty Information. In 2011, Ouray and San Miguel Counties overall had the lowest percentage of persons below the poverty level at 9.8 and 11.1 percent, respectively. The remaining counties in the study area were above that of Colorado's state average of 13.4 percent, including 16.6 for both Delta and Montrose Counties and 17.9 percent in Gunnison County. All study area counties experienced an increase in people below the poverty level between 2001 and 2011, likely due to the national economic downturn. Key communities in the planning area had an even larger range of poverty levels in 2011, with the lowest in Telluride (3.9 percent) and highest in Crawford (26.5 percent). No county or key community within the socioeconomic study area contained population with over 50 percent of individuals in poverty or significantly higher than the reference population in poverty for the state of Colorado.

Table 3-56
Study Area Poverty Estimates by County (all people in poverty)

Year	Delta County	Gunnison County	Montrose County	Ouray County	San Miguel County	Colorado
2011	16.6%	17.9%	16.6%	9.8%	11.1%	13.4%
2001	14.2%	12.2%	12.5%	8.6%	8.6%	8.7%

Source: US Census Bureau 2001, 2011a

Table 3-57
Study Area Key Community Poverty Information (all people in poverty)

	Cederidge	Crawford	Delta	Hotchkiss	Montrose	Naturita	Norwood	Nucla	Olathe	Paonia	Telluride
2011	16.6%	26.5%	17.7%	10.9%	16.8%	18.0%	12.4%	16.5%	20.0%	17.0%	3.9%

Source: US Census Bureau 2011b

Minority Populations

The social and economic context of the study area varies among the five counties. **Table 3-58**, Study Area County Population by Race/Ethnicity and **Table 3-59**, Study Area Key Community Minority Information, describe the 2011 racial and ethnic composition of the study area. Estimates from 2008 to 2012 indicate that 70 percent of Colorado's population was identified as white and not of Hispanic or Latino origin, and 30 percent identified as members of one or more ethnic or racial minority groups. People of Hispanic or Latino descent (of any race) were the largest minority group and accounted for 20.6 percent of the total state population (US Census Bureau 2012). The majority of people in the study area identified themselves as white of

Table 3-58
Study Area County Population by Race/Ethnicity

Population	Delta County	Gunnison County	Montrose County	Ouray County	San Miguel County	Colorado
Hispanic or Latino ethnicity of any race	4,310	1,280	8,037	91	664	1,040,478
	14.0%	8.3%	19.6%	2.0%	8.9%	20.6%
Not Hispanic or Latino, by Race						
White	25,460	13,680	31,799	4,284	6,559	3,528,428
	82.9%	88.9%	77.6%	96.4%	88.3%	70.0%
Black or African American	306	95	186	0	1	190,846
	1.0%	0.6%	0.5%	0	<0.01%	3.8%
American Indian or Alaskan Native	91	42	74	11	24	27,990
	0.3%	0.3%	.2%	0.2%	0.3%	0.6%
Asian	169	90	227	26	118	134,749
	0.6%	0.6%	0.6%	0.6%	1.6%	2.7%
Native Hawaiian and Other Pacific Islander	0	0	49	0	0	5,441
	0	0	.1%	0	0	0.1%
Some Other Race	65	18	33	0	0	7,666
	0.2%	0.1%	0.1%	0	0	0.2%
Two or More Races	309	180	589	33	66	107,225
	1.0%	1.2%	1.4%	0.7%	0.9%	2.1%

Source: US Census Bureau 2012

non-Hispanic origin; the largest aggregate minority population was found in Montrose County (22.4 percent identified as members of one or more ethnic or racial minority groups), and the lowest in Ouray County (3.6 percent identified as members of one or more ethnic or racial minority groups). Within key communities examined, the largest aggregate minority population was found in Olathe (43.4 percent identified as members of one or more ethnic or racial minority groups), and the lowest in Crawford (3.2 percent identified as members of one or more ethnic or racial minority groups). No county or key community within the socioeconomic study area contained an aggregate minority population above 50 percent or significantly higher than the reference minority population for the state of Colorado.

Native American Populations

Data in **Table 3-58** indicate that Native Americans (and Alaskan Natives) account for a small percentage of the study area population. Members of the Navajo Nation, Northern Ute, Southern Ute, and Ute Mountain Ute Indian Tribes traditionally have lived in and around the study area. A total of 99 individuals in the planning area identify themselves as Native American or Alaskan Native.

Environmental Justice and RMP Analysis

Due to the relatively low percentage of individuals in minority groups or low income populations in the planning area overall, it is not likely that considerations for environmental justice populations will require modification of RMP alternatives or mitigation measures. Impacts on regional and local environmental justice populations will be addressed in the RMP/EIS following standards and guidelines set forth in Executive Order 12898 and in the 2005 BLM Land Use Planning Handbook, Appendix D.

Table 3-59
Study Area Key Community Minority Information

	Cederidge	Crawford	Delta	Hotchkiss	Montrose	Naturita	Norwood	Nucla	Olathe	Paonia	Telluride
Hispanic or Latino ethnicity of any race	198	8	2,387	125	4,740	15	42	23	728	97	81
	8.3%	1.6%	27.0%	14.8%	25.4%	3.2%	6.7%	3.2%	40.0%	7.5%	3.8%
Not Hispanic or Latino, by Race											
White	2,113	486	6,228	695	13,464	419	522	667	1,032	1,154	1,946
	88.9%	96.8%	70.5%	82.5%	72.2%	90.7%	83.1%	93.0%	56.6%	89.1%	92.1%
Black or African American	0	0	77	3	80	0	0	0	16	15	0
	0	0	0.9%	0.4%	0.4%	0	0	0	0.1%	1.2%	0
American Indian or Alaskan Native	0	2	58	2	0	4	27	0	0	6	0
	0	0.4%	0.7%	0.2%	0	0.9%	4.3%	0	0	.5%	0
Asian	15	0	41	0	94	0	9	0	10	0	85
	0.6%	0	0.5%	0	0.5%	0	1.4%	0	0.5%	0	4.0%
Native Hawaiian and Other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Some Other Race	0	0	0	0	18	0	0	0	0	0	0
	0	0	0	0	0.1%	0	0	0	0	0	0
Two or More Races	51	6	46	17	248	24	28	27	36	23	0
	2.1%	1.2%	0.5%	2.0%	1.3%	5.2%	4.5%	3.8%	2.0%	1.8%	0

Source: US Census Bureau 2011b

3.5 SUPPORT

This section is a description of the support conditions in the planning area:

- Cadastral
- Interpretation and environmental education
- Transportation facilities

3.5.1 Cadastral

Cadastral survey is one of the BLM's basic responsibilities as the keeper of over 200 years of federal survey records and plats. The cadastral program supports all other functions by conducting land surveys and resurveys to identify public land and public/private land boundaries. These surveys are often needed where there are unauthorized uses, land tenure adjustments, or

BLM projects near a public/private land boundary. The costs of cadastral surveys are borne by the federal programs or private interests that benefit from the boundary identification.

Current Conditions

Cadastral survey is used throughout the planning area primarily associated with trespass issues. Cadastral survey is used to identify issues with potential unauthorized development such as agricultural, residential, road, and fence construction. Cadastral has also been used to survey boundaries related to actions and boundaries associated with land acquisitions, exchanges, and disposals throughout the planning area.

Trends

As development of urban areas adjacent to public lands increases throughout the planning area, so will the need for cadastral efforts. The need for accurate surveys will be critical in areas of mixed federal and private ownership, such as near communities.

3.5.2 Interpretation and Environmental Education

Interpretation is the voice for all BLM resource management programs. A well-developed program supports the goals and objectives of all resources and programs by serving customers; promoting land health; and enhancing the public's enjoyment, understanding, and appreciation of the public lands' natural and cultural resources and their management. An interpretive program reaches out to visitors across varied landscapes and serves visitors who are exploring many facets of public lands.

Management issues are addressed within the interpretive story in a way that relates those issues to the visitors' experiences. Interpretive planning is done collaboratively with internal and external groups, and clear measurable objectives are established to gauge the cost/benefit and the program's effectiveness. The BLM's interpretive program aims to respect and serve people with diverse backgrounds and abilities.

Current Conditions

Western Colorado Interpretive Association, founded in 1988 was organized as a non-profit group to assist the BLM and other government agencies in scientific, education, historical and interpretive activities of resource areas in the western portion of the State of Colorado. Through these efforts visitors to the public lands better understand the area and, it is hoped, develop a sense of value and desire to ensure their protection and sustainable use for current and future generations.

Interpretation and education opportunities in the decision area have not been extensively developed. Only a handful of small interpretive sites and a variety of single interpretive signs are scattered throughout the planning area. Currently, visitors receive information on opportunities in the decision area, as well as on safety concerns, from both off-site and on-site sources. Off-site sources include assorted resource brochures distributed throughout the area, maps, programs given by resource specialist or local historians, teacher information packets, fact sheets, and various Internet web sites. Many program- or area-related brochures have been automated and are available on the Internet. Informational tours for volunteer groups and the general public are periodically given by BLM specialists.

On-site information is obtained from directional signs, road markers, ranger patrols, and interpretive signs. An integral part of the BLM's recreation outreach in UFO is the Montrose Visitors and Convention Bureau which provides interpretation, education, and information to visitors interested in route condition, recreation opportunities available in the region, and current events.

Trends

Interpretive opportunities at cultural sites are likely to increase. A developed interpretive program will focus on the BLM-administered lands and the interrelationship between the physical elements, biological systems, and cultural and historical events. Many of these efforts are accomplished in partnership with other land management agencies and involve local communities. The BLM will continue to partner with other organizations and government agencies, thereby sharing costs and more effectively delivering interpretive products and services to the public. Automating interpretive and educational resources and making them available on the Internet also furthers this goal.

3.5.3 Transportation Facilities

The BLM transportation system represents one of the most critical aspects in effectively managing public lands. It provides public access and the infrastructure that supports uses ranging from recreation to commercial activity on BLM-administered lands.

Current Conditions

Federal, State, and County Roads

A network of federal, state, and county roads provides access throughout the planning area. Numerous highways bisect the area, bringing traffic to the region from throughout the US.

Traffic volume on the road network is highly variable. The highest volume counts are found on major roadways in or near the largest communities. Federal and State highways carry the largest traffic volumes, followed by county roads.

BLM Roads

BLM roads provide public and administrative (agency and permittee) access to public lands, through public lands, and to in-holdings of private land within the planning area. Reasonable administrative access is made available to the public for valid uses, such as mining claims, mineral leases, ROWs, livestock grazing, and recreation. Most use of BLM roads would be described as casual.

Transportation planning is related to travel management. Travel management is the identification, through RMP planning, of areas where foot, pack stock, bicycle, and motorized vehicle travel is appropriate, restricted, or not allowed, depending on resource objectives and use considerations.

Road System Maintenance. The BLM maintains roads under standards set forth in BLM 9100 series manuals, as well as RMPs. Road maintenance provides for resource protection, accommodation of users, and protection of the public's investment. The BLM uses the road maintenance intensities described in **Table 3-60** (BLM Road Maintenance Intensity Levels).

Table 3-60
BLM Road Maintenance Intensity Levels

Maintenance Intensity Level	Maintenance Description, Objectives, and Funds
Level 0	Maintenance Description: Existing routes that will no longer be maintained and no longer be declared a route. Routes identified as Level 0 are identified for removal from the Transportation System entirely. Maintenance Objectives: • No planned annual maintenance • Meet identified environmental needs • No preventive maintenance or planned annual maintenance activities Maintenance Funds: No annual maintenance funds
Level 1	Maintenance Description: Routes where minimum (low intensity) maintenance is required to protect adjacent lands and resource values. These roads may be impassable for extended periods of time. Maintenance Objectives: • Low (Minimal) maintenance intensity • Emphasis is given to maintaining drainage and runoff patterns as needed to protect adjacent lands; Grading, brushing, or slide removal is not performed unless route bed drainage is being adversely affected, causing erosion • Meet identified resource management objectives • Perform maintenance as necessary to protect adjacent lands and resource • values • No preventive maintenance • Planned maintenance activities limited to environmental and resource protection • Route surface and other physical features are not maintained for regular traffic Maintenance Funds: Maintenance funds provided to address environmental and resource protection requirements. No maintenance funds provided to perform preventive maintenance.
Level 2	The BLM has reserved this level for possible future use; no current description or objective.
Level 3	Maintenance Description: Routes requiring moderate maintenance due to low volume use (e.g., seasonally or year-round for commercial, recreation, or administrative access). Maintenance Intensities may not provide year-round access but are intended to generally provide resources appropriate to keep the route in use for the majority of the year. Maintenance Objectives: • Medium (Moderate) maintenance intensity Drainage structures will be maintained as needed; Surface maintenance will be conducted to provide a reasonable level of riding comfort at prudent speeds for the route conditions and intended use; Brushing is conducted as needed to improve sight distance when appropriate for management uses; Landslides adversely affecting drainage receive high priority for removal, otherwise they will be removed on a scheduled basis

Table 3-60
BLM Road Maintenance Intensity Levels

Maintenance Intensity Level	Maintenance Description, Objectives, and Funds
	• Meet identified environmental needs • Generally maintained for year-round traffic • Perform annual maintenance necessary to protect adjacent lands and resource values • Perform preventive maintenance as required to generally keep the route in acceptable condition Planned maintenance activities should include environmental and resource protection efforts, annual route surface • Route surface and other physical features are maintained for regular traffic Maintenance Funds: Maintenance funds provided to preserve the route in the • current condition, perform planned preventive maintenance activities on a scheduled basis, and address environmental and resource protection requirements.
Level 4	The BLM has reserved this level for possible future use; no current description or objective.
Level 5	Maintenance Description: Routes for high (Maximum) maintenance due to year-round needs, high volume traffic, or significant use. Also may include routes identified through management objectives as requiring high intensities of maintenance or to be maintained open on a year-round basis. Maintenance Objectives: • High (Maximum) maintenance intensity • The entire route will be maintained at least annually; Problems will be repaired as discovered; These routes may be closed or have limited access due to weather conditions but are generally intended for year-round use.= • Meet identified environmental needs • Generally maintained for year-round traffic • Perform annual maintenance necessary to protect adjacent lands and resource values • Perform preventive maintenance as required to generally keep the route in acceptable condition • Planned maintenance activities should include environmental and resource protection efforts, annual route surface • Route surface and other physical features are maintained for regular traffic Maintenance Funds: Maintenance funds provided to preserve the route in the current condition, perform planned preventive maintenance activities on a scheduled basis, and address environmental and resource protection requirements.

Source: BLM 2006b

Road system maintenance has focused on maintaining major recreational access roads, which generally receive most of the traffic volume. The BLM engineering office annually maintains about 50 to 75 miles of road within the planning area, depending on road conditions and funding availability. Road maintenance generally consists of blading or grading, and is usually performed

in the summer or fall. Additional corrective maintenance or water drainage work, such as installation of culverts, drains, or other water management devices, is performed as needed. Snow is not removed.

The BLM has changed from "Maintenance Levels" to "Maintenance Intensity" and simplified the standards for consistency across all linear features. The old "Maintenance Levels" definitions addressed both the type of road (road geometry or construction material) and the level of use but did not provide a clear standard for the actual maintenance level. As a result, they were used inconsistently across the BLM as a means for describing everything from road construction type through appropriate maintenance standards. BLM route maintenance intensities provide guidance for appropriate "standards of care" (i.e., appropriate intensity, frequency, and type of maintenance activities that should be undertaken) for recognized routes. Recognized routes by definition include roads, primitive roads, and trails carried as Assets within the BLM Facility Asset Management System. It includes four primary "Maintenance Intensity" levels that allow for low, medium, and high maintenance intensities, irrespective of the type of routes (road, Primitive road, or trail) (BLM 2006b).

Maintenance intensities must be consistent with land use planning management objectives (e.g., natural, cultural, recreation and visual settings).

Functional Road Classification Types for BLM System Roads. In accordance with BLM Manual, Section 9113 (Roads), roads on BLM-administered lands are classified as collector, local, or temporary, based upon the amount of traffic movement.

Collector Roads – These BLM roads normally provide primary access to large blocks of land and connect with or are extensions of a public road system. They accommodate mixed traffic and serve many uses. They generally receive the highest volume of traffic of all roads in the BLM road system. User cost, safety, comfort, and travel time are primary road management considerations. Collector roads usually require application of the highest standards used by the BLM.

Local Roads – These BLM roads normally serve a smaller area than collectors serve and connect to collectors or public road systems. Local roads receive lower volume, carry fewer traffic types, and generally serve fewer users. User cost, comfort, and travel time are secondary to construction and maintenance cost considerations. Low volume local roads in mountainous terrain, where operating speed is reduced by terrain, may be single-lane roads with turnouts. Environmental impacts are reduced because steeper grades, sharper curves, and lower design speeds than would be permissible on collector roads are allowable.

Resource Roads – These BLM roads are spur roads that provide point access and connect to local or collector roads. They carry very low volume and accommodate only one or two types of use. Use restrictions are applied to prevent conflicts between users needing the road and users attracted to the road. The location and design of these roads are governed by environmental compatibility and minimizing bureau costs with minimal consideration for user cost, comfort, or travel time.

Energy Development-related Transportation Issues
Road capacity, maintenance, and safety issues from gas development and mining-related traffic are an issue in the western and northeastern part of the planning area, where mineral resources are being developed. A short-term increase in the volume of both heavy and light traffic occurs during the exploration and development phases.

Temporary conflicts, including a potential for delays, dust, road degradation and increased vehicle safety concerns, occur during the construction and development phases. County roads also are affected by heavy equipment use, fugitive dust, and traffic-related noise. All associated impacts are lower during operation because traffic levels drop.

Many existing unimproved roads have been repaired and improved to accommodate the increase traffic and heavy equipment. Many new roads have also been created to facilitate mineral development. These new roads across public lands are often only open to mineral development personnel.

Airports and Railroads
Six public airports are located within the planning area. Montrose Regional Airport, located in the city of Montrose, and Telluride Regional Airport west of Telluride offer commercial service, while Nucla Hopkins Field near the town of Nucla and Blake Field near Delta provide general aviation services. In addition, North Fork Valley Airport near Paonia and Westwinds Airpark (Hawkins Field) near Delta operate with limited general aviation services.

One major rail line serves the planning area. The Union Pacific Railroad enters the planning area from the north along the Gunnison River, runs through the town of Delta and on to the coal mines near Somerset in Gunnison County. In addition, the Union Pacific runs intermittently from Delta to Montrose.

Trends
Maintenance costs are rising, and each year the BLM maintains fewer miles of BLM Roads. With flat federal budgets and rising fuel and equipment costs for contractors, it is likely that this trend will continue in the future.

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