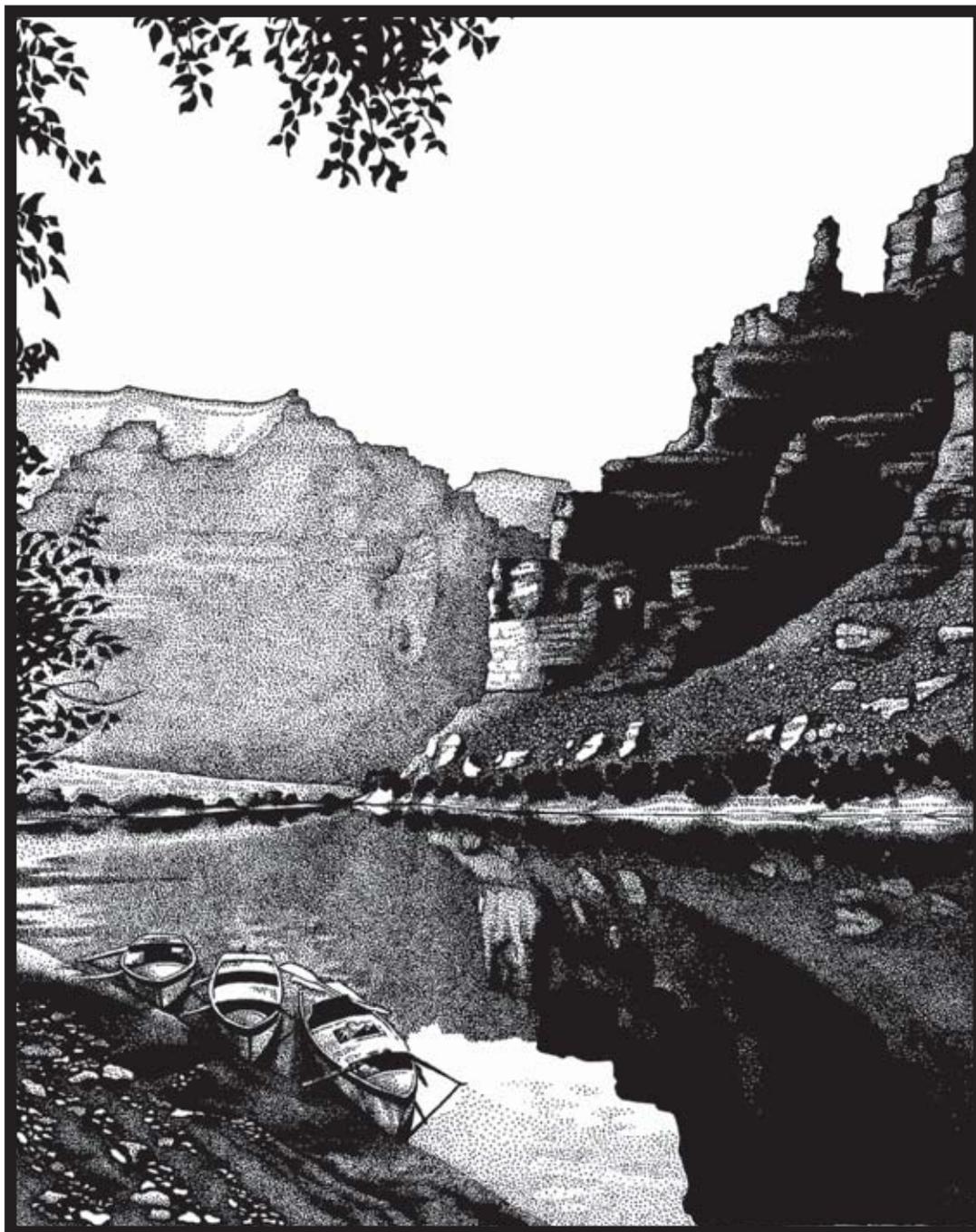


U.S. Department of the Interior
Bureau of Land Management



**SUPPLEMENT TO THE PRICE FIELD OFFICE DRAFT
RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL
IMPACT STATEMENT FOR
NON-WSA LANDS WITH WILDERNESS
CHARACTERISTICS**

September 2007

Price Field Office



The Bureau of Land Management

Our Vision: To enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources.

Our Mission: To sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

Our Values: To serve with honesty, integrity, accountability, respect, courage, and commitment to make a difference.

Our Priorities: To improve the health and productivity of the lands to support the BLM multiple use mission.

To cultivate community-based conservation, citizen-centered stewardship, and partnership through consultation, cooperation, and communication.

To respect, value, and support our employees, giving them resources and opportunities to succeed.

To pursue excellence in business practices, improve accountability to our stakeholders, and deliver better service to our customer.

BLM-UT-PL-07-005-1610

(supplement to BLM-UT-GI-04-002-1610)

UT-070-2002-11

On the Cover: The cover artwork is a pen and ink drawing of Lighthouse Rock in Desolation Canyon. The scene is inspired by a photograph taken by E.O. Beaman on August 11, 1871, during the second John Wesley Powell exploration of the Green River. The artist is Carrie Dean, BLM River Ranger.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155
<http://www.BLM.gov>



IN REPLY REFER TO:

1610
(UT-910)

Dear Reader;

Enclosed for your review and comment is the *Supplement to the Price Field Office Draft Resource Management Plan and Environmental Impact Statement (DRMP/DEIS) for Non-Wilderness Study Area (WSA) Lands with Wilderness Characteristics*. This document supplements the information contained in the Price Field Office DRMP/DEIS that was released for public review in July 2004. The DRMP/DEIS in conjunction with supplemental information on Areas of Critical Environmental Concern (ACECs) that was made available in June 2006 and this Supplement, constitute the complete Price Field Office DRMP/DEIS. These documents were prepared by the Bureau of Land Management (BLM) in consultation with cooperating agencies, and in accordance with the National Environmental Policy Act of 1969 (NEPA), Federal Land Policy and Management Act of 1976 (FLPMA), implementing regulations, the BLM's land use planning handbook, and other applicable law. Comments on the DRMP/DEIS received during the review period in 2004 have not been incorporated into this Supplement to the DRMP/DEIS. Those comments, and comments received on this Supplement, will be used in developing the Proposed RMP and Final EIS.

The Price Field Office DRMP/DEIS presented five alternatives for managing the public lands (BLM administered lands) and their resources, and analyzed the effects of each management approach on the human environment. None of these alternatives, however, addressed managing non-WSA lands with wilderness characteristics to protect the wilderness character. Consequently, this Supplement to the Price Field Office DRMP/DEIS identifies those non-WSA lands the BLM has found to possess wilderness characteristics and analyzes a sixth alternative, Alternative E, that emphasizes managing all of those lands to preserve and protect their wilderness characteristics.

For purposes of this planning process, wilderness characteristics include the appearance of naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and an area generally 5,000 acres or larger in size. The BLM obtained information on these non-WSA lands through its 1999 re-inventory as well as through the scoping and public comment phases of the land use planning process. The BLM carried forward into Alternative E only those lands that it independently confirmed as possessing wilderness characteristics. Your timely comments on the adequacy and accuracy of the information and analysis provided in the Supplement will assist the BLM in completing the planning process.

The DRMP/DEIS and this Supplement present alternatives for the management of public lands, resources, and resource uses. Although the DRMP/DEIS acknowledged one of alternatives as the BLM's Preferred Alternative (Alternative D), that alternative is subject to change as the Price Field Office receives comments and revises the DRMP/DEIS to create a Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS). The PRMP/FEIS will be formulated from public comments on the DRMP/DEIS as well as comments on this Supplement. In developing the PRMP/FEIS,

the decision maker may select an alternative in its entirety or various management decisions from more than one alternative analyzed in the DRMP/DEIS and in this Supplement to create the management strategy and plan that best meets the needs of the many resources and values in this area under the multiple use and sustained yield mandates. The FEIS will contain analysis of the PRMP to portray the impacts of the management strategy and plan selected by the decision maker.

You may want to refer to the Price Field Office DRMP/DEIS so that you have the full context for this Supplement. It is available electronically at <http://www.BLM.gov/rmp/ut/price/>. You may also request CD copy or hard copy of the DRMP/DEIS from the Price Field Office at the address below.

Comments on the Supplement will be accepted for 90 days after the Environmental Protection Agency publishes a Notice of Availability in the *Federal Register*. Written comments should be sent to:

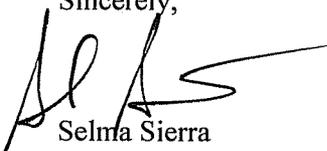
Bureau of Land Management
Price Field Office RMP Comments
Attention: Floyd Johnson
125 South 600 West
Price, UT 84501

Comments may also be submitted electronically at UT_Pr_Comments@BLM.gov.

It is the BLM's practice to make comments, including names and home addresses of respondents, available for public review. Before including your address, phone number, e-mail 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 may 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. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations and businesses, will be available for public inspection in their entirety.

Thank you for your continued interest in the Price Field Office Resource Management Plan. We appreciate the information and suggestions you have contributed to the planning process.

Sincerely,

A handwritten signature in black ink, appearing to read 'Selma Sierra', with a long horizontal flourish extending to the right.

Selma Sierra
State Director

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DES 07-42

**SUPPLEMENT TO THE PRICE FIELD OFFICE
DRAFT RESOURCE MANAGEMENT
PLAN/ENVIRONMENTAL IMPACT STATEMENT**

for

NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

Bureau of Land Management
Utah State Office
Salt Lake City, Utah

Prepared by the
Price Field Office
September 2007



Selma Sierra
State Director

BLM-UT-PL-07-005-1610
(supplement to BLM-UT-GI-04-002-1610)
UT-070-2002-11

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Supplement to the Price Field Office Draft Resource Management Plan/Environmental Impact Statement for Non-WSA Lands with Wilderness Characteristics

Draft Environmental Impact Statement [] Final Environmental Impact Statement

Department of the Interior, Bureau of Land Management

Type of Action: Administrative [] Legislative

Abstract:

This Supplement to the Price Field Office Draft Resource Management Plan/Environmental Impact Statement for Non-WSA Lands with Wilderness Characteristics describes and analyzes the impacts of a sixth alternative for managing the public lands administered by the Price Field Office in central eastern Utah. This sixth alternative provides management recommendations specifically related to the protection of non-WSA public lands with wilderness characteristics. The protection of non-WSA lands with wilderness characteristics is analyzed only in this alternative and not in any of the previously analyzed alternatives.

Comments:

Comments on this supplemental document are requested from all interested and/or affected agencies, organizations, and individuals. Comments must be received within 90 days of the *Federal Register* Notice of Availability. Comments being mailed must be postmarked by close of business on the 90th day.

For further information contact:

Mr. Floyd Johnson
Bureau of Land Management
Price Field Office
125 South 600 West
Price, Utah 84501
(435) 636-3600
FAX (435) 636-3657

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EXECUTIVE SUMMARY

A READER'S GUIDE TO THE EXECUTIVE SUMMARY

The Price Field Office (PFO) Draft RMP/Draft EIS (DRMP/DEIS) was released for public review and comment in July 2004 and was supplemented with additional information on areas of critical environmental concern (ACEC) in June 2006. The Executive Summary of the DRMP/DEIS summarizes planning issues and alternatives.

The DRMP/DEIS and additional ACEC information provide the full context for this Executive Summary. A planning issue related to non-WSA lands with wilderness characteristics and a summary of Alternative E are added. Bolded and italicized notes are instructions to the reader on how this supplement text is integrated into the DRMP/DEIS.

Note: Add between “fire and fuels management” and “forest and woodlands” page ES-3 the following text to reflect this planning issue

Non-WSA Lands with Wilderness Characteristics

Since wilderness study areas (WSAs) were established in the 1980s, designation of wilderness in Utah has become a prominent national issue. For more than 20 years, the public has debated which lands have wilderness characteristics and should be considered by Congress for wilderness designation. In 1996 the Secretary of the Interior directed the BLM to take another look at some of the lands in question. In response to the direction of the Secretary, the BLM inventoried these lands and approximately 2.6 million acres of public land statewide (outside of existing WSAs) were found to have wilderness characteristics (1999 Utah Wilderness Inventory). This DRMP/DEIS will address management of wilderness characteristics in these areas.

Note: Add after “Alternative D (Preferred Alternative) page ES-7 the following text to reflect a summary of Alternative E

Alternative E

Alternative E emphasizes protecting/maintaining the wilderness characteristics of all non-WSA lands found to have wilderness characteristics (see Section 2.2.11), including closing these areas to mineral leasing and off-highway vehicles, excluding rights-of-way, protecting undisturbed landscapes and opportunities for primitive and semi-primitive recreation opportunities. The alternative also includes designating all potential ACECs and determining that all eligible wild and scenic rivers (WSRs) are suitable for designation. The alternative is the same as Alternative C for the remaining 40% of the PFO, which allows for mineral and energy development and motorized recreation use.

CHAPTER 1—PURPOSE AND NEED

A READER’S GUIDE TO CHAPTER 1

The PFO DRMP/DEIS was released for public review and comment in July 2004 and was supplemented with additional information on ACECs in June 2006. Chapter 1 of the DRMP/DEIS, entitled “Purpose and Need” outlines the groundwork and background of the land use planning process. It includes the purpose and need for preparing a new land use plan for the PFO; a summary description of the resources and the study area; identification of the planning issues to be addressed in the new land use plan; an explanation of relationships to other programs, plans, and policies; a discussion on agency roles and relationships and collaborative management; and a description of plan monitoring, maintenance, amendment, revision, and implementation.

The DRMP/DEIS and additional ACEC information provide the full context for this Chapter 1 Supplement. Only Section 1.6.14 of Chapter 1 of the DRMP/DEIS is being modified by this Chapter 1 Supplement. In all other respects, Chapter 1 of the DRMP/DEIS remains the same. Only the modified Section 1.6.14 is being presented here. It replaces the language that is currently in the DRMP/DEIS and defines and updates the issue of non-WSA lands with wilderness characteristics for planning purposes.

1.6.14 Non-WSA Lands with Wilderness Characteristics

Note: Replace Section 1.6.14 of the DRMP/DEIS with the following text to reflect this planning issue.

Certain non-WSA lands in the area managed by the PFO are proposed by members of Congress and/or members of the public for wilderness designation. After updating its wilderness inventory, it is the BLM's position that some of these lands have wilderness characteristics as defined in Section 2(c) of the Wilderness Act of 1964, and others do not. Management to maintain such wilderness characteristics is being considered in this land use planning process for those lands that the BLM determined have wilderness characteristics. However, such management will not be considered for lands that the BLM determined lack wilderness characteristics.

FLMPA Sections 201 and 202 and the *Land Use Planning Handbook* (H-1601-1) guide the consideration of non-WSA lands with wilderness characteristics in land use planning. It provides that although the BLM may not establish new WSAs, the BLM may consider information on wilderness characteristics in land use planning efforts, and manage such lands in a way that would protect or preserve some or all of those characteristics. This may include protecting certain lands in their natural condition and providing outstanding opportunities for solitude and primitive and unconfined types of recreation.

In the development of this DRMP/DEIS, wilderness characteristics are considered in a manner commensurate with other resources. How non-WSA lands with wilderness characteristics are managed is of great interest in Utah. The RMP will prescribe how the wilderness characteristics of these lands will be managed in the PFO.

CHAPTER 2—ALTERNATIVES

A READER'S GUIDE TO CHAPTER 2

The PFO DRMP/DEIS was released for public review and comment in July 2004 and was supplemented with additional information on ACECs in June 2006. Chapter 2 of the DRMP/DEIS, entitled “Alternatives,” describes five alternatives for the management of resources and uses in the PFO. It explains how the alternatives were developed; portrays the resources, resource uses, special designations, and support needs that are at issue for this land use plan; and presents the alternatives’ goals and objectives for management as well as actions common to all alternatives. DRMP/DEIS Table 2-16 details proposed management actions for resources, resource uses, special designations, and support needs under each of the five alternatives. The five alternatives in the DRMP/DEIS are:

- **No Action Alternative** represents current management as outlined in the 1983 Price River Management Framework Plan (MFP) and the 1991 San Rafael RMP, as altered through amendments and policy changes since adoption of the Records of Decision for those plans.
- **Alternative A** maximizes access and the development of mineral and energy resources and gives preference for these uses over other uses and resource considerations.
- **Alternative B** balances uses within the PFO by emphasizing different resources and uses in different areas of the PFO.
- **Alternative C** emphasizes the protection of natural resources and deemphasizes mineral and energy development and motorized recreation use. It gives preference to the designation of ACECs and suitability findings for wild and scenic rivers. The PFO provided supplemental information to the DRMP/DEIS in June 2006 by adding four new potential ACECs to Alternative C and providing management prescriptions to protect the relevant and important values of those areas.
- **Alternative D** is the **Preferred Alternative** and provides for a wide variety of resource needs throughout the PFO by allowing for mineral development, recreational opportunities, and other uses in an environmentally appropriate manner.

The DRMP/DEIS and additional ACEC information provides the full context for this Chapter 2 Supplement. Only Sections 2.1, 2.2.11, 2.6, 2.16, and 2.17 of Chapter 2 of the DRMP/DEIS are modified by this Chapter 2 Supplement. In all other respects, Chapter 2 of the DRMP/DEIS remains the same. Only modifications to the DRMP/DEIS Chapter 2 are presented here. The changes or additions to the listed sections reflect the addition of a new alternative, Alternative E, to Chapter 2 of the DRMP/DEIS.

Alternative E is the same as Alternative C **except** it adds protective management prescriptions for 937,440 acres of lands in 27 areas that comprise non-WSA lands with wilderness characteristics. Alternative E applies to all public lands within the PFO. The proposed Alternative C decisions that apply to the lands outside of non-WSA lands with wilderness characteristics remain the same.

2.1 INTRODUCTION

NOTE: Replace Section 2.1 of the DRMP/DEIS with the following text to reflect the addition of a sixth alternative (E).

Chapter 2 describes six alternatives for the management of the PFO:

- No Action Alternative
- Alternative A
- Alternative B
- Alternative C
- Alternative D (Preferred Alternative)
- Alternative E

The No Action Alternative (continuation of the existing management direction) includes updates within the framework of the Price River MFP (1983) and the San Rafael RMP (1991) with amendments and policy changes that have been subsequently developed. The five action alternatives were developed to present a reasonable range of management options directing resource uses and activities within the PFO. These management decisions would minimize impacts to cultural and natural resources while providing for compatible resource use and development opportunities, as consistent with current law, regulation, and policy.

Alternatives are developed to consider a range of management options and evaluate the potential impacts to the resources in the PFO that might occur as a result of management decisions. The alternatives include potential management decisions that represent reasonable approaches to managing land and activities consistent with law, regulation, and policy. The BLM has the discretion to select an alternative in its entirety or to combine components of the various alternatives presented in this draft to develop the Final EIS/Proposed RMP. The National Environmental Policy Act (NEPA) requires the development and evaluation of several alternatives, including a No Action Alternative, to measure the potential impacts that a set of actions could have on the area. The BLM must consider the environmental impacts of the alternatives prior to making a decision.

2.2.11 Non-WSA Lands with Wilderness Characteristics

NOTE: Insert a new Section 2.2.11 in the DRMP/DEIS, which identifies the goal for management of non-WSA lands with wilderness characteristics.

Maintain wilderness characteristics (appearance of naturalness, outstanding opportunities for primitive and unconfined recreation or solitude) of non-WSA lands with wilderness characteristics as appropriate, considering manageability within existing authorities and the context of valid existing rights for use of competing resource demands. Manage these primitive and backcountry landscapes for their undeveloped character, and to provide opportunities for primitive recreational activities and experiences of solitude.

2.6 SUMMARY OF THE SIX ALTERNATIVES

NOTE: Replace Section 2.6 of the DRMP/DEIS with the following text to reflect the addition of a sixth alternative (E).

This section contains a summary description of the alternatives. The specific decisions for each resource or resource use by alternatives are detailed in Section 2.17. The purpose of the narrative in this section is to provide a context for the recommended actions for each alternative.

The alternative descriptions are organized by alternative, starting with the No Action Alternative and followed by Alternatives A through E, so that each alternative may be viewed in its entirety.

Management decisions are described in the sections on resources, resource uses, special designations, and support. Key management decisions for each alternative are described in Sections 2.11 through 2.16 (in DRMP/DEIS). This organization follows the order outlined in the *Land Use Planning Handbook* H-1601-1, Appendix C.

2.6.1 No Action Alternative

The No Action Alternative represents current management, as outlined in the 1983 Price River MFP and the 1991 San Rafael RMP, as altered through amendments and policy changes since adoption of the Records of Decision for those plans. This management includes a broad array of management methods of various resources, with different approaches applying in the former Price River and San Rafael areas.

2.6.2 Alternative A

Alternative A is designed to allow maximum access and development of mineral resources, including oil, gas, coalbed natural gas, and coal allowed by law, with mineral resource development given preference over other uses and resource considerations. This is generally characterized through designation of the PFO as open to leasing for oil and gas with standard terms and conditions, except in areas closed to leasing because of congressional or legislative actions.

2.6.3 Alternative B

Alternative B is designed to balance uses in the PFO. This balance is achieved by emphasizing different resources and uses in different areas of the PFO.

Such management includes application of areas open to leasing, subject to minor constraints (timing limitations, controlled surface use, lease notices), management of mineral development, and targeted recreation management within Special Recreation Management Areas (SRMA), to provide for quality recreation settings, experiences, and benefits, and designation of ACECs.

2.6.4 Alternative C

Alternative C is designed to provide maximum conservation and protection for natural resources from mineral and energy development and motorized recreation use allowed by law. Such management includes application of areas open to leasing, subject to minor constraints (timing limitations; controlled surface use; lease notices), no surface occupancy, and closed to leasing for oil and gas; management of recreation for more primitive and semi-primitive recreation activities within SRMA; designation of ACECs; and recommendation for suitability for inclusion in the National Wild and Scenic River System (NWSRS) for all eligible rivers. Key management decisions are discussed below.

2.6.5 Alternative D (Preferred Alternative)

Alternative D is designed to provide for a wide variety of resource needs throughout the PFO. It is similar to Alternative B in that it includes maximizing mineral development potential in areas with the greatest potential for mineral development, as well as targeting recreation management in areas with the highest potential for recreation development, to provide for quality recreation settings, experiences, and benefits in an environmentally appropriate manner.

2.6.6 Alternative E

Alternative E emphasizes protecting/maintaining the wilderness characteristics of all non-WSA lands found to have wilderness characteristics (see Section 2.2.11), including closing these areas to mineral leasing and off-highway vehicles, excluding rights-of-way, and protecting undisturbed landscapes and opportunities for primitive and semi-primitive recreation opportunities. The alternative also includes designating all potential ACECs and determining that all eligible WSRs are suitable for designation. The alternative is the same as Alternative C for the remaining 40% of the PFO which allows for mineral and energy development and motorized recreation use.

2.16 ALTERNATIVE E

NOTE: Insert a new Section 2.16 in the DRMP/DEIS, which includes key management decisions of the new Alternative E.

Key management decisions are discussed below.

- WSAs will continue to be managed according to the Interim Management Policy for Lands Under Wilderness Review (IMP) until Congress either designates them as part of the National Wilderness Preservation System or releases them from wilderness study.
- Non-WSA lands with wilderness characteristics (937,440 acres) would be managed to maintain the appearance of naturalness and outstanding opportunities for primitive and unconfined recreation or solitude by restricting uses that would impact these characteristics. These areas (Map 3-27) are: Cedar Mountain, Desolation Canyon, Devils Canyon, Hondu Country, Jack Canyon, Labyrinth Canyon, Limestone Cliffs, Mexican Mountain, Molen Reef, Muddy Creek-Crack Canyon, Mussentuchit Badlands, Never Sweat Wash, Price River, San Rafael Reef, Sids Mountain, Turtle Canyon, Upper Muddy Creek, Eagle Canyon, Flat Tops, Lost Spring Wash, Rock Canyon, San Rafael Knob, San Rafael River, South Horn Mountain, Sweetwater Reef, Wildcat Knolls Extension, and Wild Horse Mesa.
- All eligible river segments of the Green River, San Rafael River, Price River, Range Creek, Rock Creek, Barrier Creek, Bear Canyon, Buckskin Canyon Creek, Cane Wash, North Fork Coal Wash and South Fork Coal Wash, Cottonwood Wash, Fish Creek, Gordon Creek, Keg Spring Canyon, Muddy Creek, Nine Mile Creek, and North Salt Wash would be determined suitable for designation by Congress as part of the NWSRS with tentative classifications of recreational (129.5 miles), scenic (238.2 miles), and wild (272.9 miles). They would be managed to protect their outstandingly remarkable values, free-flowing nature, and tentative classification to the extent of the BLM's authority, which is limited to public lands within the river corridor.
- Alternative E includes continued management of the following areas as ACECs: Big Flat Tops (relic vegetation), Copper Globe (historic mining and cultural resources), Dry Lake

Archaeological District (cultural resources), Highway I-70 Scenic (scenic), Muddy Creek (cultural resources, historic, and scenic), Rock Art (cultural resources), San Rafael Canyon (scenic and cultural resources) San Rafael Reef (scenic and vegetation), Segers Hole (scenic), and Sid's Mountain (scenic). Such management provides protection of noted relevant and important values.

- Additional ACECs are proposed for designation to protect relevant and important values. These include Cleveland-Lloyd Dinosaur Quarry (paleontologic resources), Heritage Sites (Wilsonville, Sheperds End, Smith Cabin, Hunt Cabin, Copper Globe, Temple Mountain, and Swasey's Cabin) (historic), Lower Green River (ecologic, vegetation, cultural resources), Beckwith Plateau (geologic and natural processes), Temple-Cottonwood Dugout (cultural resources), Gordon Creek (cultural resources), Range Creek (cultural resources and natural processes), Nine Mile Canyon (cultural resources), and Uranium Mining Districts (Tidwell Draw, Hidden Splendor, Little Susan Mine, and Lucky Strike Mine areas) (historic), Desolation Canyon (scenic, cultural, and ecological), White-tailed Prairie Dog (wildlife), Mussentuchit Badlands (cultural resources), and Lower Muddy Creek (scenic and vegetation).
- Recreation management would emphasize protection of outstanding Primitive and Semi-Primitive Non-Motorized (SPNM) recreation opportunities in non-WSA lands with wilderness characteristics. SRMAs would be designated for Desolation Canyon, San Rafael Swell, Cleveland-Lloyd Dinosaur Quarry, Nine Mile Canyon, and Labyrinth Canyon, to give emphasis and management attention to a variety of existing uses and recreation opportunities. Approximately 1,520,000 acres would be closed to OHV use and 970,000 acres would be limited to designated routes. There would be no areas managed as "open" OHV under this alternative.
- Management of visual resources would emphasize protection of natural landscapes in WSAs and non-WSA lands with wilderness characteristics (1,520,000 acres, Visual Resource Management [VRM] Class I objectives).
- New oil and gas leases would not be offered for sale on WSAs and non-WSA lands with wilderness characteristics (1,490,000 acres). Outside these areas, leasing would be permitted subject to minor constraints (timing limitations or controlled surface use—870,000 acres) and major constraints (no surface occupancy—130,000 acres).

2.17 ALTERNATIVE E SUMMARY RESOURCES

NOTE: Supplement Section 2.16 of the DRMP/DEIS with Section 2.17 below to reflect the addition of Alternative E. The Air Quality, Special Status Species, Transportation and Motorized Access, and Hazardous Materials and Waste Sections have no specific management direction other than the actions portrayed in the Actions Common to All Alternative Sections of the DRMP/DEIS, and therefore are not included below. Alternative E management actions are not presented in a table format as in the DRMP/DEIS but are presented here in narrative form. If the prescriptions for non-WSA lands with wilderness characteristics are more restrictive, they take precedence over any other identified management decisions.

Soil, Water, and Riparian Resources

NOTE: There are no changes to Actions Common to All Alternatives.

Groundwater

Protection of Water Quality in Natural Springs

- Buffer zones of no surface disturbance and/or occupancy would be maintained around natural springs to protect the water quality of the spring. The distance would be based on geophysical, riparian, and other factors necessary to protect the water quality of the springs. If these factors cannot be determined, a 660-foot buffer zone would be maintained.
- The BLM would discourage development of spring sources.

Maintenance of Water Table in Wetland and Riparian Areas

- The water table in wetlands and riparian areas would be maintained or restored.
- The BLM would work collaboratively with partners in an attempt to establish minimum water requirements and restore water recharge areas for wetlands and riparian areas. If additional water is required for restoration efforts, appropriate water rights would need to be obtained in accordance with Utah law.

Establishment of Buffer Zones of No Surface Disturbance Around Riparian-Wetlands Habitats

- Buffer zones of no new surface disturbance (excluding fence lines) would be required in areas equal to the 100-year floodplain or 100 m (330 feet) on either side from the centerline, whichever is greater, along riparian zones of perennial streams, intermittent streams, and streams with perennial reaches, and riparian areas. Recreational facilities designed not to impede the function of the floodplain would be permitted.

Vegetation

NOTE: There are no changes to Actions Common to All Alternatives.

Vegetation Treatments

- Vegetation treatment would be by natural processes only, such as wildland fire, disease, and insects. Weeds would be treated as described in management actions common to all alternatives.

Priority Vegetation Communities

- Existing pinyon-juniper (PJ) woodland treatments would no longer be maintained. Natural or secondary succession of vegetation communities would be fostered.
- The sagebrush steppe would be managed for natural or secondary succession and processes.
- Land uses within wetland vegetation types would be managed to promote restoration, expansion, and protection of this high-value vegetation type. Management would achieve diverse species composition of facultative wetland or of riparian obligate species including forbs, grass, and grass-like species and shrubs. Where livestock uses these habitats, use would be avoided during the spring period and managed to ensure adequate herbaceous cover at the end of the grazing season. Tamarisk and other highly water consumptive, non-native species would be controlled to mitigate water depletions.
- Land uses within aspen vegetation types would be managed to promote regeneration, diverse age class distribution, and preservation or restoration of diverse understory, including forbs, grass, and shrub species.

Collection of Vegetation Products (Seeds/Live Plants)

- No commercial vegetation products collection would be allowed in the PFO.

Insect Pest Control

- Insect pest control measures would not be implemented.

Offsite Mitigation for Habitat Loss

- The BLM recognizes the merit of offsite mitigation strategies for the purposes of habitat enhancement. The BLM would encourage willing partners to participate in offsite mitigation strategies.

Cultural Resources

NOTE: There are no changes to Actions Common to All Alternatives.

Cultural Resources Management Categories

- Cultural resources would be allocated to the use categories identified and described in BLM Manual 8110.4:
 - Scientific Use
 - Public Use
 - Conservation for Future Use
 - Traditional Use
 - Experimental Use
 - Discharged from Management.
- Allocations to the use categories would be made during implementation and activity-level planning.
- Cultural resource use allocations would be reevaluated and revised, as needed, when circumstances change or when new data become available.

New Field Inventories

- Areas for new field inventories would be prioritized as follows:
- Areas of special cultural designation (ACECs, RNAs, NHLs, National Register sites, etc.) that have not been fully inventoried.
- Resources eligible for the National Register of Historic Places at a national level of significance that have not been fully inventoried.
- Cultural resources sites identified for public use.
- 5-mile vulnerability zones surrounding cities and towns.
- 400-feet from the centerline on designated OHV trails.

Cultural Resource Inventories for Federal Undertakings that Could Affect Cultural Resources or Historic Properties

- Cultural resources inventories would be required for areas of direct impact, plus a 300-foot area of potential effect extending beyond the impact area.

Management of Traditional Cultural Properties

- The BLM would coordinate with tribes to identify traditional cultural properties.
- The BLM would seek agreements with the tribes to identify the types of projects or areas where they desire consultation.

Old Spanish National Historic Trail (Public Law 107-325)

- Coordinate with the national administrators of the Old Spanish National Historic Trail (BLM and National Park Service [NPS]) and other managing agencies in management of the Old Spanish Trail (refer to the Recreation section for management of recreation activity on National Trails).

Linear Cultural Resource Management

- The following standard operating procedures would apply for management of linear cultural resources:
 - Record the site at the point of proposed impact by a project.
 - Unless specific features are identified at that portion of the resource, no mitigation is required.
 - The proponent proposing the first site-disturbing activity would be responsible for completing the documentation for the entire linear cultural resource.

Paleontology

NOTE: There are no changes to Actions Common to All Alternatives.

Scientific Study

- Paleontological Resource Use permits would be issued for scientific study as appropriate.

Protecting Paleontological Resources from Surface Disturbing Impacts

- An assessment of fossil resources would be required on a case-by-case basis, mitigating impacts as necessary before and/or during surface disturbance.
- Assessment and mitigation in all areas where significant fossils are known or expected to occur would be required.

Collection of Paleontological Resources

- Areas for hobby collection would be identified. Areas with rare and significant invertebrate and plant fossils would be identified and closed to hobby collection. No areas would be identified for hobby collection within the non-WSA lands with wilderness characteristics.

Visual Resources

NOTE: There are no changes to Actions Common to All Alternatives.

- Manage WSAs and non-WSA lands with wilderness characteristics for VRM Class I objectives.
- Manage all WSR segments recommended suitable (as wild, scenic, or recreational) as VRM Class I, where the river segment lies within a WSA, the Desolation Canyon NHL, or non-WSA lands with wilderness characteristics.
- Manage the following acreages, as indicated on Map 2-57, for the objectives defined for each VRM class:
 - Class I: 1,520,000 acres
 - Class II: 150,000 acres
 - Class III: 450,000 acres
 - Class IV: 370,000 acres

Fish and Wildlife

NOTE: There are no changes to Actions Common to All Alternatives.

Predator Control

- Follow Memorandum of Understanding (MOU) with Animal Plant Health Inspection Service (APHIS).

Identify Actions and Areawide Use Restrictions to Achieve Desired Fish and Wildlife Population and Habitat Conditions

- Prescriptive grazing, including but not limited to livestock use only on a non-renewable basis, would be used to favor browse production on big game ranges.

Grazing Management in Pronghorn Ranges

- Spring grazing (May 15–June 15) would be eliminated in allotments within pronghorn habitat to encourage forb production.

Sheep Grazing In/Near Bighorn Sheep Habitats

- Change in class of livestock from cattle to domestic sheep would be prohibited within 9 miles of currently identified bighorn sheep (Desert and Rocky Mountain) habitat to provide an adequate buffer zone.

Gray Canyon Wildland Management Area

- The Range Creek and Price River South allotments would be added to the Gray Canyon Wildland Management Area (WMA) for management for wildlife, watershed, and non-motorized recreation.
- The Gray Canyon WMA would be managed as closed to OHV use.
- The WMA would be closed to oil and gas leasing.

Forage Allocation

- Forage allocations would continue based on existing permitted use.
- If Utah Division of Wildlife Resources (UDWR) acquires additional habitat or forage or if studies indicate that additional forage is available naturally, the BLM would consider providing forage to support increased population objectives for wildlife.

Wildlife Habitat Areas Would Be Protected from Surface Disturbing Activities

- Dates of seasonal closures for surface disturbing activities within all crucial and high-value habitats would be revised and implemented to provide consistency across the entire planning area (Appendix 8 in DRMP/DEIS).

Management of Migratory Bird Habitats

- Efforts to comply with Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds,” would be integrated into programs for wildlife management and other resource uses, including but not limited to, the management programs for:
 - Riparian-wetland habitat
 - Standards for Rangeland Health and Guidelines
 - Raptor protection
 - Fire
 - Aspen recovery
 - Special status species
 - Offsite mitigation
 - Habitat enhancement.

- The BLM would continue to conserve habitat for all migratory birds and emphasize management of migratory birds listed on the U.S. Fish and Wildlife Service (USFWS) current list of *Birds of Conservation Concern* (BCC) and the Partners-in-Flight (PIF) priority species. As specific habitat needs and population distribution to BCC and PIF priority species are identified, the BLM would use adaptive management strategies to further conserve and avoid impacts to these species in conformance with the decisions for other resource values under this alternative.
- Land uses within these priority habitats would be managed to promote regeneration, diverse age class distribution, and preservation or restoration of diverse understory, including forbs, grass and shrub species.

Introduction, Transplantation, Augmentation, and Reestablishment of Wildlife Species

- The BLM would continue to cooperate with and provide support to UDWR in reintroducing wildlife species into historic or suitable ranges, as determined appropriate through NEPA analysis.
- Reintroductions or introductions of only native and naturalized species would be considered with a management priority on restoration of native populations within suitable habitat.
- Augmentation of select established native and nonnative species populations would be allowed.

Raptor Habitat Management

- Use best management practices (Appendix 7 in DRMP/DEIS) to implement raptor guidelines established by the USFWS.

Prairie Dog Habitat

- Manage land uses within occupied and historic prairie dog colonies to preserve or enhance the habitat values of these limited but crucial value habitats.

Reintroduction or Introduction and Augmentation of Fish Species into Suitable Fisheries Habitat

- The BLM would continue to cooperate with and provide support to UDWR in reintroducing fish species into historic habitats, as determined appropriate through NEPA analysis.
- Reintroductions or introductions of only native species would be considered.

Habitat Manipulation for Fish Population Maintenance, Recovery, and Enhancement

- The BLM would coordinate with UDWR to complete habitat improvement efforts and establish fisheries through reintroductions with native fish species. Projects to improve fish habitat would be allowed only when compatible with preservation of natural appearance.

Wild Horses and Burros

NOTE: There are no changes to Actions Common to All Alternatives.

Adjusting Herd Management Areas (HMA) Boundaries

- HMA boundaries would be adjusted on the Range Creek, Muddy Creek, and Sinbad HMAs to match the natural and manmade barriers that existed at the time of the passage of the Wild Horse and Burro Act in 1971 that separate or restrict wild horse and burro movement. (Map 2-58).

Combining/Splitting HMAs (Management of Wild Horses and Burro Herds)

- Wild horses and burros would be managed in three HMAs: Range Creek (horses), Muddy Creek (horses), and Sinbad (burros).

- The current portion of the Sinbad HMA that supports horses would be combined with the Muddy Creek HMA. The area of the Sinbad HMA that supports burros would remain the Sinbad HMA.
- The AML in the Robbers Roost HMA would be set at zero. The area would lose its status as an HMA but would maintain Herd Area status, for future management consideration, should conditions change.

Appropriate Management Levels

- The appropriate management levels (AML) would be periodically evaluated and subject to adjustment in HMA Plans and Environmental Assessments for gathers based on monitoring data and best science methods.
 - Range Creek HMA 75–125 (horses)
 - Muddy Creek HMA 60–100 (horses)
 - Sinbad HMA 50–70 (burros)
 - Robbers Roost HMA 0 (horses)

Forage Allocation

- 2,700 animal unit months (AUM) would be allocated for wild horses, and 420 AUMs would be allocated for wild burros
- When monitoring data and best science identify additional available forage in HMAs, that forage would be allocated first to wild horses to achieve an AML that is genetically viable, then to other resource uses.

Fire and Fuels Management

NOTE: There are no changes to Actions Common to All Alternatives.

Desired Condition Class

- Vegetation Condition Class (CC) in non-wildland urban interface (WUI) areas would be moved toward CC 1.

Suppression

- Wildfire would be managed to protect life, firefighter safety, property, and high-risk resource values within the framework of applicable laws, regulations, and agency policies.
- An appropriate management response (AMR) would be provided to all wildland fires, emphasizing firefighter and public safety, considering suppression costs, benefits, and values to be protected, consistent with resource objectives, standards, and guidelines.
- In non-WSA lands with wilderness characteristics and WSAs suppression would be accomplished through use of minimum tools needed to accomplish the task.
- In multiple fire situations, fires would be suppressed using the following prioritization criteria:
 - Threats to life and property
 - Potential to impact high-value resources, such as—
 - Critical habitat (threatened and endangered [T&E] species)
 - Crucial wildlife habitat
 - Cultural resources
 - Riparian areas
 - Potential for social impacts
 - Threats to other agency lands (e.g. NPS, U.S. Forest Service [USFS], School Institutional Trust Lands Administration [SITLA])

Wildland Fire Use Areas

- Wildland fire use would not be allowed in the following areas:
 - Administrative sites
 - Developed recreation sites
 - Designated communication sites
 - Oil and gas facilities
 - Mining facilities
 - Above-ground utility corridors
 - High-use travel corridors
 - WUI
 - Areas in Vegetation Condition Class 3
 - All other areas would be suitable for wildland fire use for resource benefit.

Prevention and Mitigation

- Unauthorized wildland fire ignitions would be prevented through coordination with partners and affected groups and individuals. The full range of prevention and mitigation activities (e.g., personal contacts, mass media, signing, defensible space) would be used.
- Implementation of fire prevention activities would be prioritized using the following criteria:
 - WUI areas
 - Major travel corridors
 - Recreation sites
 - Public lands as a whole

Emergency Stabilization and Rehabilitation (ESR)

- ESR efforts would be undertaken to protect and sustain ecosystems, public health, and safety and to help communities protect infrastructure.
- Definitions of each ESR program and possible actions to guide each program are shown in Appendix 9 (in DRMP/DEIS).
- Implementation of post-fire rehabilitation activities would be prioritized using the following criteria:
 - Areas that without treatment could pose a threat to life and property
 - Areas with potential for invasive species invasion, significant ecosystem alternation (CC 3 areas), soil stabilization, and so on.

Prioritization for Fuels Management Actions

- Implementation of fuels management action would be prioritized using the following criteria:
 - WUI areas
 - Areas with fuel loading that could potentially result in catastrophic wildfires
 - Resource improvement.

Non-WSA Lands with Wilderness Characteristics

NOTE: There are no non-WSA Actions Common to All Alternatives.

Management of Non-WSA Lands with Wilderness Characteristics:

- All non-WSA lands with wilderness characteristics areas (Map 3-27) would be managed with the following prescriptions:
 - VRM class I (Map 2-57)
 - Designated as closed to OHV use (Map 2-60)

- Closed to oil and gas leasing (Map 2-63) and all activities related to geophysical operations
- The lands will be eliminated from further consideration for coal leasing (Map 2-70)
- Closed to disposal of mineral materials (Map 2-65)
- Retain public lands in federal ownership
- Exclusion area for ROWs
- Closed to commercial and personal-use wood cutting and seed collection (Map 2-59)
- Closed to new road construction
- Permit maintenance of existing facilities and boundary and cherrystem roads.

Forestry and Woodlands

NOTE: There are no changes to Actions Common to All Alternatives.

Forest and Woodlands Management (FWMP)

- Under all action alternatives a FWMP would be developed.
- The direction and intent of the FWMP would be to manage forests and woodlands to maintain or restore ecosystems to a condition in which biodiversity and ecological succession are preserved; desired or natural plant communities are targeted; and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy forest or woodland, except in the non-WSA lands with wilderness characteristics where the protection of naturalness and opportunities for solitude and primitive recreation are the primary objectives. Forests and woodlands would be managed for the long term, including maintenance of healthy habitat for plant and animal species.
- Forest and woodland management would provide for the harvest of forest and woodland products (including timber) where feasible and compatible with restoring, maintaining, or improving ecosystem health as directed by the RMP, except in the WSAs and non-WSA lands with wilderness characteristics where the protection of naturalness and opportunities for solitude and primitive recreation are the primary objectives.
- The FWMP would be written and updated as inventory and stand data are collected.
- As appropriate, the FWMP would include specific guidance for the management of noncommercial and commercial woodlands products as well as for the commercial harvest of timber products outside of wilderness characteristics areas.
- The FWMP would include specific direction for the management of forests and woodlands under drought or other temporal or seasonal conditions.
- FWMP would include silvicultural practices, including site preparation, regeneration, stand protection, stand maintenance, pre-commercial thinning (density management) and release, commercial thinning (density management), fertilization, pruning, forest and woodland condition restoration treatments, and salvage.

Commercial Harvest and Personal Uses of Woodland and Timber Products

- Commercial harvest and personal use of timber and woodland products would be allowed while maintaining forest and woodland health except in:
 - WSAs
 - Non-WSA lands with wilderness characteristics
 - ACECs, where identified in the prescription
 - Areas identified as closed to harvest (Map 2-59)

Livestock Grazing

NOTE: There are no changes to Actions Common to All Alternatives.

Desolation Canyon/Green River Corridor (Sand Wash to Swasey's Rapid)

- The Green River, Rock Creek, and Price River South allotments within the Desolation Canyon SRMA would not be available for cattle and sheep grazing for the following reasons:
 - Vegetation enhancement
 - Soil stabilization and erosion reduction
 - Additional wildlife habitat protection and reduced competition for available food, space, cover, and water
 - Maintenance or enhancement of high-value recreational lands and existing recreational opportunities.

Labyrinth Canyon /Green River Corridor (Confluence of San Rafael River to Mineral Bottom)

- Livestock grazing would not be authorized in the San Rafael River, Saucer Basin, and Horseshoe North allotments within the Labyrinth Canyon SRMA for the following reasons:
 - Vegetation enhancement
 - Soil stabilization and erosion reduction
 - Additional wildlife habitat protection and reduced competition for available food, space, cover, and water
 - Maintenance or enhancement of high-value recreational lands and existing recreational opportunities.

Chimney Canyon/Hidden Splendor/Muddy (Hondo, Red Canyon, and McKay Flat Allotments)

- Livestock grazing would not be authorized in Hondo, Red Canyon, and McKay Flat allotments for the following reasons:
 - Vegetation enhancement
 - Soil stabilization and erosion reduction
 - Additional wildlife habitat protection and reduced competition for available food, space, cover, and water
 - Maintenance or enhancement of high-value recreational lands and existing recreational opportunities
 - Critical riparian area protection.

Price Canyon Recreation Site

- Livestock grazing would not be authorized in this area (portion of the Price River West allotment) for the following reasons:
 - Recreation
 - Fencing of the recreation area would be required to keep livestock out.

Green River Allotment

- If a permittee relinquishes AUMs in this allotment, the BLM would evaluate whether continued livestock grazing is in the best interest of achieving management goals.

Reallocate AUMs Between Wildlife, Wild Horses and Burros, and Livestock or Other Resources

- Increases or decreases in available forage would be adjusted to benefit wildlife and other resource uses.

Forage Allocation Within Lands Acquired After Adoption of the PFO RMP

- Lands acquired after adoption of this plan would be managed for the purpose for which they were acquired or consistent with the historic use.

Administrative Access—Maintaining Motorized Vehicle Access for Range Improvement Construction and Maintenance

- Required motorized access for existing and future range projects would be limited to specified routes as identified in the range improvement permitting process.
- Identification of administrative access routes to range improvements would be documented in each specific range improvement file.

Reallocation of AUMs From Permits That Have Been Relinquished

- Bunderson—the 27 AUMs would be allocated for watershed benefit
- Case—the 11 AUMs would be allocated for watershed benefit
- Ferron Mills—the 30 AUMs would be reallocated to wildlife as recommended in the decision to remove grazing from the allotment
- Peterson—the 8 AUMs would be allocated for watershed benefit
- Rim Rock—the 45 AUMs would be allocated for watershed benefit
- Wattis—the 50 AUMs would be reallocated to wildlife as recommended in the decision to remove grazing from the allotment

Proposed Changes in Allotments

- Combine North Herring Flat and South Herring Flat allotments. AUMs would remain the same (combined allotment numbers) unless monitoring indicates a need to change AUM levels.
- Combine Deepwash and Mervin allotments. AUMs would remain the same (combined allotment numbers) unless monitoring indicates a need to change AUM levels.
- Peterson and Washboard allotments would be combined. AUMs would remain the same (combined allotment numbers) unless monitoring indicates a need to change AUM levels.
- Northwest Ferron and Clawson Dairy allotments would be combined. AUMs would remain the same (combined allotment numbers) unless monitoring indicates a need to change AUM levels.

Recreation

NOTE: There are no changes to Actions Common to All Alternatives.

Recreation Opportunity Spectrum (ROS)

- Within SRMAs, manage for recreation activities, settings, and experiences, as identified in the Special Recreation Management Area (Recreation Opportunity Spectrum) Map 2-61 (see Appendix 15 [in DRMP/DEIS] for the ROS prescription). In non-WSA lands with wilderness characteristics, emphasize managing for Primitive and SPNM recreational objectives. Recreation facilities would be developed only in response to resource management needs and would be appropriate to the managerial setting identified for each ROS class. Other resource uses would be subject to limitations based on the class designations and associated opportunity types.

Desolation Canyon SRMA

- The SRMA boundary would incorporate the existing SRMA, Desolation Canyon WSA, and contiguous non-WSA lands with wilderness character. This SRMA would be managed with emphasis on Primitive and SPNM recreation objectives as shown in Map 2-61.
- Minimal visitor facilities would be provided for visitor health and safety and resource protection in the Sand Wash area and the Green River daily section.
- No motorized boating use would be permitted.
- The Primitive and SPNM areas in the SRMA would be closed to OHV use.

- The Semi-Primitive, Motorized (SPM) portion of the SRMA would allow motorized use only on BLM and county system roads. The Range Creek Jeep trail would be closed to motorized use at the confluence of Turtle Canyon.
- Any additional routes constructed on existing oil and gas leases would be gated and closed to recreational use.
- Under this alternative, recreation management of the Lower Gray Canyon high-use area, as shown on Map 2-24 (in DRMP/DEIS), focuses on managing resources that emphasize natural processes to achieve self-sustaining systems.
- Prepare a recreation activity plan for the Lower Gray Canyon high-use area to maintain the existing development, establish a carrying capacity, limit camping to designated sites, and establish a fee-based reservation system for any use of the zone during peak use periods (such as summer and high-flow weekends and holidays).

Cleveland-Lloyd Dinosaur Quarry (CLDQ) SRMA

- The SRMA boundary would include approximately 2,800 acres as shown on Map 2-61.
- The following management applies to the areas outside of the CLDQ ACEC:
 - The collection of natural products would be allowed by permit only.
 - Recreation facilities would be developed for visitor safety, convenience, and comfort and to enhance the enjoyment of paleontological resources and understanding of the scientific processes.
 - Fires would be allowed only in BLM-provided fire pits or with the use of fire pans with wood or charcoal brought in from offsite and all combusted materials would be carried out/removed by the user.
 - CLDQ would be day-use only and closed to dispersed camping.
 - CLDQ would be closed to disposal of mineral materials.
 - The SRMA is closed to recreational OHV use. Motorized use may be authorized for scientific or research purposes.

Labyrinth Canyon SRMA

- The SRMA boundary would match the WSR corridor from Green River State Park to the Emery County line and would extend from the river centerline to the Antelope Valley Road, as shown on Map 2-61.
- An activity plan for the Labyrinth SRMA would be developed to address prescriptions for:
 - Special recreation permits (SRPs)
 - Camping regulations
 - Travel planning including road and trail designations for all uses (motorized vehicles, foot, horse, and mountain bike). Motorized use would be consistent with the San Rafael Motorized Route Designation Plan, except non-WSA lands with wilderness characteristics would be closed to OHVs.
 - Carrying capacity
- SRPs would be required for commercial tours, shuttle and livery services, organized groups including the Friendship Cruise, and competitive events.
- No facilities would be constructed in Primitive class areas; minimal facilities would be used in SPNM and SPM class areas and would be used only to protect critical resources.
- Management facilities would be maintained at the Mineral Bottom takeout.

San Rafael Swell SRMA

- The boundaries of the SRMA are shown on Map 2-61.
- Outside of designated large group areas, SRPs would not be available for groups larger than the numbers identified (in the SRP section) for the ROS class in the area of use.

- For organized groups occupying an area for more than 2 hours, maximum group size without a permit would be:
 - Primitive—10 people
 - SPNM—15 people
 - SPM—15 people
 - Roaded Natural (RN) and others—20, except in designated large group sites
- Groups larger than these limits would be required to get an SRP.
- Group size limits may be adjusted through plan maintenance or activity-level planning.
- Large group areas would be designated in the San Rafael Swell, developed, and made available through reservation. Large groups using these sites would receive a Recreation Use Permit through their reservation.
- Large group areas would include (Map 2-62):
 - Temple Mountain
 - Hidden Splendor
 - Buckmaster Draw (near I-70/SR-24)
 - South Salt Wash (I-70 Exit 105e)
 - Juniper (near exit 129)
 - Staker Spring area
 - Others as necessary to protect resources
- Motorized use would be consistent with the San Rafael Motorized Route Designation Plan, except non-WSA lands with wilderness characteristics would be closed to OHVs.
- SPM areas would be managed as SPNM in non-WSA lands with wilderness characteristics.
- A San Rafael SRMA activity plan would be completed within 5 years. The San Rafael SRMA activity plan would include special rules for:
 - Fires would be allowed only in fire pans with wood or charcoal brought in from offsite and all combusted materials would be carried out/removed by the user.
 - Vehicle camping—Vehicle camping would be limited to developed or designated sites only; toilets would be required at designated sites.
 - Backcountry camping would be allowed by permit only and would be required to pack out all trash and human waste.
 - Pack stock use would be by permit only (subject to standard recreation guidelines for stock use).
 - Buckhorn Draw would be day use only, except where authorized by a SRP.
- There would be no high-use areas for recreation management in the San Rafael Swell SRMA.

Nine Mile Canyon SRMA

- The Nine Mile Canyon SRMA would be managed according to the 1995 Recreation and Cultural Area Management Plan except as modified by the management alternatives listed below. Such changes include VRM classification.
- The Nine Mile Canyon SRMA would be created as indicated in Map 2-61.
- The purpose of the Nine Mile Canyon SRMA would be to protect, preserve, and enhance the prehistoric and historic cultural resources, natural character, solitude, inspirational value, and scenic quality of the area, while optimizing recreation and interpretive opportunities, including the provision of a safe recreating environment.
- Oil and gas leasing would be open to leasing with major constraints (no surface occupancy) in the SRMA, except in non-WSA lands with wilderness characteristics, which are closed to leasing (Map 2-63)
- Development would be required to meet VRM restrictions. (Map 2-57)
- SPNM class areas and non-WSA lands with wilderness characteristics areas would be closed to OHVs (Map 2-60).

- No facilities would be located in the SPNM areas.
- RN class areas would contain visitor facilities, directional signage, interpretive materials, and infrastructure to support visitor health and safety, visitor appreciation of cultural resources, and resource protection.
- Private enterprise on private lands in support of public visitation within RN class areas would be encouraged by the BLM.
- The Nine Mile Canyon area would be closed to camping on public lands.

Price Field Office Extensive Recreation Management Area (ERMA)

- Signs, trails, and facilities would be used sparingly and only to prevent resource damage or for visitor health or safety.
- Summerville/Chimney Rock Trail System would not be designated.
- Designated sites appropriate for large group events and camping would be designated.
- Large group areas included (Map 2-62):
 - Mounds Bridge
 - Price Recreation Area
 - Consumers
 - Saleratus
 - Hornsilver Gulch Road near Crown Point
 - Others as necessary to protect resources.

Developed Recreation Sites

- Developed recreation sites listed below would continue to be managed and maintained. Sites administered by the PFO are Daddy Canyon, Price Canyon Recreation Site, CLDQ, Cedar Mountain, Buckhorn Pictograph Panel, San Rafael Bridge Campground, Swasey Cabin, Little Wild Horse Canyon, Wedge Overlook, and Temple Mountain Recreation Site. Sites located in the Vernal and Moab Field Offices and maintained by the PFO are Nefertiti Rapid, Butler Rapid, Stone Cabin, Swasey Beach, Swasey Boat Ramp, Mineral Bottom Boat Ramp, and Sand Wash.
- Existing developed recreation sites would be maintained. New sites would be developed in response to user demand, amenity value, and critical resource protection needs, except in WSAs and non-WSA lands with wilderness characteristics areas. New sites within SRMAs must comply with the ROS classification.

Special Recreation Permitting

- SRPs would be issued according to established evaluation factors described in Appendix 14 (in DMRP/DEIS). The factors identified would primarily examine the sensitivity of the proposed site and the nature of the proposed use.
- The evaluation would indicate relative time required for permit application review, the likelihood of cost recovery being imposed, and the likelihood of permit appropriateness and approval in a given area.
- Cost recovery is required on all SRPs involving more than 50 hours of BLM staff time for permit review, approval, and monitoring.
- Commercial use permits would be authorized in conjunction with organized events or when the use supports resource protection and management.
- Competitive events would not be permitted on public lands in Desolation Canyon, Nine Mile Canyon, or CLDQ, SRMAs, WSAs, or non-WSA lands with wilderness characteristics.
- Motorized competitive events would be permitted only in the Price ERMA.

Off-Highway Vehicle (OHV) Recreation

- OHV recreation would be managed according to the open (0 acres), closed (1,520,000 acres), and limited to designated route (970,000 acres) categories shown on Maps 2-60 and 2-69.
- The San Rafael Route Designation Plan, approved in 2003, would be modified to close the non-WSA lands with wilderness characteristics to OHV use.

OHV Use and Route Designations

- All recreational OHV use would be subject to OHV route designations (Map 2-69).
- Non-motorized mechanical transportation methods (e.g., mountain bikes) would be restricted to OHV designated routes.

National Scenic Byways and National Scenic Backways

- The BLM would not issue SRPs for vending on scenic byways and backways.
- The BLM would work with local communities and other groups to foster heritage tourism throughout the PFO.
- Management of the Nine Mile Canyon National Backcountry Byway would serve to protect and preserve the historic and prehistoric landscape values for which the byway was established.
- The Dinosaur Diamond National Scenic Byway was established for its intrinsic natural values.
- The BLM would promote public appreciation of and education about the paleontological resources found along the Dinosaur Diamond Byway.
- The BLM would use the byway to provide an array of heritage recreation opportunities related to paleontological, cultural, and historic values at sites located along the byway including:
 - The CLDQ
 - Nine Mile Canyon
 - Buckhorn Panel
 - Rochester Panel.
- The BLM would implement the interpretive plan in cooperation with the Dinosaur Diamond Cooperative Partnership.
- Install increased directional signage for visitor convenience and safety.
- Adhere to appropriate recreation management implemented by the Scenic Byway Committee to the extent possible according to the goals and objectives outlined in the RMP for the other byways and backways.

National Trails System

- Segments of the Old Spanish National Historic Trail would be identified and classified for historic integrity and condition. These segments would then be designated for appropriate types of travel.
- SRPs on the Old Spanish National Historic Trail would be authorized only for heritage tours and reenactments.

Lands and Realty

NOTE: There are no changes to Actions Common to All Alternatives.

Management of Acquired Lands

- If specific management prescriptions are not outlined in the acquisition, manage acquisitions in a manner similar to the most restrictively managed adjacent parcel. However, acquired parcels within WSAs and non-WSA lands with wilderness characteristics would be managed to maintain naturalness and opportunities for solitude and primitive and unconfined recreation.

Disposal of Lands Through Exchange

- The BLM would consider the exchange of lands.
- Public lands may be disposed of when:
 - The lands meet disposal criteria as outlined in Section 203 and 206 of FLPMA.
 - Exchange of the land is not precluded by federal mandate, such as the Endangered Species Act (ESA) or the National Historic Preservation Act.
 - The land is not more suitable for other resource management and development, such as grazing, recreation, or sensitive species habitats as identified in the RMP.
 - Acquired lands in the exchange would enhance the ability of the BLM to manage resources.
- Criteria-based land exchange does not require identification of parcels in the RMP. Therefore, a plan amendment is not required if all criteria as described are met
- Lands would be disposed of as specifically identified for lease or disposal under various authorities (203, 206, Recreation and Public Purpose Act of 1926 [R&PP]) as indicated in Appendix 11 (in DRMP/DEIS).

Disposal of Lands Through Sale

- Lands identified for potential disposal through sale are identified in Appendix 11 (in DRMP/DEIS).
- Sale of lands not identified in the RMP would require a plan amendment.
- The lands are deemed suitable for public sale because (1) the lands are difficult and uneconomical to manage and are not suitable for another federal agency, (2) the lands are no longer required for a specific purpose, or (3) the disposal serves public objectives.

Proposed Withdrawal Areas

- Additional areas recommended for withdrawal from mineral entry, include the following:
 - Suitable River Segments classified as Wild
 - ACECs where needed to protect relevant and important values.
- Areas currently closed or proposed for withdrawal from locatable mineral development in the Price MFP are as follows:
 - CLDQ
 - Three Rivers Withdrawal.
- The following areas would be recommended for withdrawal from locatable mineral development:
 - Incorporated Municipalities
 - Cemeteries
 - Carbon County Airport
 - Carbon County Recreation Complex
 - Carbon County Sanitary Landfill/Transfer Station
 - East Carbon Sewage Lagoons
 - Swinging Bridge Campground
 - Emery County School Complex
 - Green River Airport
 - Price Canyon Recreation Site
 - Cedar Mountain Recreation Area
 - Interstate 70 Scenic ACEC
 - Scofield Reservoir
 - Olsen Reservoir.

Transportation and Utility ROW Corridors

- Designate existing corridors in Price River and San Rafael Areas

- Consider ROWs within existing corridors. (Map 2-68).

Issuance of ROWs

- In development of new discretionary ROWs, exclusion areas would include the following:
 - WSAs
 - Non-WSA lands with wilderness characteristics
 - ACECs where outlined in ACEC management (see below) and necessary for protection of resource values.
 - On or within 1 mile of sage-grouse leks.
- In development of discretionary ROWs, avoidance areas would include the following:
 - ACECs where outlined in ACEC management (see below) and necessary for protection of resource values
 - Areas closed to leasing or open to leasing with major constraints (no surface occupancy [NSO]) for oil and gas
- Use of existing designated communication sites (e.g., Cedar Mountain and Bruin Point) would be required for all new communication ROWs.

Wind Energy Development

- The BLM would consider proposals for ROWs for wind energy exploration and development on a case-by-case basis.
- The BLM would encourage wind energy development in areas where impacts on resources would be minimized.
- The BLM would not permit wind energy development in areas of no surface occupancy or areas closed to leasing for oil and gas, VRM Class I and II areas, migratory bird-breeding habitat and raptor-nesting complexes, and non-WSA lands with wilderness characteristics.

Solar Energy Development

- The BLM would consider proposals for ROWs for solar energy exploration and development on a case-by-case basis.
- The BLM would encourage solar energy development in areas where impacts to resources would be minimized.
- The BLM would not permit solar energy development in areas of no surface occupancy or areas closed to leasing for oil and gas, VRM Class I and II areas, and non-WSA lands with wilderness characteristics.

Areas for Special Consideration—Woodside Cemetery

- The Woodside Cemetery is closed to any additional burials as per BLM policy for burial on public lands.
- The BLM would seek transfer of the Woodside Cemetery to a qualified entity through sale, exchange, or R&PP.

Minerals and Energy Resources

NOTE: There are no changes to Actions Common to All Alternatives.

Coal

- Areas identified for further consideration for coal leasing and development, subject to the resource objectives outlined in the RMP, are identified in Appendix 27 (in DRMP/DEIS).

- Non-WSA lands with wilderness characteristics would be eliminated from consideration for coal leasing (Map 2-70).

Identify Areas Unsuitable for Surface Mining of Coal (43 CFR 1610.7-1) Under the Criteria Set Forth in 43 CFR 3461.5.

- Continue to use the coal unsuitability determinations for the San Rafael planning unit, as found in the San Rafael RMP. Until the coal unsuitability criteria have been applied to lands throughout the PFO, coal unsuitability for the PFO would be determined on a case-by-case basis.

Conflicts between Oil, Gas, Coalbed Natural Gas, and Coal Resource Development

- The BLM would permit single resource leasing and development in a given area.

Oil Shale

- 300,000 acres of the PFO would remain within oil shale withdrawal area.

Oil, Gas, Coalbed Natural Gas, Combined Hydrocarbon Leasing

- Mineral Leasing management is shown on Map 2-63:
 - Areas open to leasing, subject to the terms and conditions of the lease form (0 acres)
 - Areas open to leasing, subject to minor constraints (timing limitations; controlled surface use, lease notices) (870,000 acres)
 - Areas open to leasing, subject to major constraints (NSO) (130,000 acres)
 - Areas closed to leasing (1,490,000 acres).

Geophysical Operations Under 43 CFR 3150

- Geophysical operations would be allowed consistent with the goals and objectives of this alternative outside of WSAs and non-WSAs lands with wilderness characteristics.

Locatable Minerals

- Areas withdrawn or recommended from withdrawal (530,000 acres) from mineral entry are indicated on Map 2-64.

Mineral Materials (Salable) (Sand and Gravel, Stone, Riprap, Clay, Swelling Clay, Humates, Common Variety Building Stone, etc.)

- Areas closed for mineral materials disposal (1,540,000 acres) are indicated on Map 2-65.

Wilderness Study Areas

NOTE: There are no changes to Actions Common to All Alternatives.

If Congress Releases WSAs from Wilderness Consideration

- If released by Congress, these lands would be managed as non-WSA lands with wilderness characteristics under this alternative.

Areas of Critical Environmental Concern

NOTE: There are no changes to Actions Common to All Alternatives.

- ACECs are depicted on Map 2-66 from the ACEC supplement released June 2006.

- ACECs located wholly or partially in non-WSA lands with wilderness characteristics are identified below by an asterisk. Non-WSA lands with wilderness characteristics, within these ACECs, would be managed with the following prescriptions:
 - VRM class I
 - Designated as closed to OHV use
 - Closed to oil and gas leasing and all activities related to geophysical operations
 - The lands will be eliminated from further consideration for coal leasing
 - Closed to disposal of mineral materials
 - Retain public lands in federal ownership
 - Exclusion area for ROWs
 - Closed to commercial and personal-use wood cutting and seed collection
 - Closed to new road construction
 - Permit maintenance of existing facilities and boundary and cherrystem roads.
- ACECs or portions of ACECs that do not have wilderness characteristics would be managed according to the ACEC prescriptions listed below.
- If an ACEC that overlaps non-WSA lands with wilderness characteristics has a prescription that is more restrictive than management for wilderness characteristics, the ACEC prescription would take precedent.

****Big Flat Tops ACEC—Relic Vegetation***

- Big Flat Tops ACEC would be maintained and would continue to be managed with the following management prescriptions:
 - Closed to leasing for oil and gas
 - Closed to the disposal of mineral materials
 - Proposed for withdrawal from locatable mineral entry
 - Excluded from ROW grants
 - Excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Excluded from livestock use
 - Excluded from land treatment and range improvements, except for test plots and facilities necessary for study of relic and near-relic plant communities
 - Designated as closed to OHV use
 - Subject to fire suppression activities with special conditions.

Bowknot Bend—Relic Vegetation

- Bowknot Bend ACEC would be maintained with the following management prescriptions:
 - Closed to leasing for oil and gas
 - Closed to the disposal of mineral materials
 - Proposed for withdrawal from locatable mineral entry
 - Excluded from ROW grants
 - Excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Excluded from livestock use
 - Excluded from land treatment and range improvements, except for test plots and facilities necessary for study of relic and near-relic plant communities
 - Designated as closed to OHV use
 - Managed as VRM Class I
 - Subject to fire suppression activities with special conditions.

Copper Globe ACEC—Historic Mining and Cultural Resources

- Copper Globe ACEC would be included as part of the Heritage Site ACEC and managed according to the prescriptions listed for that ACEC.

****Dry Lake Archaeological District ACEC—Cultural Resources***

- The Dry Lake Archaeological District ACEC would be maintained with the following management prescriptions:
 - No surface occupancy for oil and gas leasing
 - Open to disposal of mineral materials
 - Open to mineral entry with plans of operations
 - ROW avoidance
 - Open to land treatments and range improvements subject to special conditions
 - Designated as limited for OHV use, with use limited to designated roads and trails
 - Subject to fire suppression with special conditions.

****Highway I-70 ACEC—Scenic***

- The Highway I-70 ACEC boundaries would be expanded to extend to State Highway 6, as presented on Map 2-66.
- The Highway I-70 ACEC would be managed with the following management prescriptions:
 - No surface occupancy for oil and gas leasing
 - Closed to the disposal of mineral materials
 - Open to mineral entry with plan of operations
 - ROW avoidance
 - Excluded from land treatment
 - Open to range improvements with special conditions
 - Excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Designated as limited to OHV use
 - Managed as VRM Class I
 - Subject to fire suppression activities with special conditions.
- That portion of the ACEC within the Sid's Mountain, Devil's Canyon, San Rafael Reef, and Mexican Mountain WSAs would be managed according to the IMP and the San Rafael Motorized Route Designation Plan.

****Muddy Creek ACEC—Cultural, Historic, and Scenic***

- Muddy Creek ACEC would be maintained with current boundaries with the following management prescriptions:
 - No surface occupancy for oil and gas leasing
 - Closed to disposal of mineral materials
 - Open to mineral entry with plans of operations
 - ROW avoidance
 - Open to range improvements with special conditions
 - Excluded from land treatments
 - Excluded from private and commercial use of woodland products
 - Designated as limited to OHV use
 - Managed as VRM Class I
 - Subject to fire suppression
 - Firewood collection not to be allowed in the ACEC.

- That portion of the ACEC within the Muddy Creek WSA would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****Rock Art ACEC—Cultural***

- The existing ACEC would be maintained; however, the following sites would be managed as part of the Rock Art ACEC: Sand Cove Spring, King’s Crown, Short Creek, Dry Wash, North Salt Wash, Molen Seep, Big Hole, Cottonwood Canyon, Wild Horse Canyon, and Grassy Trail.
- Archaeological inventories and test excavations would be required before site improvements or a designated route decision.
- Rock Art ACEC would be managed with the following prescriptions:
 - No surface occupancy for oil and gas leasing
 - Closed to disposal of mineral materials
 - Proposed for withdrawal from locatable mineral entry
 - Excluded for ROW grants
 - Excluded from range improvements and land treatments, except for watershed control structures where these would protect cultural resource values
 - Immediate areas around panels excluded from livestock use
 - Excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Designated as limited to OHV use
 - Subject to fire suppression activities with special conditions.

****San Rafael Canyon ACEC—Scenic***

- San Rafael Canyon ACEC (lower, middle, upper portions) would be maintained and expanded to include the Buckhorn Draw, Spring Canyon, Nate Canyon, and Cottonwood Canyon and associated contiguous Primitive and Class A scenery.
- It would be managed with the following management prescriptions, for the protection of recreation, scenic, and cultural resources in the area:
 - Lower—closed to oil and gas leasing
 - Middle—areas open to leasing, subject to minor constraints (timing limitations, controlled surface use, lease notices), for oil and gas leasing
 - Upper—closed to oil and gas leasing.
- Archaeological inventories and site avoidance would be required before designated route and recreation site decisions.
- That portion of the ACEC within the Sid’s Mountain and Mexican Mountain WSAs would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****San Rafael Reef ACEC—Scenic and Vegetation***

- San Rafael Reef ACEC would be maintained with the following management prescriptions:
 - Closed to leasing for oil and gas
 - Closed to disposal of mineral materials
 - Proposed for withdrawal from locatable mineral entry
 - Excluded from ROW grants
 - Excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Excluded from land treatments and range improvements except for water control structures where these would protect scenic values
 - Designated as limited for OHV use, with use limited to designated roads and trails
 - Managed as VRM Class I
 - Subject to fire suppression with special conditions

- That portion of the ACEC within the San Rafael Reef and Crack Canyon WSAs would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****Segers Hole ACEC—Scenic***

- Segers Hole ACEC would be maintained with the following management prescriptions:
 - No surface occupancy for oil and gas leasing
 - Closed to disposal of mineral materials
 - Open to mineral entry with plans of operations
 - ROW avoidance
 - Open to range improvements with special conditions
 - Excluded from land treatments
 - Excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - Designated as limited to OHV use
 - Managed as VRM Class I
 - Subject to fire suppression activities with special conditions

****Sid's Mountain ACEC—Scenic***

- The existing Sid's Mountain ACEC boundary would be expanded to include the proposed Sid's Mountain expanded ACEC and managed with the following prescriptions:
 - Closed to oil and gas leasing
 - Closed to disposal of mineral materials
 - Open to mineral entry with plan of operations
 - ROW exclusion area
 - Open to range improvements with special conditions
 - Excluded from land treatments
 - Excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires
 - OHV use limited to designated routes
 - Managed as VRM Class I
 - Subject to fire suppression activities with special conditions
 - That portion of the ACEC within the Sid's Mountain WSA would be managed according to the IMP and closed to oil and gas leasing and OHV use except those routes designated as conditional open as part of the San Rafael Motorized Route Designation Plan.

Swasey's Cabin ACEC

- Swasey's Cabin ACEC would be included as a part of the Heritage Sites ACEC and would be managed according to the prescriptions for that ACEC.

Temple Mountain ACEC

- Temple Mountain ACEC would be included as part of the Heritage Sites ACEC and would be managed according to the prescriptions for that ACEC.

****Lower Green River ACEC—Proposed for Ecology, Vegetation, and Cultural Resource Values***

- The Lower Green River ACEC would be managed with the following proposed special management prescriptions:
 - Grazing allotments to be retired
 - Prohibit expanded distribution of livestock into riparian areas

- Exclude riparian habitats from mechanical land treatments except for the purpose of restoring native habitat
- No surface occupancy for oil and gas leasing
- Closed to disposal of mineral materials
- Designated as closed to OHV use
- Managed as VRM Class I.
- That portion of the ACEC within the Horseshoe Canyon WSA would be managed according to the IMP.

****Beckwith Plateau ACEC—Proposed for Geologic—Natural Processes***

- The Beckwith Plateau ACEC would be managed with the following proposed special management prescriptions:
 - Closed to OHV use
 - Apply current management prescriptions for the Gray Canyon WMA to the entire proposed area
 - Excluded from ROWs grants
 - Closed to leasing for oil and gas
 - Closed to disposal of mineral materials
 - Recommended for withdrawal from mineral entry.
 - That portion of the ACEC within the Desolation Canyon WSA would be managed according to the IMP.

****Temple-Cottonwood Dugout Wash ACEC—Proposed for Cultural Resource Values***

- The Temple-Cottonwood Dugout ACEC would be managed for protection of cultural values with the following management prescriptions:
 - No surface occupancy for oil and gas leasing
 - Closed to OHV use
 - Open to disposal of mineral materials
 - Open to mineral entry with plan of operations.

****Range Creek ACEC—Proposed for Cultural and Natural Process Values***

- The Range Creek ACEC would be managed for protection of cultural and natural process values. Management prescriptions for protection of these values would include:
 - Closed to OHV use
 - Public access limited to permitted hiking and horseback riding
 - Closed to leasing for oil and gas
 - Closed to disposal of mineral materials
 - Recommended for withdrawal from mineral entry
- That portion of the ACEC within the Desolation Canyon and Turtle Canyon WSAs would be managed according to the IMP.

****Nine Mile Canyon ACEC—Proposed for Cultural Resource Values***

- The Nine Mile Canyon ACEC would be managed for protection of the cultural resource values. Management prescriptions would include:
 - No surface occupancy for oil and gas leasing
 - Cultural sites in the ACEC would be managed for conservation use.
 - OHV use would be limited to designated routes
 - Managed as VRM Class II
 - Open to disposal of mineral materials subject to special conditions

- Recommended for withdrawal from mineral entry.
- After cultural resource inventories have been completed, oil and gas development to support existing leases would not be permitted within 100 feet of inventoried cultural resources.

****Cleveland-Lloyd Dinosaur Quarry ACEC—Proposed for Paleontologic Resource Value***

- The CLDQ ACEC would be managed for protection of the paleontologic resources. The ACEC would be managed with the following special management prescriptions:
 - Recreation access would require authorization. Paid use fees constitute authorization.
 - Mountain bikes would be allowed on designated routes.
 - Closed to recreational OHV use.
 - Camping would not be allowed.
 - Hiking would be allowed only on developed interpretive trails; hiking off these trails would be allowed with guided tours conducted by BLM staff.
 - Collection of nonrenewable resources such as fossils, rocks, mineral specimens, common invertebrate fossils, semiprecious gemstones, petrified wood, and mineral materials would not be allowed.
 - Recreation facilities would be developed for visitor safety, convenience, and comfort and to enhance the enjoyment of paleontological resources and understanding of the scientific processes.
 - Closed to disposal of mineral materials.
 - Recommended for withdrawal from mineral entry.
 - Closed to leasing for oil and gas within the National Natural Landmark (NNL) boundary. No surface occupancy for oil and gas leasing outside the NNL boundary and within the ACEC.

Gordon Creek ACEC—Proposed for Cultural and Wildlife Resource Values

- The Gordon Creek ACEC would be designated for protection of cultural resource values. Special management for protection of the cultural resource values includes:
 - Closed to OHV use
 - Closed to leasing for oil and gas
 - Closed to disposal of mineral materials
 - Recommended for withdrawal from mineral entry
 - Excluded from livestock use
 - Excavation and data recovery of the entire proposed area would be required before any surface disturbing activities could occur (e.g., site-by-site excavation and data recovery would not be allowed).

****Heritage Sites ACEC—Proposed for Historic Resource Value***

- The Heritage Sites ACEC would be designated for protection of historic resource values. Note: Proposed area includes Wilsonville, Sheperds End, Smith Cabin, Hunt Cabin, Copper Globe, Temple Mountain, and Swasey Cabin. Special management prescriptions include:
 - No surface occupancy for oil and gas leasing
 - Recommended for withdrawal from locatable mineral entry
 - Closed to disposal of mineral materials
 - Excluded from ROW grants
 - Excluded from land treatments and range improvements except for watershed control structures where these would protect historic values
 - Managed as VRM Class II.
 - That portion of the ACEC within the WSAs would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****Uranium Mining Districts ACEC— Proposed for Cultural Resource Values***

- The Uranium Mining Districts ACEC would be designated for protection of cultural and historic resource values. It would include Tidwell Draw, Hidden Splendor, Little Susan Mine, and Lucky Strike Mine. The ACEC would be managed with the following special management prescriptions:
 - Firewood collection not allowed in the ACEC
 - Excluded from livestock use
 - No surface occupancy for oil and gas leasing
 - Open to disposal of mineral materials
 - Open to mineral entry with plan of operations
 - No historic structures to be disturbed until the historic features and history have been recorded.
 - That portion of the ACEC within the Muddy Creek WSA would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****Desolation Canyon ACEC- Proposed for Scenic, Cultural, and Ecological Resource Values***

- The Desolation Canyon ACEC would be managed with the following proposed special management prescriptions:
 - Closed to OHV use
 - Excluded from ROW grants
 - No surface occupancy for oil and gas leasing
 - Open to disposal of mineral materials.
 - That portion of the ACEC within the Desolation Canyon and Jack Canyon WSAs would be managed according to the IMP and closed to OHV use and managed as VRM Class I.

****White-Tailed Prairie Dog ACEC- Proposed for Wildlife Resource Values***

- The White-Tailed Prairie Dog ACEC would be managed with the following management prescriptions:
 - OHV use would be limited to designated routes
 - Open to oil and gas leasing, subject to minor constraints
 - Open to disposal of mineral materials
 - Open to mineral entry with plan of operations.

****Mussentuchit ACEC– Proposed for Cultural Resource Values***

- The Mussentuchit ACEC would be managed with the following management prescriptions:
 - Open to oil and gas leasing, subject to minor constraints
 - OHV use would be limited to designated routes
 - Open to disposal of mineral materials subject to special conditions
 - Open to mineral entry with plan of operations.

****Lower Muddy Creek ACEC– Proposed for Scenic and Vegetation Resource Values***

- The Lower Muddy Creek ACEC would be managed with the following management prescriptions:
 - Closed to oil and gas leasing
 - Closed to OHV use
 - Closed to disposal of mineral materials
 - Recommended for withdrawal from mineral entry (locatable) in the ROS Primitive area.
 - Manage as VRM class I

Wild and Scenic Rivers

NOTE: *There are no changes to Actions Common to All Alternatives.*

- Wild and scenic river segments located wholly or partially in non-WSA lands with wilderness characteristics are identified in Table 2-1 by an asterisk. Non-WSA lands with wilderness characteristics, within these WSR segments, would be managed with the following prescriptions:
 - VRM class I
 - Designated as closed to OHV use
 - Closed to oil and gas leasing and all activities related to geophysical operations
 - The lands will be eliminated from further consideration for coal leasing
 - Closed to disposal of mineral materials
 - Retain public lands in federal ownership
 - Exclusion area for ROWs
 - Closed to commercial and personal-use wood cutting and seed collection
 - Closed to new road construction
 - Permit maintenance of existing facilities and boundary and cherrystem roads.
- WSR segments or portions of WSR segments that do not have wilderness characteristics would be managed according to the WSR prescriptions listed below.
- Those portions of WSR segments that lie within WSAs would be managed in accordance with the IMP and closed to OHV use and managed as VRM Class I. This includes Barrier Creek, Bear Canyon, Buckskin Canyon, Cane Wash, Coal Wash, Cottonwood Wash, Green River, Keg Spring Canyon, Muddy Creek, North Fork Coal Wash, North Salt Wash, Price River, Range Creek, Rock Creek, San Rafael River, and South Fork Coal Wash.

Determinations of Potential Wild and Scenic Rivers

- The following eligible river segments (Table 2-1) would be determined suitable for WSR designation, with the tentative classification (Wild, Scenic, or Recreation, described below). Specific management for each classification outside of WSAs and non-WSA lands with wilderness characteristics is outlined in Appendix 22 (in DRMP/DEIS).

Protective Management of Rivers Potentially Included in the National Wild and Scenic River System

- Protective management would apply to public lands along suitable river segments with 272.9 miles tentatively classified as Wild, 238.2 miles Scenic, and 129.5 miles Recreational, which is the same as Alternative C (Map 2-67).

Table 2-1. River Classifications

River Segment	Suitability classification
Barrier Creek	Wild
Bear Canyon	Wild
*Buckskin Canyon Creek	Wild
*Cane Wash	Scenic
*Coal Wash	Recreational
Cottonwood Wash	Wild
Fish Creek	Scenic
Gordon Creek	Scenic

Table 2-1. River Classifications

River Segment	Suitability classification
<p>*Green River</p> <ul style="list-style-type: none"> • County line near Nine Mile Creek to Chandler Canyon (Desolation Canyon) • Chandler Creek to Florence Creek (Desolation Canyon) • Florence Creek to Nefertiti boat ramp (Desolation and Gray Canyon) • Nefertiti boat ramp to Swasey’s boat ramp • Swasey’s boat ramp to I-70 bridge • I-70 to mile 91 below Ruby Ranch • Mile 91 below Ruby Ranch to Hey Joe Canyon (Labyrinth Canyon) • Hey Joe Canyon to Canyonlands National Park boundary (Labyrinth Canyon) 	<p>Wild</p> <p>Scenic</p> <p>Wild</p> <p>Recreational</p> <p>Recreational</p> <p>Scenic</p> <p>Wild</p> <p>Scenic</p>
<p>*Keg Spring Canyon</p>	<p>Wild</p>
<p>*Muddy Creek</p> <ul style="list-style-type: none"> • I-70 to Lone Tree Crossing • Lone Tree Crossing to South Salt Wash • South Salt Wash to County Road below San Rafael and North Caineville Reefs 	<p>Wild</p> <p>Scenic</p> <p>Wild</p>
<p>*Nine Mile Creek</p>	<p>Recreational</p>
<p>North Fork Coal Wash</p> <ul style="list-style-type: none"> • Head of Wash to Fix It Pass route • Fix It Pass route to confluence with South Fork Coal Wash 	<p>Wild</p> <p>Recreational</p>
<p>*North Salt Wash</p>	<p>Wild</p>
<p>*Price River</p> <ul style="list-style-type: none"> • Confluence of Fish Creek and White River to Poplar Street Bridge in Helper • Mounds Bridge to Book Cliffs Escarpment • Book Cliffs Escarpment to mouth at Green River 	<p>Recreational</p> <p>Scenic</p> <p>Wild</p>
<p>*Range Creek</p> <ul style="list-style-type: none"> • Headwaters to Trail Canyon • Trail Canyon to drill holes at T. 17 S., R. 16 E., Sec. 27 • Drill holes at T. 17 S., R. 16 E., Sec. 27 to mouth at Green River 	<p>Wild</p> <p>Recreational</p> <p>Wild</p>
<p>Rock Creek</p>	<p>Wild</p>
<p>*San Rafael River</p> <ul style="list-style-type: none"> • Confluence of Ferron and Cottonwood Creeks to Fuller Bottom • Fuller Bottom to Johansen Corral • Johansen Corral to Lockhart Wash • Lockhart Wash to Tidwell Bottom • Tidwell Bottom to confluence with Green River 	<p>Scenic</p> <p>Wild</p> <p>Scenic</p> <p>Wild</p> <p>Scenic</p>

Table 2-1. River Classifications

River Segment	Suitability classification
South Fork Coal Wash <ul style="list-style-type: none">• Head of wash to Eva Conover• Eva Conover to confluence with North Fork Coal Wash	Wild Recreational

CHAPTER 3—AFFECTED ENVIRONMENT

A READER'S GUIDE TO CHAPTER 3

The PFO DRMP/DEIS was released for public review and comment in July 2004 and was supplemented with additional information on ACECs in June 2006. Chapter 3 of the DRMP/DEIS, entitled “Affected Environment” describes the PFO planning area and the existing environmental conditions that would be affected by the proposed alternatives. This chapter is organized by resources, resource uses, special designations, and support, in the order presented in Chapter 2 and Appendix C of the Planning Handbook. Socioeconomic conditions are also described in the last section of Chapter 3 (in DRMP/DEIS).

The DRMP/DEIS and additional ACEC information provide the full context for this Chapter 3 Supplement. Only Sections 3.2.11, 3.2.11.1, Tables 3-19 and 3-19A, and Maps 3-23 and 3-27 of the DRMP/DEIS are modified by this Chapter 3 Supplement. In all other respects, Chapter 3 of the DRMP/DEIS remains the same. Only the modified portions of the DRMP/DEIS Chapter 3 are presented.

The Supplemental Section 3.2.11 reflects updated information that guides the planning process for non-WSA lands with wilderness characteristics. Section 3.2.11.1 has been added to describe, in further detail, the planning area profile for non-WSA lands with wilderness characteristics. Table 3-19 of this supplement combines Tables 3-19 and 3-20 from the DRMP/DEIS. It has been updated to portray the names and acreages of all non-WSA lands with wilderness characteristics based on updated maintenance of the wilderness inventory findings. It also reflects those areas evaluated and found not to have wilderness characteristics. Table 3-19A has been inserted to present cumulative data on lands throughout Utah that are currently being managed to protect wilderness characteristics values. Map 3-27 is updated in this supplement to display all non-WSA lands with wilderness characteristics.

3.2.11 Non-WSA Lands with Wilderness Characteristics

NOTE: Replace Section 3.2.11 of the DRMP/DEIS with the following text to reflect the change in existing environment related to non-WSA lands with wilderness characteristics

Since WSAs were established in the 1980s, designation of wilderness in Utah has become a prominent national issue. For more than 20 years, the public has debated which lands have wilderness characteristics and should be considered by Congress for wilderness designation. In 1996 the Secretary of the Interior directed the BLM to take another look at some of the lands in question. In response to the direction of the Secretary, the BLM inventoried these lands and approximately 2.6 million acres of public land statewide (outside of existing WSAs) were found to have wilderness characteristics (1999 Utah Wilderness Inventory).

In September 2005, the BLM and the State of Utah, SITLA, and the Utah Association of Counties (collectively “Utah”) reached a negotiated agreement to settle a lawsuit originally brought in 1996 by Utah, challenging the BLM’s authority to conduct new wilderness inventories. The settlement stipulated that the BLM’s authority to designate new WSAs expired no later than October 21, 1993. The BLM, however, does have the authority under FLPMA Sections 201 and 202 to conduct inventories for characteristics associated with the concept of wilderness and to consider management of these values in its land-use planning process. The BLM’s *Land Use Planning Handbook* (H-1601-1) states that decisions to protect wilderness characteristics are to be considered during planning.

3.2.11.1 Planning Area Profile

The BLM determined in the 1999 Utah Wilderness Inventory that 15 areas (483,900 acres) in the PFO outside of existing WSAs have wilderness characteristics. During scoping and the public comment period on the DRMP/DEIS, the Utah Wilderness Collation and Southern Utah Wilderness Alliance submitted information suggesting that additional areas outside of existing WSAs and those in the 1999 Utah Wilderness Inventory also have wilderness characteristics and should be managed to preserve those values. The BLM reviewed the submittals and has determined that all or portions of these areas have wilderness characteristics, including naturalness and outstanding opportunities for solitude or primitive recreation, and are greater than 5,000 acres or adjacent to WSAs. The BLM also reviewed other extant data and considered whether additional lands within the PFO had wilderness characteristics. There are 27 areas in the PFO, totaling approximately 937,440 acres, that are non-WSA lands with wilderness characteristics (see Table 3-19 and Map 3-27). Many of the inventoried acres were also found to lack wilderness characteristics and are identified in Table 3-19 as no wilderness characteristic acres.

Detailed information about non-WSA lands with wilderness characteristics is part of the administrative record for the RMP. The following records are available for public review at the PFO: 1) 1999 Utah Wilderness Inventory; 2) 1999 Utah Wilderness Inventory Revision Document for the PFO; 3) 1999 Utah Wilderness Inventory Case Files for the PFO; 4) Reasonable Probability Determinations for the PFO; and 5) Documentation of Wilderness Characteristics Review for the PFO.

Table 3-19. Non-WSA Lands with Wilderness Characteristics in the PFO

Area Name	Acres With Wilderness Characteristics	Acres With No Wilderness Characteristics	Comments on Wilderness Characteristics
Cedar Mountain	15,000	320	
Desolation Canyon	89,000	18,000	Contiguous to Desolation Canyon WSA
Devils Canyon	11,000	2,600	Contiguous to Devils Canyon WSA
Eagle Canyon	39,000	0	Contiguous to Sids Mtn. WSA
Flat Tops	7,100	0	Shared area with Richfield FO (PFO acreage shown)
Hondu Country	20,000	200	
Jack Canyon	1,500	2,000	Contiguous to Jack Canyon WSA
Labyrinth Canyon	26,000	20,000	
Limestone Cliffs	1,100	0	Shared area with Richfield FO (PFO acreage shown)
Lost Springs Wash	32,000	5,000	
Mexican Mountain	41,000	12,000	Contiguous to Mexican Mtn. WSA
Molen Reef	33,000	0	
Muddy Creek–Crack Canyon	133,000	37,000	
Mussentuchit Badlands	25,000	100	
Never Sweat Wash	29,000	1,000	
Price River	90,000	14,000	
Rock Canyon	17,000	0	Shared area with Richfield FO (PFO acreage shown)
San Rafael Reef	46,000	15,400	Contiguous to San Rafael Reef WSA
San Rafael Knob	17,500	0	
San Rafael River	104,000	0	
Sids Mountain	36,000	3,400	Contiguous to Sids Mtn. WSA
South Horn Mountain	6,400	4,100	
Sweetwater Reef	63,000	1,000	Shared area with Richfield FO (PFO acreage shown)
Turtle Canyon	5,000	0	Contiguous to Turtle Canyon WSA
Upper Muddy Creek	18,000	1,200	
Wildcat Knolls Extension	340	3,600	Shared area with Richfield FO (PFO acreage shown)
Wild Horse Mesa	31,500	2,200	Shared area with Richfield FO (PFO acreage shown)
Total (27 areas)	937,440	143,120	

Non-WSA lands with wilderness characteristics analyzed in this document include about 937,440 acres of public land. Other federal lands with wilderness characteristics in Utah are currently being managed to protect those values. These are identified in Table 3-19A.

Table 3-19A. Federal Lands in Utah That Are Being Managed to Protect Wilderness Characteristics

Land Administrator	Administrative Unit	Acres	Percent of Land in Utah*
BLM	Designated Wilderness	127,700	0.24
BLM	Wilderness Study Areas	3,214,740	6.1
National Park Service	Recommended Wilderness	1,467,082	2.79
U.S. Forest Service	Designated Wilderness	773,124	1.47
U.S. Forest Service	Recommended Wilderness	83,390	0.16
Totals		5,666,036	10.76

*The percentage figures shown in the table are based on a total land area of 52,541,440 acres in Utah.

In addition to the 5,666,036 acres currently being managed to protect and preserve their wilderness characteristics (Table 3-19A), the BLM is considering management options for an additional 2,847,156 acres (5.4% of lands in Utah) of non-WSA lands with wilderness characteristics in six ongoing land use planning efforts. This includes the 937,440 acres in the PFO.

CHAPTER 4—ENVIRONMENTAL CONSEQUENCES

A READER'S GUIDE TO CHAPTER 4

The PFO (DRMP/DEIS) was released for public review and comment in July 2004 and was supplemented with additional information on ACECs in June 2006. Chapter 4 of the DRMP/DEIS, entitled “Environmental Consequences,” analyzes the impacts of the proposed decisions under each alternative in Chapter 2, including the No Action Alternative, on the resources, resource uses, special designations and support, and socioeconomic conditions described in Chapter 3. Assumptions for the impact analysis are presented at the beginning of Chapter 4. Impacts are generally described in terms of direct, indirect, and cumulative impacts.

The DRMP/DEIS and additional ACEC information provide the full context for this supplement to Chapter 4. Chapter 4 of the DRMP/DEIS is supplemented to describe the impacts of applying proposed management decisions under the new Alternative E (as described in Chapter 2 of this supplement) on resources, resource uses, special designations and support, and socioeconomic conditions.

The theme of Alternative E is to protect non-WSA lands with wilderness characteristics. However, as described in Chapter 2, Alternative E is a complete alternative that includes management decisions for all resources and programs in the PFO area. Therefore, the analysis of impacts of the decisions in Alternative E is not restricted to non-WSA lands with wilderness characteristics but also addresses impacts to resources and uses throughout the planning area.

Chapter 4 of this supplement is formatted to present the consequences of individual resource decisions on other resources and uses. For a complete understanding of the impacts to a particular resource or use, the entire Chapter 4 analysis must be considered. To assist in understanding the full impacts of the decisions on a particular resource or use, a summary is presented in the “collective impacts” section. The order of presentation of the analyses in this chapter parallels the order established in Chapter 3. Because resource topics are often interrelated, one section may refer to another.

This supplement also augments the existing analysis of the five alternatives in the DRMP/DEIS (No Action Alternative and Alternatives A through D) by addressing the impacts of those alternatives on non-WSA lands with wilderness characteristics in more detail. In all other respects, Chapter 4 of the DRMP/DEIS remains the same. Impacts of management decisions from the No Action Alternative and Alternatives A through D remain the same as in the DRMP/DEIS because no changes have been made to the proposed management decisions under those alternatives in Chapter 2. Only the modified and augmented portions of the DRMP/DEIS Chapter 4 are presented here.

NOTE: *One of the main objectives of Alternative E is to protect wilderness characteristics in non-WSA lands with wilderness characteristics. However, as described in Chapter 2, Alternative E is a complete alternative that includes management decisions for all resources and programs in the PFO. Therefore, the analysis of impacts from the decisions in Alternative E is not restricted to non-WSA lands with wilderness characteristics but also addresses impacts to resources and uses throughout the planning area.*

This chapter is presented from the viewpoint of the consequences of individual resource decisions on other resources and uses. Therefore, to understand the impacts of all decisions on a particular resource or use, the reader must read the entire analysis. To assist in understanding the full impacts of all decisions on a particular resource or use, the “collective impacts” section presents a summary of the total impacts of all the decisions on the resources and uses at issue. The cumulative impacts section describes the impacts of the resource and use decisions in combination with other reasonable foreseeable actions regardless of what agency or person undertakes such actions (40 CFR 1508.7).

As with the other chapters in this supplement to the DRMP/DEIS, the reader must use the DRMP/DEIS (July 2004) and the ACEC Supplement (June 2006) to understand the analysis of impacts for Alternatives A through D, as well as the No Action Alternative. Again, only those sections that are being changed or added since the DRMP/DEIS and ACEC supplement are presented in this chapter.

4.2.3.6 Alternative E

NOTE: *Insert a new Section 4.2.3.6 in the DRMP/DEIS that includes a collective and cumulative impact analysis for Alternative E.*

Alternative E is the most restrictive of all six alternatives with regard to surface disturbing activities. It relies on natural processes for vegetation treatments and incorporates the restrictive measures of Alternative C, as well as protective management for non-WSA lands with wilderness characteristics. Under this alternative, about 60% of the PFO would be closed to oil and gas leasing. Throughout the entire PFO, vegetation treatments would be accomplished by using only natural processes (such as wildland fire and biological controls). In some cases, these treatment methods would result in less productivity and reduced vegetation health compared with the No Action Alternative, where other vegetation treatment methods could be used to enhance or improve vegetation in a timely manner. As a result, other resource goals could be more difficult to achieve and require more time to accomplish. This alternative would create a major shift in recreation opportunity from motorized to primitive recreation. This change from motorized to non-motorized use would be mostly within SRMAs; the Desolation Canyon and San Rafael are the largest SRMAs. Approximately 13,000 AUMs would be removed from 9 allotments to help maintain and improve habitat conditions.

Collective Impacts From Alternative E

Dispersed recreation and mineral and energy development would continue to lead to particulate matter, carbon monoxide (CO), and nitrogen oxide emissions. Emissions would be reduced compared with the No Action Alternative, but all alternatives would meet the National Ambient Air Quality Standards. The reduction in emissions would be the result of the restrictions placed on 60% of the PFO area to maintain the WSAs and non-WSA lands with wilderness characteristics. Maintaining natural flows in streams would decrease sedimentation and bank erosion, which would improve bank stability, riparian conditions, and water quality. Reliance on natural processes for vegetation and forest management would lead to additional fuel loading and greater risk of less frequent, more intense wildland fires, which would produce greater short-term particulate emissions and reduced visibility during wildland fire events. The BLM's

ability to effectively control fires would be reduced by restrictions placed on activities that would affect the natural appearance of areas with wilderness characteristics. Over time, this impact would decline because the vegetation community fire return interval would be reset, and wildland fire frequency and intensity would return to a more natural condition. Natural process management would result in more late seral communities of aspen and sagebrush, which would reduce diversity in age, class, and seral stages. Pinyon-juniper would continue to invade previously unoccupied areas of the PFO, which would decrease vegetation diversity and soil composition. However, natural succession creates a finer scale mosaic of vegetation over the long term. This increased diversity over the long term could improve the resistance of vegetation to insect and disease infestations.

Forage for livestock grazing may be reduced in the short term, but forage quantity and quality would increase in the long term. Limiting the amount of surface disturbance from grazing, dispersed recreation, vegetation treatments, and oil and gas development would reduce vegetation damage, soil crust damage, erosion, inadvertent loss of or damage to cultural resources, wildlife habitat loss and fragmentation, and impacts to water resources. Closing areas and limiting livestock grazing, oil and gas development, and recreation would benefit wildlife habitat and watersheds and indirectly maintain and improve special status species populations and habitat. However, this alternative also would minimize use of certain land use practices, because they are not considered natural processes, that otherwise could be used to improve habitat quality. The overall quality of the viewshed would be maintained or improved by restrictions on development and surface disturbance.

With this alternative, protection of non-WSA lands with wilderness characteristics would provide the greatest opportunities for primitive types of recreation but would not meet the demand for motorized recreation. User conflicts would be reduced, and viewsheds would be maintained. Greater restrictions on land use would limit opportunities for future expansion of the road network and motorized access throughout the PFO. About 210 miles of roads presently open to motorized vehicles would be closed. NSO requirements, seasonal restrictions, controlled surface use stipulations, and reductions in the area open to mineral leasing would collectively and significantly limit the time and area available for drilling activities and increase operator costs. Protective management of all 39 suitable river segments would indirectly protect riparian, vegetation, soils, water quality (reduced salinity), and cultural resources from surface disturbing activities throughout 730 miles of river corridors. However, surface disturbing activities would still occur on private and State lands within the river corridors. The BLM would set restrictions on surface disturbing activities in fish and wildlife avoidance areas, non-WSA lands with wilderness characteristics, WSAs, SRMAs, ACECs, and along WSRs.

Cumulative Impacts From Alternative E

Alternative E has the greatest potential to cumulatively affect the following resources and resource uses when combined with effects of other actions beyond the scope of the RMP: air, water, soils, vegetation, riparian, wildlife, cultural resources, lands with wilderness characteristics, infrastructure, and socioeconomics.

Should Congress designate any of the suitable river segments for inclusion in the NWSRS, protection of the outstandingly remarkable values, tentative classifications, and free-flowing nature of these rivers would continue. In addition to the BLM's protection of values to the extent of its authority, the Federal Energy Regulatory Commission (FERC) would not be able to license any hydropower projects within a designated segment. Public lands within river segments designated for inclusion in the NWSRS with a tentative classification of Wild would automatically be withdrawn from mineral location and public land laws. Congress may choose to provide a federal reserved water right for in-stream flow purposes for rivers it designates into the national system, but it would be junior to existing water rights.

Greater restrictions on mineral and energy resources that could be reasonably developed would reduce associated air emissions more than currently experienced. Air emissions from existing power plants, proposed coal mines, and coal bed natural gas development would continue. However, reduced potential for emissions in the PFO under this alternative would reduce the risk of exceeding air quality thresholds, and the potential for regional haze would be reduced. Fugitive dust and particulate matter from minerals and energy development, construction activities, unimproved roads, and increased recreation demand would result only in short-term, localized impacts because of more restrictions and less intense surface disturbing activities. Reliance on natural processes for vegetation and forest management would lead to additional fuel loading and greater risk of less frequent, more intense wildland fires, which, in turn, would lead to greater short-term particulate emissions and reduced visibility during wildland fire events.

The cumulative impacts of the actions within this alternative, even in combination with current and reasonably foreseeable surface disturbing activities on non-public lands would reduce surface disturbance and potential for significant damage to vegetation, soil structure, and water resources when compared with all of the other alternatives. Under this alternative, surface disturbance restrictions would greatly reduce potential impacts to water quality and quantity. Allowing only natural vegetative treatments would reduce the incremental amount of nutrient and sediment loading of watersheds. Ground and surface water quality could still deteriorate locally because of permitted surface disturbing activities, but impacts would be reduced compared to all the other alternatives. The magnitude of projected impacts for other projects and activities would still occur in those areas but would be reduced in the PFO as a result of management direction that would emphasize protection of non-WSA lands with wilderness characteristics. Impacts from projected, upstream water projects would still alter conditions within the PFO, but management direction would improve the health of riparian corridors, improve vegetation health, and improve fisheries habitat. As a result of more restrictive management and reliance on natural processes, scenic quality in sensitive viewsheds and the visitor experience would be maintained and/or enhanced.

Coalbed natural gas and oil and gas well development in existing fields could affect crucial big game habitat as development increases. However, reductions in reasonably foreseeable development as a result of fewer lands open to leasing and greater restrictions would reduce the magnitude of these impacts to wildlife populations. Improved late seral vegetation and forest conditions could provide supplemental habitat areas and support carrying capacity for wildlife populations. However, allowing some vegetative communities (e.g., pinyon-juniper) to reach a climax condition would degrade habitat and reduce carrying capacity for some species.

Reduced impacts from surface disturbing activities because of increased restrictions combined with roadway improvements, increased recreation demand, and reasonably foreseeable mineral development would reduce the potential for significant regional losses of cultural resources. In addition, this alternative would provide more protective management designations in areas that contain significant cultural and paleontological resources such as SRMAs and ACECs.

Mineral and energy development, including development of existing coal and oil and gas leases in Desolation Canyon, Jack Canyon, and Turtle Canyon WSAs and Non-WSA lands with wilderness characteristics, and increased recreational use could result in degradation of wilderness characteristics. Overall, about 26,000 acres of oil and gas and 3,500 acres of coal leases occur in non-WSA lands with wilderness characteristics, and 6,500 acres of oil and gas leases occur in WSAs.

Management of the 937,440 acres of non-WSA lands with wilderness characteristics would increase the number of acres in Utah managed to protect wilderness characteristics by 16%. If the BLM were to protect all non-WSA lands with wilderness characteristics throughout the State, it would increase the acreage under such management by 50%. Overall, about 16% of the 52 million surface acres in Utah

would then be managed in a way that provides some level of protective management for wilderness characteristics.

Approximately 1,000,000 acres in areas with high potential for oil and gas development would not be leased because they are within WSAs and non-WSA lands with wilderness characteristics. This restriction would reduce the potential for production of oil and natural gas from public lands and could also affect the ability of the State of Utah to lease its 187,000 acres of in-holdings. About 19,200 acres of potential coal resources would be unavailable for further consideration for leasing. The restrictions on mineral development would reduce the potential for economic extraction of mineral resources during the life of the plan.

Greater demands would be placed on infrastructure on both federal and non-federal lands within the PFO from reasonably foreseeable mineral development, increased recreational use, existing minerals and energy operations, power plant activity, and coal mines. Increased demand would create additional infrastructure and improvements, but more restrictive management would reduce the magnitude of significant resource damage. This alternative would increase the cost of resource uses and reduce some socioeconomic benefits in local communities.

4.3 DIRECT AND INDIRECT IMPACT ANALYSIS OF ALTERNATIVE E

NOTE: Insert a new Section 4.3 in the DRMP/DEIS, which includes an impact analysis for a new Alternative E.

The analysis of direct and indirect impacts in the DRMP/DEIS (July 2004) is presented in a table to allow for easy comparison of the impacts of the alternatives. Each alternative is presented in a separate column. The analysis is organized in rows by program (e.g., Air, Fish and Wildlife, etc.) and presents a separate analysis of impacts from each plan decision on the other resources and uses. In this supplement, the impacts from Alternative E decisions are presented as a narrative that is equivalent to a new analysis column for Alternative E. The narrative first identifies, by program, those resources and uses that would not be significantly impacted by any of the decisions. Then the impacts of all decisions (Chapter 2 of this supplement) on the various resources and uses are discussed. This approach shortens the analysis while still allowing the reader to compare the impacts of Alternative E with those presented for the other alternatives already considered in the DRMP/DEIS.

The prescriptions for a given resource may appear to be unnecessary given the management prescriptions for WSAs and non-WSA lands with wilderness characteristics. However, the resource prescriptions would apply to the rest of the PFO and wherever developments could occur within WSAs and non-WSA lands with wilderness characteristics (e.g., valid existing rights).

4.3.1 Air Quality

Air quality management decisions made to comply with the Clean Air Act have the potential to impact only mineral development. The impact would be to require the companies to install air pollution controls but should not significantly limit the extraction of any mineral resource.

4.3.2 Soil, Water, and Riparian Resources

Impacts to air quality, fire and fuels, ACECs, and hazardous materials: Impacts to these resources and uses are not anticipated from implementing soil, water, and riparian management decisions.

Impacts to soils, water, and riparian resources: Management actions associated with soil, water, and riparian resources are generally designed to reduce erosion, protect fragile soils, help maintain riparian/wetland function, and maintain or improve water quality. Management actions designed to achieve proper functioning condition (PFC) in wetland/riparian areas, controlling development on slopes of between 20% and 40% and prohibiting surface disturbance on slopes greater than 40% would maintain or enhance the health and productivity of these systems by supporting natural processes, water temperature and quality, and species abundance and diversity. In addition, these management actions would maintain soil productivity, improve surface water quality, and protect riparian and wetland areas from surface disturbing activities.

Soil, water, and riparian management actions could protect water quality in natural springs by preventing disturbance or establishing buffer zones around them. Developing spring sources for use could affect the water table and result in decreased water flow into wetlands, streams, and rivers, which could, in turn, affect riparian plant and animal species as a result of a loss of water essential to their habitat.

Protection of fragile riparian habitat and soils within 330 feet of the centerline of perennial streams or within the 100-year floodplain, by providing buffer zones of no surface disturbance or occupancy, would affect water quality, vegetation, and species health through the prevention of all intrusive activities within the buffer zones. Prohibiting intrusive activities would prevent any damage to riparian vegetation, streambanks, and stream channels, reducing erosion and protecting sensitive riparian habitat. However, new surface disturbing activities designed to restore and/or enhance riparian areas would also be precluded.

Not allowing surface occupancy or disturbance within 660 feet of springs or seeps could improve riparian areas because it would reduce possible soil damage, erosion, and runoff—three processes that usually reduce water quality and cause sedimentation in riparian habitats.

Impacts to vegetation: Management actions associated with preserving and protecting soil, water, and riparian resources would generally protect and enhance vegetation resources. Implementing specific best management practices (BMP) in impaired watersheds, prohibiting surface disturbances in specified buffer zones around springs and streams, and controlling or prohibiting construction activities on steep slopes would protect vegetation in these areas. Specifically, these actions would prevent extensive soil disturbance and vegetation removal and thereby reduce erosion, surface runoff, and degradation of vegetation communities within these areas. Species diversity, the extent of vegetation cover, and the composition and structure of vegetation communities would therefore be maintained. Restoring the water table in wetlands and riparian areas (about 30,000 acres) would improve vegetation resources in those areas because it would move the water table closer to the surface, thereby creating the conditions necessary for the survival of wetland plant species and consequently increasing species diversity and the percentage of cover of some species.

Impacts to cultural resources: Water resources, riparian/wetland areas, and cultural resources (particularly archaeological and historic sites) are often located adjacent to or in association with each other. Managing riparian and wetland areas in PFC would reduce streambank erosion from localized flooding events and other soil-disturbing actions. Such management would tend to preserve cultural resources in place, within or directly adjacent to riparian areas. In addition, surface disturbance restrictions associated with springs, seeps, and streams would preserve cultural resources in place. These restrictions would also preclude surface disturbing cultural research projects in these areas.

Not allowing surface disturbances and/or occupancy in buffer zones surrounding natural springs and perennial streams would directly preserve cultural resources. Because cultural resources are often located adjacent to water resources on the landscape, preventing surface disturbances and/or occupancy in these

areas would preserve cultural resources in place on roughly 30,000 acres and potentially more, depending on the floodplain.

Impacts to paleontology: Soil, water, and riparian decisions that preclude surface disturbance and/or occupancy in buffer zones surrounding natural springs and perennial streams would protect adjacent paleontological resources on at least 30,000 acres, depending on the size of the floodplain. In these areas, paleontological resources would be protected in place from surface disturbing activities.

Requiring soil-erosion control strategies for surface disturbing activities in areas with slope grades of between 20% and 40% would result in protection or at least decreased degradation of paleontological localities. There could also be a decrease in the discovery of new paleontological localities, which can be a result of exposure from erosion. Preventing surface disturbances on slopes with grades greater than 40% would protect cultural and paleontological resources in place in these areas.

Impacts to visual resources: Erosion-control measures on slopes between 20% and 40% would help preserve soil and vegetation that contributes to the existing character of the landscape. If the erosion-control measure, however, involved placing a structure on the land, that structure would introduce an artificial element to the landscape and therefore would result in a change (at least in the short term) to that landscape. Depending on the nature of the erosion-control measure, the change in the landscape could be to its landform or vegetation. Not allowing surface disturbances on slopes of more than 40% would prevent changes and the resultant visual impacts to the landscape from activities such as construction, development, and surface disturbance in those areas.

Areas of no surface disturbance and/or occupancy around natural springs and streams with both perennial and intermittent reaches would prevent surface disturbance and landscape change and thereby maintain those sites' visual qualities. Vegetation and soils would be maintained, which would prevent deterioration of those components of the landscape.

Impacts to special status species: Management actions aimed at maintaining or improving soil conditions, minimizing soil erosion, and improving riparian resources would maintain habitat integrity that supports special status species populations. Discouraging the development of spring sources but protecting water quality and quantity would avoid surface disturbing activities that would affect special status species' populations and habitats.

Impacts to fish and wildlife: Management actions designed to improve water quality and watershed health would improve important riparian areas and directly benefit wildlife and fish species. Soils, water, and riparian resource management could benefit wildlife by maintaining or restoring habitat conditions through the establishment of avoidance zones surrounding riparian areas, improving livestock management, and establishing surface use requirements within floodplains.

Soil, water, and riparian restrictions placed on mineral leasing, off-highway vehicles, and placement of ROWs around natural springs would protect fisheries and wildlife habitat. A 100-year floodplain buffer or 330 feet from the centerline (whichever is greater) along perennial streams would also inhibit degradation of valuable soil, water, and riparian values. Restricting BLM-permitted surface disturbing activities within these closed areas would also limit the agency's ability to conduct instream and riparian habitat enhancement projects. Buffers would also enhance riparian vegetation communities that provide food, cover, and nesting sites during critical periods in the lifecycle of neo-tropical migrant birds and waterfowl. Not allowing the development of springs would potentially reduce the ability of wildlife to fully use these crucial water sources during dry periods and especially during drought years. Riparian-wetland ecosystems are crucial for the subsistence of such species as the goshawk, cooper's hawk, sharp-shinned hawk, northern harrier, short-eared owl, sage-grouse, and amphibians. Protecting these

ecosystems with buffers would help ensure the survival of these species. NSO would allow riparian vegetation to remain, or to become established where absent, thus providing escape and hiding cover for local fish populations. The resultant riparian vegetation would shade waters, thereby cooling them and making them more suitable for fish populations.

Impacts to wild horses and burros: Management activities for soil, water, and riparian resources aimed at reducing soil erosion in watersheds and protecting water quality would impact wild horses and burros by maintaining or improving the forage and water resources available for them. Riparian management actions would ensure that forage and water would remain available for wild horses and burros in HMA.

Impacts to non-WSA lands with wilderness characteristics: The protections afforded by soil, water, and riparian restrictions would complement the naturalness and opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics.

Impacts to forestry and woodlands: Management actions associated with soil, water, and riparian resources would generally protect and enhance forest and woodland resources. Implementing specific BMPs within impaired watersheds, prohibiting surface disturbances within specified buffer zones around springs and streams, and controlling and/or prohibiting construction activities on steep slopes would consequently protect forest and woodlands within these areas from surface disturbing activities. These actions would prevent extensive soil disturbance and vegetation removal within forest and woodland ecosystems and thereby would reduce erosion, surface runoff, and degradation of forest and woodlands within these areas. As a result, species diversity, the extent of vegetation cover, and the composition and structure of forest and woodland communities would be maintained. Although these measures would help to maintain forest and woodland resources and thereby increase opportunities for product harvest, restrictions on surface use and motorized vehicles would limit or preclude the harvest of forest and woodland products.

Impacts to livestock grazing: Implementing BMPs in impaired watersheds, prohibiting surface disturbance in specified buffer zones around springs and streams, and controlling or prohibiting construction activities on steep slopes would reduce soil erosion, surface runoff, and sedimentation of water sources. These reductions would help maintain and enhance riparian vegetation and water quality, which would indirectly provide forage and water for livestock. Such effects would occur over much of the PFO because grazing allotments contain nearly 27,000 acres of riparian habitat.

Impacts to recreation: Management of soils to reduce or prevent erosion on slopes 20% or greater would help maintain or improve vegetation productivity, which could preserve natural resources valued by recreationists.

Management of riparian areas to achieve PFC could limit the types and level of recreation in and along rivers and other riparian corridors by closing areas for restoration. However, restoration of riparian habitats would improve recreation settings and habitat for wildlife, which would increase wildlife viewing and primitive recreation opportunities such as hiking, picnicking, camping, and/or floating but could diminish the use by motorized recreationist.

Impacts to lands and realty: Soil, water, and riparian protection would require that construction of some facilities within ROWs be relocated, constructed, or redesigned to mitigate any site-specific impacts.

Impacts to minerals and energy resources: Soil, water and riparian restrictions would preclude minerals and energy developments. These restrictions could require oil and gas developments to directionally drill to extract hydrocarbon resources under these areas. These restrictions would also restrict the placement of

locatable mineral facilities and could increase costs associated with locatable mineral activities. In addition, these restrictions would limit the placement of mineral material operations near riparian zones.

Impacts to wild and scenic rivers: Requiring no surface disturbance or occupancy within the 100-year floodplains or within 330 feet (whichever is greater) of 641 miles of suitable river segments would indirectly protect the outstandingly remarkable values within these proximities to the river, regardless of tentative classification. Establishing the restrictions would enhance river segments by limiting activities that could detract from the natural character of the area and limit activities that could increase the potential for erosion and sedimentation while providing indirect protection of wildlife, fish, and scenic outstandingly remarkable values. Actions to maintain soil levels and vegetation cover would assist in maintaining plant diversity and preserving the ecological condition of river segments.

Impacts to transportation and motorized access: Implementing soil, water, and riparian management actions in this alternative would result in only minor impacts to county or BLM system roads such as relocation, construction, or design work to mitigate any site-specific impacts.

4.3.3 Vegetation

Impacts to minerals and energy resources, ACECs, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing vegetation management decisions.

Impacts to air quality: Allowing only natural processes as manipulation techniques to control vegetation would cause an impact to air quality only during wildland fires. The impact would be temporary emissions of particulate matter and CO that could spread over portions of the PFO.

Impacts to soils, water, and riparian resources: Managing vegetation through natural processes would have impacts to soil, water, and riparian resources by eliminating additional surface disturbance. Eliminating surface disturbances causes no local erosion and sedimentation, and there would be no impacts to water quality and siltation in riparian habitat. Management actions for aspen communities would support or enhance riparian/wetland ecosystems associated with aspen communities. Managing riparian and wetland vegetation types as unique, limited, and of high value, would support the health and vitality of these ecosystems. In addition, healthy riparian/wetland ecosystems support water quality and soil stability.

Impacts to vegetation: Limiting vegetation treatments to natural processes would considerably reduce the degree of effect associated with active vegetation treatments. Wildland fires could be managed to restore and/or enhance wetland vegetation types and aspen communities. However, the condition of some vegetation communities would deteriorate from expansion of non-native, invasive, and noxious weeds or species.

Vegetation would be manipulated using only natural processes, such as wildland fire, disease, and insects. Restricting the BLM-permitted surface disturbing activities within non-WSA lands with wilderness characteristics would limit the agency's ability to conduct vegetation projects. The inability to implement vegetative treatments would reduce the BLM's ability to meet rangeland health standards while waiting for wildland fire.

Impacts to cultural resources: The short-term impacts (e.g., vegetation loss and soil erosion) related to actions that manipulate vegetation would be reduced because these treatments would be limited to wildland fire. Limiting vegetation treatments to natural processes and protecting high-value resources

would lead to a continual increase of fuels in forest and woodland areas. The wildland fires that could result from this action could damage some cultural sites as a result of fire suppression efforts.

Impacts to paleontology: Only minor or no impacts to exposed paleontological sites are expected because these sites are generally not located in areas that are heavily vegetated.

Impacts to visual resources: The lack of maintenance of existing pinyon-juniper treatments would not retain the existing vegetative character of the landscape. Pinyon-juniper woodlands are naturally interspersed with openings of shrubs and grasslands. Over time, pinyon and juniper trees would invade some grasslands and shrublands. Limiting treatment methods to natural processes (fire) would mean that fewer open areas would be created in the pinyon-juniper woodlands. Wildland fires would also create noticeable lines along edges, changes in color, and changes in texture, between the woodlands, shrublands, and grasslands.

Actions that alter vegetation composition through vegetation, habitat, or fuels treatments would remove vegetation that enhances landscape contrast. In the long term, these treatments would alter vegetation composition, which could enhance visual variety (and thus its appeal) by introducing a mosaic of vegetation patterns into the landscape. Over the long term, restoration and vegetation treatments designed to improve ecological conditions could indirectly enhance visual resources on a localized basis. In the short term, however, these methods used to achieve improved ecological conditions would create direct visual changes to the landscape. None of these potential enhancements would occur because other treatment methods could not be used.

Impacts to special status species: The BLM's ability to manage sagebrush communities for a mosaic of age classes and structure would be limited under this alternative, which could affect special status species populations. Under this alternative, the BLM would not be able to take actions that would result in a mosaic of sagebrush ages and structures that would provide a greater diversity of habitat and forage for sage-grouse and a greater age class distribution and composition of sagebrush that would improve forage for sage-grouse young while still providing escape cover from predators, and management of aspen stands to promote regeneration and diversity, age, class, and to restore understory vegetation that improve special status species populations and habitats.

Impacts to fish and wildlife: Big game: By not controlling the invasion of pinyon-juniper woodlands, significant amounts of winter range would be lost over time because of the continued encroachment of these trees.

Upland game birds: The invasions of pinyon-juniper woodlands into sagebrush steppe communities, which would continue under this alternative, has been identified as one of the key factors in the loss of crucial habitat needed for sage-grouse, quail, and other game bird populations.

Non-game: Many non-game species benefit from manipulation of decadent vegetation communities. However, climax communities, especially pinyon-juniper woodlands, provide little benefit to non-game species. Not manipulating climax communities would result in less diversity of seral stages of vegetation.

Birds: Only a few species of birds (e.g., scrub jays and ferruginous hawks) rely on climax communities for part of their life requirements. Vegetation manipulation to open closed-canopy communities and provide greater diversity in vegetation type and seral stage would not be done. The potential benefits of vegetation manipulation to many species of birds would be foregone.

Impacts to wild horses and burros: Vegetation treatments that would affect wild horses and burros by displacing animals during treatment implementation and during post-treatment regrowth would be

avoided except during wildland fires. Overall opportunities for vegetation treatments to implement the standards to reestablish, renew, or restore vegetation, remove exotic plant species, and enhance the health of available vegetation and forage would be limited.

Impacts to fire and fuels: Under this alternative, vegetation manipulations would be limited to natural processes such as wildland fire. This limitation would considerably reduce the effects of active vegetation treatments. Prescribe burns would not be used to reduce fuel loading, thereby increasing the intensity of some wildland fires.

Impacts to non-WSA lands with wilderness characteristics: Restricting vegetative treatments to natural processes would complement the management within non-WSA lands with wilderness characteristics in order to maintain the naturalness of the area and the opportunities for solitude and primitive recreation. However, the opportunity to improve the naturalness would be limited.

Impacts to forestry and woodlands: The effects on forests and woodlands resulting from vegetation treatment actions would be eliminated because existing pinyon-juniper woodland treatments would not be maintained, and therefore, the natural succession of vegetation communities would be fostered. In addition, measures would not be implemented to control insect infestations, which would eliminate related effects on forest and woodland communities.

Impacts to livestock grazing: Livestock grazing would be directly affected by limitation of vegetation treatments. Limiting vegetation treatments to natural processes would preclude specific treatments that would enhance vegetative conditions by removing undesired species, increasing species diversity and age class, improving vegetation composition and structure, and increasing vegetation cover and livestock forage production. Not using treatments other than wildland fire would decrease short-term losses of vegetation cover and forego the opportunity for improved conditions over the long term.

Livestock forage production on previously treated areas would be reduced or eliminated because existing pinyon-juniper woodland treatments would not be maintained and natural succession would replace grasses and forbs with pinyon and/or juniper trees and woody shrubs. Livestock would be forced to concentrate on other areas and use them more intensively. Intensively used areas could degrade to the point that they would not meet the *Utah Standards for Rangeland Health*. If the standards were not met, the BLM might have to reduce grazing.

Impacts to recreation: Managing vegetation communities through natural processes would enhance or preserve the naturalness of the recreational setting. However, after a wildland fire, recreationists would be displaced from burned areas to other areas until revegetation occurred.

Impacts to lands and realty: Minimal impacts to lands and realty would occur by implementing vegetation management actions in this alternative.

Impacts to wild and scenic rivers: Allowing only natural processes to maintain healthy vegetative communities would be compatible with 273 miles of suitable river corridors tentatively classified as Wild, the 238 miles of river corridor tentatively classified as Scenic, and 130 miles tentatively classified as Recreational.

Use of wildland fires for management of vegetation would generally be compatible with protective management of some outstandingly remarkable values of suitable river segments. However, the vegetation along some river segments would deteriorate from expansion of non-native and invasive species because of the lack of effective treatment methods.

4.3.4 Cultural Resources

Impacts to air quality, paleontology, special status species, wild horses and burros, ACECs, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses would not be anticipated from implementing cultural management decisions.

Impacts to soils, water, and riparian resources: Cultural excavations could affect soil resources from associated surface disturbing activities. Excavations could potentially result in soil loss, runoff, and siltation, affecting short-term water quality. These effects would be minor and localized.

Impacts to vegetation: Activities associated with the management of cultural resources would affect relatively small, localized areas and would result in negligible impacts to vegetation resources. Restrictions on surface disturbing activities near cultural resources could minimize disturbances to vegetation.

Impacts to cultural resources: Prioritization of new field inventories would highlight those areas in which cultural resources of known importance, or those sites that are vulnerable to unmitigated impact, would be inventoried as money and staff became available. These inventories would increase the knowledge base in these areas, allowing improved management of these resources.

Seeking to identify traditional cultural properties could result in avoidance of surface disturbing actions in and around the sites, either temporally or spatially. Cultural resource sites in these areas could be preserved in place. In addition to avoiding surface disturbances that affect cultural resources, there could be the potential for preventing scientific research at sites. In addition, seeking agreements with Native American tribes or other cultural groups would formalize the required consultation process. These agreements could improve management of traditional cultural properties and improve consultation with interested cultural groups.

Requiring inventories for surface disturbing activities within a 300-foot radius of potential effect beyond the area of direct impact would increase the potential for identifying and mitigating effects on cultural resource sites. As a result, cultural resources in these areas would be identified, and impacts, whether direct or indirect, would be mitigated, thereby preserving the cultural resource values. However, under this alternative, there would be limitations on the number of surface disturbing projects, which could limit the opportunities to collect cultural information in a broader context.

Management of cultural resources with linear components would be managed so that the first activity to disturb a portion of a linear feature would complete documentation of the linear resource. This comprehensive documentation would ensure that cultural resource information for linear features as a whole would not be lost through segmented documentation of individual components of the features. This decision would increase the understanding of the feature in the context in which it was constructed. The impacts to these features would be reduced as a result of limiting surface disturbing on 60% of the PFO.

Impacts to visual resources: The protective management of cultural resources would generally complement the maintenance of landscape character and the conservation of visual resources, and would meet the requirements of VRM Class I. Excavation of cultural sites, whether for scientific inquiry or for compliance, would generally result in small, localized disturbances that would not have a noticeable impact to vegetation or landform. These changes to the landscape would not affect scenic quality.

Impacts to fish and wildlife: Excavation of cultural sites and cultural inventories would have local and short-term impacts to wildlife and their habitats because of surface disturbance. The short- and long-term impacts associated with these actions, given the limited footprints of these actions on the landscape,

would not be detrimental to wildlife and its associated habitat. Any proposed wildlife habitat enhancement project would require a cultural clearance before beginning. If cultural resources were found where wildlife habitat enhancement projects were proposed, these projects could be reevaluated, site adjustments could be made, or the projects might have to be redesigned.

Impacts to fire and fuels: Protective measures geared to cultural resources could preclude certain types of fire suppression activities in the vicinity of cultural resources, thus inhibiting the ability to control large, intense wildland fires.

Impacts to non-WSAs lands with wilderness characteristics: Management actions associated with cultural resources, which would allow for access, excavation, inventories, and collections of those resources, would affect non-WSA lands with wilderness characteristics. Short-term surface disturbance associated with such activities would result in temporary impacts to the natural character of the area. In addition, the presence of people, vehicles, and equipment in proximity to these cultural sites, and the corresponding increases in noise levels, would temporarily reduce the quality of opportunities for solitude.

Impacts to livestock grazing: Activities associated with the management of cultural resources would affect small, localized areas but would not have measurable effects on livestock forage. Even site excavation activities would disturb only a small amount of forage. Fencing and excluding grazing from cultural sites would reduce forage only minimally. Restrictions on surface disturbing activities near cultural sites could require the relocation of some range improvement projects.

Impacts to recreation: Creating and/or maintaining existing interpretative cultural sites for public use where allowed would provide for increased heritage tourism opportunities. These areas would provide opportunities for direct association between recreationists and cultural resources, which would provide for a strengthened social experience for users.

Impacts to lands and realty: Cultural resources management could affect land tenure adjustments (LTA) or alter the areas available for ROW locations. Prior to the disposal or lease of these lands, additional surveys would be conducted that could likely identify additional cultural resources. However, parcels containing high-value cultural resources would be retained in federal ownership and would not be available for disposal. ROWs might need to be relocated or projects redesigned to protect cultural sites.

Impacts to minerals and energy resources: The identification of cultural sites during inventories for areas of direct impact, plus a 300-foot area of potential effect, could require oil and gas exploration and development to relocate to less than optimal locations. However, it is not expected that the resource would be rendered unrecoverable because oil and gas development can be located between sites or wells can be directionally drilled to avoid sites.

Impacts to wild and scenic rivers: Cultural resources management would complement protective management of outstandingly remarkable cultural values where they occurred along 35 of the 38 suitable river segments.

4.3.5 Paleontology

Impacts to air quality, cultural resources, special status species, fish and wildlife, wild horses and burros, minerals and energy resources, ACECs, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses would not be anticipated from implementing management actions for paleontological resources.

Impacts to soils, water, and riparian resources: Paleontological excavations could affect soil resources from associated surface disturbing activities. Excavations could potentially result in soil loss, runoff, and siltation, affecting short-term water quality. These effects would be minor and localized.

Impacts to vegetation: Activities associated with the management of paleontological resources would affect relatively small, localized areas and would result in negligible impacts to vegetation resources. Avoidance and protection of paleontological sites would decrease local surface disturbing activities on or near those sites, which would minimize disturbances to vegetation in those areas.

Impacts to paleontology: The preferred mitigation measure for protecting significant paleontological resources would be avoidance, but that approach is not always possible. Avoidance would protect the paleontological resource in place, resulting in preservation of the physical resource. However, using an avoidance approach would not increase scientific knowledge of the locality. Data recovery could not guarantee complete identification of paleontological resources in an area. As surface disturbing activities increase in paleontological resource bearing geologic formations (Table 3-8 in DRMP/DEIS), the probability of inadvertently damaging or destroying paleontological sites would also increase. However, under this alternative, the number and extent of surface disturbing activities would be less than with any other alternative because of the protection of non-WSA lands with wilderness characteristics.

Generally, impacts to vertebrate and significant nonvertebrate paleontological resources would be mitigated. Mitigation measures include project relocation or redesign (avoidance) or various scientific data recovery methods such as recordation, surface collection, subsurface testing, or excavation. Mitigation actions would increase the knowledge and understanding of the area's paleontological resources and of the history of life on Earth. These actions would effectively minimize the potential for unmitigated impacts to known paleontological resources.

Paleontological resources would be protected through public education and interpretation programs, and through agreements with other agencies and organizations. The CLDQ NNL would be integral to providing the public with education opportunities.

Impacts to visual resources: The protective management of paleontological resources would generally complement the maintenance of landscape character and the conservation of visual resources and would meet the requirements of VRM Class I. Excavation of paleontological sites, whether for scientific inquiry or for compliance, would generally result in small, localized disturbances that would not noticeably affect vegetation and landform. These changes to the landscape would not affect scenic quality.

Impacts to fire and fuels: Protective measures geared to paleontological resources could preclude certain types of fire suppression activities in the vicinity of those resources but could also inhibit the ability to control large, intense wildland fires. This impact would only occur in small, localized areas of the PFO where these resources exist. However, only minor or no impacts to fire and fuels are expected because paleontological sites are generally not located in areas that are heavily vegetated.

Impacts to non-WSA lands with wilderness characteristics: Management actions associated with paleontological resources that would allow for access, excavation, inventories, and collections to those resources would affect non-WSA lands with wilderness characteristics. Short-term surface disturbance associated with such activities would result in temporary impacts to the natural character of the area. In addition, the presence of people, vehicles, and equipment, and the corresponding increases in noise levels would temporarily reduce the quality of opportunities for solitude.

Impacts to livestock grazing: Activities associated with the management of paleontological resources would affect small, localized areas but would not have measurable effects on livestock forage. Even site

excavation activities would disturb only a small amount of forage. Restrictions on surface disturbing activities near paleontological sites could require the relocation of some range improvement projects.

Impacts to recreation: Management of educational and interpretive facilities for paleontological resources (CLDQ and Dinosaur Diamond National Scenic Byway) would provide diverse recreation opportunities through increasing the knowledge of an area's paleontological resources and augment tourism activities. Interpretation of paleontological resources at developed recreation sites would also enhance visitors' experiences. Identifying areas for hobby collection of paleontological resources would provide unique recreation opportunities, but closing some areas with rare and significant invertebrate and plant fossils could reduce some of these opportunities.

Impacts to lands and realty: Paleontological resources management could affect LTA or alter the areas available for ROW locations. Prior to the disposal or lease of these lands, additional surveys would be conducted that would likely identify additional paleontological resources. However, parcels containing high-value paleontological resources would be retained in federal ownership and would not be available for disposal. In other instances, the BLM could attach protective easements or conditions to the lands to be disposed, which could limit the potential future uses of these lands. ROWs could be relocated or projects redesigned to protect paleontological sites

Impacts to wild and scenic rivers: Paleontological resource management would also complement protective management of the 38 suitable river segments.

4.3.6 Visual Resources

Impacts to hazardous materials and waste: Impacts to hazardous materials are not anticipated from implementing actions for visual resource management actions.

Impacts to air quality: Managing additional acreage as VRM Class I would improve air quality by reducing surface disturbing activities that would add particulates and degrade air quality.

Impacts to soils, water, and riparian resources: VRM Class I areas would maintain an undeveloped landscape and natural values, including soil, water, and riparian resources. This could reduce surface disturbance, retain existing vegetation, and minimize soil erosion, which would reduce sediment loading in streams and riparian/wetland areas. A greater degree of change would be allowed in VRM Class II–IV areas, which could potentially result in soil loss, runoff, and siltation, affecting short-term water quality.

Impacts to vegetation: Management as VRM Class I would maintain an undeveloped landscape. This could reduce surface disturbance, retain existing vegetation, and minimize soil erosion, which would reduce sediment loading in streams and riparian/wetland areas. However, natural or secondary succession of vegetation would continue, and plant communities would be altered by these processes. Also, expansion of non-native and invasive species would continue.

Impacts to cultural resources and paleontology: Restrictions on visually obtrusive developments in VRM Class I areas would limit surface disturbance. This limitation would result in a 250% increase in protected area compared with the No Action Alternative. In VRM Class I areas, cultural and paleontological sites would be preserved in place. The restrictions would also preserve settings associated with cultural and paleontological resources and heritage sites. VRM Class I would not restrict cultural and paleontological site excavations because they would generally be small, localized disturbances that would not have a noticeable impact to visual resources.

Impacts to visual resources: Management under this alternative would provide the greatest opportunity for viewing undeveloped and undisturbed landscapes. The amount of land managed under VRM Class I in this alternative would more than double the No Action Alternative (610,000 acres), increasing the size of intact landscapes across the area. This increase would be most pronounced for the areas that are currently managed as VRM Classes III and IV because of the additional protections afforded. Acreage within the remaining three VRM management classes would decrease: Class II by 230,000 acres, Class III by 310,000 acres, and Class IV by 370,000 acres.

Impacts to special status species and fish and wildlife: This alternative would be most restrictive to major modifications of landscapes. These restrictions are likely to improve or maintain special status species and fish and wildlife habitat. VRM Class I objectives would indirectly improve and maintain special status species and fish and wildlife populations and habitat by reducing surface disturbance. However, management as VRM Class I would preclude vegetation manipulation that would benefit some wildlife species, their habitats, and their communities as a whole.

Impacts to wild horses and burros: Management as VRM Class I and II would limit disturbances to the landscape and would support the wild and free-roaming nature of wild horses and burros. Management as VRM Class I would make wild horse and burro gathers more difficult because it could limit the placement of traps and handling facilities to less than ideal locations.

Impacts to fire and fuels: Management as VRM Class I could inhibit fire suppression efforts and the ability to control wildland fires by restricting the use of heavy equipment in these areas. This could lead to larger and more intense wildland fires. This alternative would mean an 860,000-acre increase in VRM Class I area compared with the No Action Alternative.

Impacts to non-WSA lands with wilderness characteristics: Managing 1,520,000 acres as VRM Class I would limit surface disturbing activities and help to prevent alterations to the landscape. This would maintain the naturalness and the quality of the opportunities for solitude and primitive recreation of the 27 non-WSA lands with wilderness characteristics areas.

Impacts to forestry and woodlands: Management as VRM Class I and VRM Class II would limit surface disturbing activities and reduce alterations to the landscape. Prescriptions for VRM Class I would preclude forest or woodland product harvest. Harvests in VRM Class II areas would have to be designed to include techniques to minimize changes to the landscape so that its existing character would be maintained and changes to the area's visual quality would not attract attention. This would increase the cost and complexity of harvest activities.

Impacts to livestock grazing: Management as VRM Class I and VRM Class II would reduce alterations to the landscape and limit surface disturbing activities, which would reduce the removal and disturbance of vegetation. Livestock grazing would be directly affected by limitation on vegetation treatments. Limiting vegetation treatments to processes that meet VRM Class I and II objectives would preclude specific treatments that would enhance vegetative conditions by removing undesired species, increasing species diversity and age class, improving vegetation composition and structure, and increasing vegetation cover and livestock forage production. This would decrease short-term losses of vegetation cover and forego the opportunity for improved conditions over the long term. Existing range improvements could be maintained but new range improvement projects could be limited in order to meet VRM Class I standards.

Impacts to recreation: Management of visual resources under this alternative would maximize the experience of the undeveloped landscape expanses that are an important aspect of recreation in the region.

This is especially true with respect to the Desolation Canyon, San Rafael, Nine Mile Canyon, and Labyrinth Canyon SRMAs.

In the Desolation Canyon SRMA, the entire SRMA would be managed as VRM Class I. This would complement the SRMA management objective of providing high-quality wilderness recreation opportunities. These effects would be most pronounced in the Bighorn Benches unit and the northern area between Sand Wash and the north boundary of the Desolation Canyon WSA. The Bighorn Benches are within the SRMA and completely surrounded by the existing WSA. These benches are easily accessed from Turtle Canyon, Range Creek, and the Price River. Changing the VRM Class from II to I would protect landscape integrity on this portion of the SRMA. Management of the northern area, between Sand Wash and the north boundary of the WSA, as VRM I would support SRMA goals and objectives because the No Action Alternative VRM Class I in this area is a 2-mile-wide corridor. The remainder would be managed as VRM Class III. The VRM Class III designation would be inadequate to support SRMA goals especially in places like Horse Bench with its wide open vistas.

Similar effects would occur in the San Rafael SRMA, preserving expansive landscapes suitable for geologic and scenic viewing and participation in primitive and unconfined recreation. There would also be improved protection of viewsheds for scenic driving on I-70, State Route 24, and the county and BLM system roads. The viewsheds from Capitol Reef National Park and those surrounding it in the Mussentuchit area would remain intact and protected from disturbance.

Management of lands within and adjacent to the Nine Mile Canyon SRMA would preserve SRMA viewsheds and protect landscape from visual intrusion. This provides the opportunity to view scenic and cultural resources that are intact and within a landscape context.

Similar impacts would occur for the Labyrinth Canyon SRMA. Opportunity for geologic and scenic landscape viewing would be better protected from intrusion by manmade projects. Opportunity for primitive and unconfined recreation would be enhanced.

Managing for VRM Class I and II objectives would limit the BLM's ability to meet the public's recreational demands for developed recreational sites (e.g., campsites, restrooms, kiosks, and OHV trails). For example, the Summerville/Chimney Rock trail system would not be designated for OHV use, which would result in a loss of motorized recreation opportunities on this trail system.

Impacts to lands and realty: Managing to meet VRM Class I and II objectives could alter or prevent the location of major utility corridors, transportation systems, and ROWs. In some cases, the BLM would not be able to provide the ROWs to meet the local or regional public need for utilities (e.g., gas, communication, and electricity).

Impacts to minerals and energy resources: Subject to valid rights and existing operations, VRM Class I areas (60% of the PFO) would not allow for noticeable change in the landscape, prohibiting the placement of energy and mineral development facilities. This would include drilling pads, roads, and pits. This would also render some of the leaseable and salable minerals (oil and gas, coal, sand and gravel) within these areas unrecoverable. However, 32,500 acres of VRM Class I lands are presently leased for oil and gas and could be developed under terms of the existing leases. It is estimated that about 200 wells could be drilled disturbing about 1,600 acres in VRM Class I areas. Approximately 950 fewer wells would be drilled under this alternative compared with Alternative A, in part because of VRM Class I restrictions. Approximately 19,500 acres of coal would be removed from future leasing consideration. However, about 3,500 acres are already leased and could be developed.

In VRM Class II areas, mineral development, including oil and gas facilities, would require intensive mitigation and could be restricted. Managing areas as VRM Class II could increase costs to the operator and limit the number and placement of pads and other support facilities.

VRM Class I and II restrictions would not limit development of locatable minerals on valid mining claims. A large portion of the 530,000 acres withdrawn or recommended for withdrawal from mineral entry are within VRM Class I areas, which would restrict development. However, about 80% of the VRM Class I area would remain open to locatable mineral entry.

Impacts to ACECs: VRM Class I management would maintain an undeveloped landscape and preserve naturalness. This could reduce surface disturbance, retain existing vegetation, and minimize impacts to 765,000 acres of ACECs (90%).

Impacts to wild and scenic rivers: Visual resource management for most of the suitable river segments with outstandingly remarkable scenic values would be according to VRM Class I or II, which would provide protection for these values. However, portions of the San Rafael River and very limited portions of Cane Wash are within VRM Class IV areas, which would allow for development that would affect the scenic values and other outstanding remarkable values along these river segments.

Impacts to transportation and motorized access: Any additional county or BLM roads would be precluded in the VRM Class I and II areas. This could result in long-term access issues because large areas of the PFO would become inaccessible to motorized use.

4.3.7 Special Status Species

Impacts to air quality, wild horses and burros, ACECs, and hazardous materials and waste: Impacts of these resources and uses are not anticipated from implementing actions for special status species management actions.

Impacts to soils, water, and riparian resources: Actions associated with the management of special status species would support soil, water, and riparian systems through protecting or enhancing habitat for species health. Any actions taken to modify or enhance habitat or populations for special status species could initially affect soil, water, and riparian systems through soil loss, erosion, and siltation, but these actions would also enhance the long-term health of soil and water quality and of riparian habitat.

Impacts to vegetation: Limiting or prohibiting surface disturbing activities to protect special status species would provide direct protection not only to special status plant species but also to the entire affected vegetation community. Such restrictions would help maintain species diversity, age class, and structure.

Impacts to cultural resources and paleontology: Special status species management decisions that restrict surface disturbance would protect cultural and paleontological resources in place. The reduction or elimination of development in these areas would result in fewer required cultural and paleontological assessments associated with surface disturbance, thereby reducing the potential for incidental damage as well as the potential for site identification and recordation through data recovery associated with development.

Impacts to visual resources: Prohibiting surface disturbances in areas containing special status species would also prevent changes to the characteristics of the landscape and thus to its visual values. Habitat restoration measures that include surface or vegetation disturbance, however, could create noticeable

changes in the landscape, as described above in the discussion of the effects of vegetation treatments on visual resources.

Impacts to special status species and fish and wildlife: Continuing to implement species-specific recovery or conservation plans would result in additional benefits to other wildlife and fish species and associated habitats. The prevention of surface disturbance in known or potential habitat of threatened, endangered, or candidate plant or animal species would directly benefit other fish and wildlife species in the area. Avoidance measures and stipulations during critical time periods would reduce disturbance to breeding, nesting, and wintering wildlife. In addition, management of streams toward their potential natural condition would generally improve habitats for both native and special status species. In certain instances, protection of special status species could limit projects designed to enhance other fish and/or wildlife habitat.

Impacts to non-WSA lands with wilderness characteristics: Protective measures geared to special status species would complement the management within non-WSAs with wilderness characteristics and assist in maintaining the naturalness of the area and the opportunities for solitude and primitive recreation.

Impacts to forestry and woodlands: Management of special status species would restrict opportunities for forest and woodland-product harvest in areas where federally listed species and BLM sensitive species occur, which would increase the complexity and costs of harvest activities. Actions to protect species listed under the ESA, including the implementation of conservation agreements and restrictions on surface disturbance, would further constrain product-harvest opportunities by limiting the location of the proposed harvest or the season in which it was conducted. However, limiting and/or prohibiting surface disturbing activities to protect special status species would provide direct protection to special status plant species located within forest and woodland communities and would thereby help to protect those communities as a whole.

Impacts to livestock grazing: Management of special status species would restrict opportunities for range improvements in areas where federally listed species and BLM-sensitive species occur. Actions to protect species listed under the ESA, including implementing conservation agreements and restrictions on surface disturbance, would further constrain rangeland improvement options by limiting the location of the proposed improvement or the season in which it can be constructed.

Impacts to recreation: Requiring relocations of new developments if surveys identify sensitive plant or animal species at the site would restrict development of new recreation sites, facilities, or motorized and non-motorized trails. These impacts could be mitigated through protective measures and/or site-specific engineering or site relocation. OHV closures to protect these species would remain in effect.

Impacts to lands and realty: The presence of T&E species, special status species, or their habitats might restrict areas from LTAs. Proposed ROWs locations would be precluded or would require mitigation if found to affect the habitats of listed species. Mitigation to protect T&E species and critical habitat could modify proposed land disposal actions. These areas could be avoided if the land tenure activity or proposed ROW would result in the loss of a habitat necessary to sustain the species. For example, increasing the greater sage-grouse lek buffer distance to 2 miles could alter the location and development of utility corridors, transportation systems, or ROWs.

Impacts to minerals and energy resources: No surface disturbance would be allowed within known populations or potential habitats of special status plants, fish, or animals, including Mexican spotted owl habitat, without consultation or conference between the BLM and USFWS. Conflicts between energy development and special status species protection is a specific problem in the Nine Mile Canyon and Tavaputs gas production area where there is habitat for the greater sage-grouse and designated Critical

habitat for the Mexican spotted owl. Measures to protect these species would increase costs to the operator and potentially require relocating access roads, drill pads, pipelines, other ancillary facilities. Similar conflicts would occur with facilities associated with coal, locatable minerals, and mineral materials. For large areas of special status species habitat, directional drilling would potentially be required to extract the hydrocarbon resources, which would increase operator cost and render some reserves as uneconomical to recover.

Timing restrictions to protect raptor nesting complexes and migratory bird nesting areas would affect mineral development, including oil and gas exploration and production. To protect these habitats, mineral exploration and development would be compressed into specific periods of time that would lead to delays in development and increased costs to operators.

Impacts to wild and scenic rivers: Management of special status species would complement protective management of outstandingly remarkable fish values, specifically the Humpback Chub, Bonytail Chub, Razorback Sucker, and Colorado Pikeminnow, where they occur in 294 miles of suitable rivers as well as designated Critical habitat for the Mexican spotted owl along the Green River.

Impacts to transportation, and motorized access: Special status species management decisions that restrict surface disturbance would require the relocation and/or design of future roads or maintenance of existing roads requiring new disturbance.

4.3.8 Fish and Wildlife

Impacts to air quality and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing actions for fish and wildlife management actions.

Impacts to soils, water, and riparian resources: Wildlife decisions would support the overall health and vitality of soil, water, and riparian systems through habitat protection and enhancement. Management of wildlife habitat would protect soils, water quality, and riparian in-stream habitat and would also prevent erosion and excess runoff. Short-term impacts such as erosion, soil loss, and siltation could occur with wildlife improvement projects implemented in or around riparian system. However, in the long term, those projects would provide overall improvement to the habitat and associated species.

Timing limitations for construction and heavy equipment operation and reductions in surface disturbing activities would reduce damage to soils, erosion, and siltation and would lower the risk of diminished water quality and degraded riparian habitats during periods of closure.

Habitat manipulation for the maintenance, recovery, and enhancement of fish populations would impact soil, water, and riparian habitat in both the short term and long term. Short-term impacts from fishery habitat enhancement would disrupt soils, cause erosion, runoff, and siltation, and would also affect water quality and sedimentation in riparian areas. Long-term impacts of fishery habitat enhancement would be improved aquatic and riparian habitat.

Impacts to vegetation: Prescriptive grazing would be used to maximize browse production on all big-game ranges and maximize forb production on pronghorn ranges. This would increase the area dominated by grasses and forbs. Expanding the greater sage-grouse lek protection area to a 2-mile radius would reduce disturbance to the vegetation community on the Tavaputs Plateau.

Managing the Gray Canyon WMA for wildlife, watershed, and recreation values would indirectly increase the diversity and age class of plant species, improve the composition and structure of vegetation

communities, and increase vegetation cover in this area. Prohibiting OHV use in the Gray Canyon WMA would provide further protections to vegetation resources.

Impacts to cultural resources and paleontology: Fish and wildlife management decisions that restrict surface disturbance would protect cultural and paleontological resources in place. The reduction or elimination of development in these areas would result in fewer required cultural and paleontological assessments associated with surface disturbance, thereby reducing the potential for incidental damage as well as the potential for site identification and recordation through data recovery associated with development. Fish and wildlife habitat enhancement projects could result in minor and localized impacts to cultural and paleontological sites where sites could not be avoided and data recovery was required.

Impacts to visual resources: Protecting wildlife habitat through stipulations on other land uses (e.g., collocation of ROWs, utility corridors, and oil and gas wells) would reduce surface disturbance and landscape change, thereby indirectly protecting scenic quality in the long term. Fish and wildlife enhancement projects would have only minor impacts to visual resources because they would be designed to meet the VRM class requirements.

Impacts to special status species: Protecting priority breeding-bird habitat as a high-value vegetative type would improve special status species populations and habitat.

Establishing Blue Ribbon Fisheries would improve and maintain some aquatic special status species populations and habitat. Enhancing aquatic habitats by restoring native vegetation would enhance special status fish species populations and habitat.

Limiting introduction and transplant to native and naturalized fish and wildlife species would prevent competition of invasive and exotic species with special status species. This would maintain their populations and habitat.

Limiting motorized travel to designated routes within crucial habitats would increase habitat connectivity, indirectly improving special status species populations and habitat.

Restricting the Gray Canyon WMA to NSO for oil and gas leasing and closing it to OHV use would affect special status species populations by decreasing surface disturbance and reducing habitat fragmentation on 130,000 acres. Managing this area for wildlife, watersheds, and non-motorized recreation would improve special status species populations and habitat. Reducing vegetation loss and erosion would improve special status species potential and occupied habitat. Seasonal closures for raptors and nest site buffer zones would improve populations of special status raptor species.

Impacts to fish and wildlife: If monitoring studies indicate that additional forage is available, the BLM would consider providing forage to support increased population objectives for wildlife. This is particularly critical in the spring when enhanced nutrition is essential following the demands on body reserves during the winter or when certain vegetation is needed by young-of-the-year.

Continued management of the Gray Canyon WMA would benefit fish and wildlife, especially raptor habitat, by limiting human presence in habitat areas and watersheds. In addition, the area would be managed as an NSO for oil and gas and closed to OHV use.

Seasonal closures and buffer zones of no surface disturbance around raptor nests would continue. These stipulations would minimize harassment and stress of wildlife during critical lifecycles, minimizing wildlife displacement and habitat destruction. Seasonal closure of deer and elk fawning and calving areas would also provide protection to high-priority bird-breeding and nesting habitats for migratory birds.

Allowing only the reintroduction of native and naturalized fish species would reduce competition from non-native species. This would also reduce the potential for interbreeding with non-native species. This would prevent native salmonoid populations from interbreeding with non-native salmonoids.

Impacts to wild horses and burros: Fish and wildlife management would impact wild horses and burros by minimizing habitat fragmentation. This would help maintain or improve habitat continuity and would preserve the wild, free-roaming nature of the wild horses and burros. Managing wildlife habitat through enhancement and winter closures would maintain or improve forage for wild horses and burros. Limiting and closing areas to motorized vehicle traffic to protect wildlife would prevent herd displacement away from forage and water resources. Management of fish and wildlife would result in competition for habitat resources between wild horses and burros and wildlife, specifically mule deer, Rocky Mountain elk, Desert bighorn sheep, pronghorn, and sage-grouse. Cases of increased competition for, or overuse of, forage and water would occur during periods of drought or other adverse conditions affecting overall size and health of the herds.

Impacts to fire and fuels: Prohibiting surface disturbing activities within 2 miles of greater sage-grouse leks in the crucial-value nesting/brood-rearing habitat, in high-value winter habitat, and in high-value yearlong habitat could preclude the use of heavy equipment for fire suppression activities in these areas. Fire suppression techniques would be limited to those consistent with the needs of the species. Although fire suppression would still occur where necessary to protect life, property, and sensitive resources, it could be more difficult to control wildland fires in some areas because of limited access or restrictions on motorized travel. This could result in larger and more intense fires increasing the potential for invasion of non-native species and higher fire frequency.

Impacts to non-WSA lands with wilderness characteristics: Protecting wildlife habitat through stipulations on other land uses (e.g., collocation of ROWs, utility corridors, and oil and gas wells) would reduce surface disturbance and landscape change, thereby maintaining undeveloped landscapes. This would complement management within non-WSAs lands with wilderness characteristics in order to maintain natural appearance and quality of opportunities for solitude and primitive recreation within the 27 identified areas. Existing wildlife-related development (e.g., water guzzlers) would be maintained, but new developments would not be constructed in non-WSA lands with wilderness characteristics.

Impacts to forestry and woodlands: Wildlife management actions would reduce surface disturbance levels in forest and woodland areas. This could improve the health of the forest and woodland areas. Wildlife restrictions also would limit where and when forest and woodland products could be harvested. This would result in only a minor reduction in the availability of forest and woodland products.

Impacts to livestock grazing: The spring grazing (May 15–June 15) would be eliminated in allotments within pronghorn habitat to encourage forb production. This would reduce the number of AUMs available for livestock use. To protect bighorn sheep habitat, conversion from cattle to sheep use would be prohibited on 138 allotments. This would not affect any existing sheep operations because there are only approximately 10 sheep allotments in the PFO.

Impacts to recreation: Management of fish and wildlife and their habitat for healthy and diverse populations would improve opportunities and experiences for both consumptive (i.e., hunting or fishing) and nonconsumptive (i.e., wildlife viewing or photography) recreational enjoyment of fish and wildlife.

The addition of the Range Creek and Price River South allotments would expand the Gray Canyon WMA to approximately 125,000 acres. This would enhance the experience of primitive and SPNM recreation by improving natural conditions and wildlife populations. However, there would be a loss of motorized

recreation opportunities. However, it would also reduce conflicts between user types and could maintain and enhance other recreation opportunities, such as hiking.

Impacts to lands and realty: Restricting surface disturbance in raptor nesting areas through BMPs would increase restrictions on ROWs. This would affect the timing of construction but not maintenance within ROWs, and generally would not preclude the issuance of a ROW.

Impacts to minerals and energy resources: Timing limitation stipulations to protect wildlife would compress mineral exploration and development into specific time periods. This would limit the time frame in which oil and gas activities could occur. The effect on oil and gas development would be the greatest in the Ferron Fairway North/Drunkard's Wash, Castlegate, and Nine Mile Canyon areas.

NSO surrounding greater sage-grouse leks in the Nine Mile Canyon and Tavaputs Plateau area would require directional drilling to extract hydrocarbon resources. If the areas were wider than the technically feasible reach for directional drilling, some hydrocarbon resources would be rendered unrecoverable. Timing limitations on greater sage-grouse leks, in crucial-value nesting/brood-rearing habitat and in high-value yearlong habitat, would limit oil and gas exploration and development during specific time periods and would increase recovery costs.

Impacts to ACECs: Fish and wildlife restrictions on surface disturbing activities would complement the management of scenic, natural process, wildlife, and ecological relevant and important values in all of the potential ACECs.

Impacts to wild and scenic rivers: Management of fish and wildlife would complement protective management related to river suitability by protecting and enhancing species habitat in and along the suitable rivers. Specifically, protective management would be supplemented for 351 river miles of outstandingly remarkable fish habitat and along 345 miles of rivers where wildlife habitat is an outstandingly remarkable value. Within these river segments, any proposed riparian and aquatic habitat improvement projects would be designed to be compatible with potential designation of the river.

Impacts to transportation and motorized access: Fish and wildlife management decisions that restrict surface disturbance would require the relocation and/or design of future roads or maintenance of existing roads requiring new disturbance. Timing limitation stipulations to protect wildlife would compress construction into specific time periods. This would increase construction costs.

4.3.9 Wild Horses and Burros

Impacts to air quality, visual resources, special status species, minerals and energy resources, ACECs, wild and scenic rivers, transportation and motorized access, and hazardous materials and waste: These resources and uses would not be anticipated as a result of implementing management actions for wild horses and burros.

Impacts to soils, water, and riparian resources: Restrictions on surface disturbing activities could limit development of water sources for wild horses and burros which could result in an increase in wild horse and burro concentration and usage in riparian areas. Overuse of the areas would damage vegetation and lead to increased soil erosion and siltation of the streams. These impacts are expected to be minimal and localized because the 300 horses and burros have about 350,000 acres of available habitat. Removing the 25 horses from the Robbers Roost HMA and setting the AML at zero would reduce soil erosion by removing concentrated use of watering areas by wild horses and burros.

Impacts to vegetation: The effects on vegetation resulting from management of wild horses and burros would be eliminated on the Robbers Roost HMA because the HMA would lose its status and the AML would be set at zero. The removal of the 25 horses would have a minimal effect on the vegetation in this area. Combining the Sinbad and Muddy Creek HMAs and increasing the AML by about 25 would increase the level of soil disturbance and vegetation loss caused by wild horses and burros.

Impacts to cultural resources and paleontology: Impacts to cultural and paleontological resources could occur during wild horses and burros gathers. This impact would be minimal because sites would be identified and avoided. The placement of traps and supporting facilities (e.g., corrals) would be anticipated on less than 60 acres over the life of the plan.

Impacts to fish and wildlife: Management of wild horses and burros would result in competition for habitat resources between wild horses and burros and wildlife, specifically mule deer, Rocky Mountain elk, Desert bighorn sheep, and pronghorn (Maps 3-9 through 3-12 in DRMP/DEIS). Increased competition for or overuse of, forage and water would occur during periods of drought or other adverse conditions. This would affect the overall productivity of the vegetation within the HMAs, which would lead to stress and possible localized decline in wildlife populations.

Impacts to wild horses and burros: The boundaries of the Range Creek HMA would be revised to include the 50,000 acres historically used by horses. However, the AML would remain the same, which would continue to ensure the genetic health of the herd. The Muddy Creek and Sinbad horse HMAs would be combined to include the 283,000 acres historically used by the horses. The AML would be increased by 25 horses to ensure the genetic health of the herd. The Sinbad burro HMA would be revised to include the 99,000 acres historically used by burros. However, the AML would remain the same, which would continue to ensure the genetic health of the herd. The Robbers Roost HMA would have an AML of zero. The BLM would monitor range conditions and would gather and remove wild horses and burros as necessary to ensure rangeland health and the health of the herds.

Managing wild horses and burros for appropriate age and sex ratios would ensure that the ratios of animals in the population were sufficient for maintenance of the AML. Managing the population at the AML would help to achieve a sustainable and healthy wild horse and burro population.

Impacts to fire and fuels: The overall effect of wild horses and burros on fire intensity and frequency would be minimal because of the small number of animals and the large area they inhabit. Wild horse and burro grazing in the Range Creek, Muddy Creek, and Sinbad HMAs could reduce fire frequency by reducing fine fuels (such as grasses) that serve as ignition sources. However, decreasing the probability of ignition from fine fuels would provide more time for the accumulation of larger fuel sources (such as shrub vegetation) between fires, which would, in turn, increase the intensity of wildland fires. The effects on fire and fuels management would be eliminated on the Robbers Roost HMA.

Impacts to non-WSA lands with wilderness characteristics: The effects on wilderness characteristics resulting from management of wild horses and burros would be eliminated on the Robbers Roost HMA. Because 50% of the other three wild horse and burro HMAs are within non-WSA lands with wilderness characteristics, management of wild horses and burros would have minor impact to those lands during gathers. Impacts would be limited because most trap locations are on or adjacent to main travel routes that would remain open and would be outside the non-WSA lands with wilderness characteristics. Also, the helicopters used for about 1 week every 4 years to gather the animals would have a negligible impact to the opportunity for solitude. The Sinbad horse HMA would be combined with the Muddy Creek HMA, and the total number of wild horses would increase by about 25, which would slightly increase the level of soil disturbance and vegetation trampling and removal caused by wild horses but would not noticeably alter the natural appearance of any of the non-WSA lands with wilderness characteristics.

Impacts to forestry and woodlands: The effects on forests and woodlands resulting from management of wild horses and burros would be eliminated on the Robbers Roost HMA. The impacts from the other three herds are expected to be minimal and localized because the 300 horses and burros are spread out over 350,000 acres.

Impacts to livestock grazing: Grazing by wild horses and burros in the Range Creek, Muddy Creek, and Sinbad HMAs would affect livestock grazing through competition for forage in those allotments that overlap with these HMAs. Eliminating horses from the Robbers Roost HMA would allow 300 AUMs to be potentially reallocated to livestock grazing. Combining the Sinbad horse herd with the Muddy Creek herd and increasing the AML by 25 would remove 300 AUMs from potential livestock use.

Impacts to recreation: Impacts to recreation would be minimal as a result of implementing management actions for wild horses and burros. Viewing of wild horses and burros could be considered a benefit to most recreational activities within HMAs. Although infrequent, seeing wild horses and burros while recreating on public lands adds to most people's enjoyment of the land and their activity.

Impacts to lands and realty: In accordance with the Wild Horse and Burro Act of 1971, lands within HMAs would remain in public ownership, which would make these lands unavailable for LTAs. Public lands in the HMAs' 640,900 acres would not be considered for LTAs that could result in disposal. This would limit the potential future uses of these lands.

4.3.10 Fire and Fuels Management

Impacts to lands and realty, minerals and energy resources, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing actions for fire and fuels management actions.

Impacts to air quality: Under this alternative, larger and more intense wildland fires are expected because of limitations on the tools used to suppress fires in WSAs and non-WSA lands with wilderness characteristics. The impact would be short-term, localized, and potentially major increases in emissions of both particulate matter and carbon monoxide. Particulate and gaseous emissions from the use of heavy fire suppression equipment would be reduced under this alternative.

Impacts to soils, water, and riparian resources: Fires affect soil, water, and riparian habitat by removing vegetation and increasing local soil erosion and sedimentation rates. Under this alternative, larger and more intense wildland fires are expected. There would be short-term impacts caused by heat damage to soil surfaces. This would result in sterile soils, hydrophobic soil conditions, heavy erosion, ash, and soil runoff. Riparian/wetland vegetation loss from wildland fires would lead to unstable bank conditions, producing further erosion and reducing water quality.

Impacts to vegetation: Wildland fires would be used as a tool to treat vegetation. These fires could, in the long term, improve diversity, age class, and structure of vegetation communities as the PFO approaches a more natural fire regime. The use of appropriate management responses (AMR) would provide more flexibility in determining where and how fire suppression should be conducted. This would increase the short-term effects on vegetation communities because of larger more intense fires. The condition of some vegetation communities would deteriorate from expansion of non-native, invasive, and noxious weeds or species.

Impacts to cultural resources: Although wildland fire and suppression actions could affect cultural resources, the use of well-planned wildland fire management is preferable to the long-term impacts of continual fire suppression. Allowing wildland fire throughout the area would enable the strategic

management of wildland fire for resource benefit. This would allow for the protection of high-value cultural resources while planning the restoration of areas susceptible to uncharacteristic wildland fires. It is anticipated that wildland fire would affect roughly 500 acres annually. Although the use of wildland fire for resource benefit would reduce the impact to cultural resources, there would still be the potential for resource damage by fire and fire suppression activities. Cultural sites and areas would be identified at the implementation level as high-value resources. Wildfires threatening these cultural resources would receive higher suppression priority. Resource advisors and archaeologists would be consulted during fire use and fire suppression efforts to minimize the potential impacts to cultural sites from wildland fire and suppression activities.

Impacts to paleontology: Direct impacts to paleontological resources could occur as a result of surface disturbance caused by wildland fire suppression activities (such as construction of fire lines, bulldozing of access roads, and general movement of heavy equipment). Most areas where surface paleontological resources exist are in areas with sparse vegetation and therefore are not conducive to wildland fire ignition or spread.

Impacts to visual resources: Wildland fire and suppression have many effects on the landscape (and thus its visual values) in both the short and long term. Immediately following a fire, the burned areas are blackened and lacking in color, form, and texture. Over time, vegetation restores the color, form, and texture in a mosaic pattern. In the short term, burnt vegetation would be an unpleasant sight for many visitors. In the longer term, however, fire would often lead to variety in the vegetation of a landscape that is both interesting and appealing to view. In the planning area, fire in sagebrush communities would remove shrubs and grasses and also would stimulate regrowth of new vigorous plants, maintaining the vegetative element of the landscape. Fire in these communities can lead to invasion of exotic plants like cheatgrass. In areas that are susceptible to invasion, fire would facilitate conversion of a landscape with some vegetative variety into a monoculture of grasses, with less visual interest and appeal. In pinyon-juniper woodlands, however, fire would help maintain openings in the woodland forest, which, in turn, would encourage more vegetative variety and thereby enhance visual appeal. In a coniferous forest, fire may contribute to the loss of trees and understory brush and grasses. Fire, however, would also create openings in forests and stimulate regrowth of shrubs, forbs, and grasses, which, in turn, would introduce new lines, colors, and textures to the vegetative component of the landscape. More variety often leads to more interest and more visual appeal to the visitor. Fire suppression would result in construction of fire lines (by hand and bulldozer) that remove vegetation, thereby exposing the underlying soil. These actions would create noticeable lines in the vegetation and some disturbance to the landform. Soil disturbances would be rehabilitated at the end of the suppression effort, restoring the landform to a near-natural condition.

Impacts to special status species: Wildland fire in the PFO would potentially affect many different habitats, including some habitats associated with special status species. In the short term, fires would burn vegetation and remove important habitat components. In general, wildland fires would have long-term effects by diversifying plant community composition and age structure, promoting more vigorous vegetation growth, and enhancing habitat. Wildland fires would be used to help meet the objectives of other programs. Fire would be used to convert shrub to grass and forb-dominated areas, increase habitat diversity, and improve vegetation cover.

Chemical and mechanical fire management equipment would potentially result in habitat disruption by the creation of roads for fire control equipment. Use of chemicals and other fire suppression measures could affect vegetation and water quality, indirectly causing a short-term impact to special status species by altering the types of food available.

Impacts to fish and wildlife: Wildland fire could be both beneficial and detrimental to wildlife and its habitats. Periodic random wildland fires would remove vegetation, forage, hiding cover, and thermal cover. Fire also acts as a rejuvenator by returning nutrients to the soil. In vegetative climax communities, fire would return the vegetative community to an earlier stage of succession that would be beneficial to some wildlife species. Historically, fires that would not affect entire wildlife populations have created mosaics resulting in more variability in vegetation, seral stage and species composition, height stratification, and improved herbaceous understory. Wildland fires that are managed to affect less than 600 acres would have short-term impacts with long-term benefits to wildlife habitats of most species. Large landscape type wildland fires exceeding 600 acres would have short-term and long-term effects on wildlife habitat. Under this alternative, it is expected that more fires would exceed 600 acres because restrictions would be placed on fire suppression methods and methods to protect non-WSA lands with wilderness characteristics.

The loss of riparian vegetation would be detrimental to the habitat requirements of species that rely on those areas, although this would generally cause a short-term impact due to succession of riparian plant communities following wildland fire.

There would be short-term declines in populations of less mobile wildlife species that are not able to avoid the fire path. However, populations of such species normally recolonize burned areas within 5 to 10 years, depending on size and intensity of the fire.

Impacts to wild horses and burros: The impact would be localized forage losses and temporary displacement of animals during and immediately after wildland fires.

Impacts to fire and fuels: Activities associated with fire management would have a considerable effect on the ability to control wildland fires. Using full fire suppression in areas with high-value resources would reduce fire size and intensity in these areas and increase the ability to control fires and protect important resources from fire damage. Suppression of wildland fires would be limited within 60% of the PFO. This would return fire to its natural function in the environment and result in a shorter fire-return interval. In the short term, fires would be larger and more intense.

Impacts to non-WSA lands with wilderness characteristics: Limiting the use of motorized vehicles to maintain naturalness of these areas would limit the methods used to fight wildland fires and could lead to larger and more intense fires. Wildland fire and suppression have many effects on the landscape (and thus its visual values) in both the short and long term. Over time, vegetation could return in a mosaic pattern with vegetative screening that could restore the opportunity for solitude and primitive recreation. As fire returns to its natural role, it would complement the management of non-WSAs with wilderness characteristics.

Impacts to forestry and woodlands: This alternative would reduce the use of fire suppression and would thereby increase the short-term effects to forest and woodland areas because of larger, more intense fires. In the long term, the ecological role of fire would likely increase, helping to maintain diversity, age class, and structure of forest and woodland communities.

Impacts to livestock grazing: Wildland fire could be both beneficial and detrimental to livestock grazing. Periodic random wildland use fires would remove vegetation and forage. However, fire also acts as a rejuvenator by returning nutrients to the soil. In vegetative climax communities, fire would return the vegetative community to an earlier stage of succession that would increase production of livestock forage.

Over the long term, livestock would benefit from wildland fires as vegetation treatments, with emphasis on pinyon-juniper woodland, sagebrush communities, wetland vegetation, and aspen communities, which

would decrease fuel loading and thereby decrease the intensity of wildland fires and allow fires to be more easily controlled. In addition, these activities would promote healthy, diverse vegetation communities that burn with less intensity than degraded vegetation communities. However, if cheatgrass invades then cheatgrass stands, which are less diverse and have a high probability of re-burning and increasing in size, would result.

Impacts to recreation: Management of wildland fire using appropriate management response and avoiding wildland fire use in areas with recreation facilities would maintain and protect recreation facilities and opportunities. Implementing fire prevention activities, such as signage and education efforts, would reduce wildfire risk by increasing visitor awareness of wildfire danger. Short-term closures of recreation facilities and areas could occur during fire events.

Immediately following a fire, the burned areas are blackened, which would reduce the quality of opportunities for recreation. Over time, vegetation succession would return a mosaic pattern with vegetative screening, which would restore the opportunity for recreation.

Impacts to ACECs: Management of wildland fires using appropriate management response and avoiding wildland fire use in ACECs would maintain and protect the relevant and important values of the ACECs.

Impacts to wild and scenic rivers: Fire and fuel program guidance directs suppression of fire to protect high-risk resource values, which would include outstandingly remarkable values along 641 miles of suitable rivers. Decisions regarding fire and fuels, therefore, would support the objectives for management of suitable rivers.

4.3.11 Non-WSA Lands with Wilderness Characteristics

Impacts to hazardous materials and waste: Impacts are not anticipated from implementing actions for non-WSA lands with wilderness characteristics.

Impacts to air quality: Limiting the amount of additional surface disturbing activities would lead to a long-term decrease in air quality emissions by prohibiting additional increases in fugitive dust and vehicular exhaust emissions that would occur.

Impacts to soils, water, and riparian resources, vegetation, and forestry and woodlands: Managing for naturalness, solitude, and primitive recreation would maintain an undeveloped landscape and preserve natural values, including soil, water, riparian, vegetation, and forest and woodland resources. This could reduce surface disturbance, retain existing vegetation, and minimize soil erosion, which would reduce sediment loading in streams and riparian/wetland areas. These increases in acreage would increase the areas where soil, water, and riparian resources would be protected.

Vegetation would be manipulated using only natural processes, such as wildland fire, disease, and insects. Restricting BLM-permitted surface disturbing activities within these closed areas would limit the agency's ability to conduct vegetation projects. Limiting vegetative treatments would reduce the BLM's ability to meet rangeland health standards.

Impacts to cultural resources and paleontology: In non-WSA lands with wilderness characteristics, cultural and paleontological resources would be preserved in place because of restrictions on surface disturbing activities. The restrictions would also preserve settings associated with cultural, heritage, and paleontological sites. Permitted cultural and paleontological site excavations would be allowed on a case-by-case basis. However, opportunities to collect information would be lost because surface disturbing activities could expose cultural and paleontological sites that would not otherwise have been discovered.

Impacts to visual resources: This alternative would greatly emphasize the protection of scenic resources within the planning unit by allowing very low levels of change in the VRM Class I areas. The amount of land managed under VRM Class I would more than double to 1,520,000 acres from the current 610,000 acres. This would increase the size of intact scenic landscapes across the area. This would be more pronounced for the areas adjacent to existing WSAs, which are currently managed as VRM Class I. Acreage within the remaining three management classes would decrease by the following acreage: Class II by 230,000 acres; Class III by 310,000, and Class IV by 370,000. Management under this alternative would provide the greatest opportunity for viewing natural, undisturbed landscapes. This alternative would be most restrictive regarding major modifications of natural landscapes.

Impacts to special status species: Special management applied to non-WSA lands with wilderness characteristics would reduce surface disturbance and maintain special status species habitat within 40% of the PFO.

The Never Sweat Wash, Price River, and Sids Mountain areas have white-tailed prairie dog habitat. Mexican spotted owl designated Critical habitat (by USFWS) and greater sage-grouse habitat are found in the Desolation Canyon and Jack Canyon non-WSA lands with wilderness characteristics. Mexican spotted owl potential habitat has been identified in Mexican Mountain, Price River, Sids Mountain, Flat Tops, Labyrinth Canyon, Cedar Mountain, Muddy Creek–Crack Canyon, Rock Canyon, San Rafael Reef, Desolation Canyon, Jack Canyon, and Turtle Canyon areas.

Impacts to fish and wildlife: About 10% of the Rocky Mountain bighorn sheep crucial and high-value yearlong habitat is within the Desolation Canyon, Jack Canyon, and Turtle Canyon non-WSA lands with wilderness characteristics, and the habitat would be maintained. About 60% of the Desert bighorn sheep high-value yearlong habitat is within the Mexican Mountain, Price River, Sids Mountain, Hondu Country, Muddy Creek–Crack Canyon, San Rafael Knob, and San Rafael Reef non-WSA lands with wilderness characteristics, and the habitat would be maintained.

Less than 5% of the elk crucial value winter habitat and the mule deer high-valued winter habitat is within the Desolation Canyon and Jack Canyon non-WSA lands with wilderness characteristics, and would be maintained. About 20% of the pronghorn high-value yearlong habitat is within the Price River and Sids Mountain non-WSA lands with wilderness characteristics. About 50% of the pronghorn high-value yearlong habitat is within the Flat Tops, Labyrinth Canyon, San Rafael River, Sweetwater Reef, Hondu Country, San Rafael Reef, and Wild Horse Mesa non-WSA lands with wilderness characteristics. The pronghorn habitat within these areas would be maintained.

Impacts to wild horses and burros: Of the lands identified as non-WSA lands with wilderness characteristics, 225,000 acres are found within wild horse and burro HMAs. About 80% of the Muddy Creek, 25% of the Sinbad, and 5% of the Range Creek HMA acreage is within non-WSA lands with wilderness characteristics. Management restrictions on those lands would limit the options available to the BLM for management of wild horses and burros during planned gathers. Limiting surface disturbing activities would maintain existing vegetation and minimize the potential for herd displacement.

Impacts to fire and fuels: Limiting the use of motorized vehicles to maintain naturalness of these areas would limit the type of equipment and methods use to fight wildland fires and would lead to larger fires.

Impacts to livestock grazing: Livestock permittees are dependent on management facilities to control livestock distribution and care of livestock on the public lands. Managing non-WSA lands with wilderness characteristics as VRM Class I would limit development of range improvement projects.

Impacts to recreation: This alternative represents a major shift in recreation opportunity from motorized to primitive recreation. This change from motorized to non-motorized use would occur mostly within SRMAs.

This alternative is the most restrictive to OHV activity based recreation. To protect non-WSA lands with wilderness characteristics, the BLM would close an additional 937,000 acres to OHV use. The Summerville/Chimney Rock trail system in the Never Sweat and Lost Springs Wash non-WSA lands with wilderness characteristics would not be designated for OHV use, which would result in a loss of motorized recreation opportunities on this trail system. Within the San Rafael Motorized Route Designation Plan Area, 210 of the 677 miles of designated OHV routes would be closed in 21 of the 27 non-WSA lands with wilderness characteristics. Current trends show that the majority of recreational use demand is and will continue to be for motorized and developed forms of recreation. The quality and extent of recreation opportunities for these activities would decline or be eliminated in most of the PFO.

Management to preserve wilderness characteristics under this alternative would maximize the experience of the undeveloped landscape expanses that is an important aspect of recreation in the region. This is especially true with respect to the Desolation Canyon, San Rafael, Nine Mile Canyon, and Labyrinth Canyon SRMAs.

The non-WSA lands with wilderness characteristics would add 96,000 acres to the Desolation Canyon SRMA. This would complement management of the SRMA, providing for primitive and wilderness recreation opportunity. These effects would be most pronounced in the Bighorn Benches unit and the area between Sand Wash and the north boundary of the Desolation Canyon WSA. The Bighorn Benches are within the SRMA and completely surrounded by the existing WSA. These benches are easily accessed from Turtle Canyon, Range Creek, and the Price River. Changing the VRM Class from II to I would protect landscape integrity on this portion of the SRMA. Managing the northern area, between Sand Wash and the north boundary of the WSA, as VRM Class I would support SRMA goals and objectives because the No Action Alternative VRM Class I management in this area is essentially a 2-mile-wide corridor.

About 50% of the San Rafael SRMA would be in non-WSA lands with wilderness characteristics and managed for a Primitive or SPNM ROS setting, which would be a shift away from motorized use within the SRMA. The San Rafael SRMA would be managed to preserve expansive landscapes suitable for geologic and scenic viewing and participation in primitive and unconfined recreation. There would also be improved protection of viewsheds for scenic driving on I-70, State Route 24, and the county and BLM system roads in this area. The viewsheds from within Capitol Reef National Park and those surrounding it in the Mussentuchit area would remain intact and protected from disturbance.

Management of non-WSA lands with wilderness characteristics adjacent to the Nine Mile Canyon SRMA would preserve SRMA viewsheds and protect landscape integrity from visual intrusion. This would complement the SRMA objective of providing opportunity to view scenic and cultural resources that are intact and within a landscape context.

Similar impacts would occur for the Labyrinth Canyon SRMA. Opportunity for geologic and scenic landscape viewing would be better protected from intrusion by manmade objects. Opportunity for primitive and unconfined recreation would be enhanced.

Impacts to land realty: Retention in federal ownership of the non-WSA lands with wilderness characteristics, when taken in conjunction with WSAs that are already in a retention status, would result in a total of 60% of lands identified for retention within the PFO. As a result, less public land would be available for exchanges or sales that would dispose of these lands in support of other land use objectives.

The exclusion of ROWs to nearly 1 million acres of land would severely affect the effectiveness of the lands and realty program. Long-term impacts would include a reduction in ROWs in the PFO. In general, ROW corridors within the PFO would be restricted to the existing routes of highways 6, 10, and 24. This would severely limit the BLM's ability to meet utility transmission demands.

The lands and realty program would be further affected by the VRM Class I prescription. Large areas of the PFO could not be developed for public enjoyment or other potential uses.

Impacts to minerals and energy resources: This alternative would be the most restrictive to leaseable mineral development. Approximately 60% (1,490,000 acres) of the PFO would be closed to leasing. This would be 937,000 acres more than with the No Action Alternative. Of the 1,800,000 acres of the PFO with high potential for occurrence of oil and gas, about 56% would be closed to leasing. The areas that would most likely be affected are unleased lands within the West Tavaputs Plateau area where there is ongoing development and in the central and southern portions of the PFO where recent interest has been expressed by industry. In addition, about 187,000 acres of State of Utah lands could be rendered uneconomic to lease because they would be surrounded by unleaseable federal lands.

A total of 26,019 acres are leased for oil and gas development (Map 3-23) within 372,700 acres in 7 non-WSA lands with wilderness characteristics areas. This includes Desolation Canyon—6,664 acres, Jack Canyon—150 acres, Muddy Creek/Crack Canyon—1,986 acres, Price River—878 acres, Lost Springs Wash—10,568 acres, Never Sweat Wash—3,211 acres, and South Horn Mountain—2,562 acres. If these oil and gas leases are developed, it is estimated that about 175 wells could be drilled, disturbing about 1,400 acres in these 7 non-WSA lands with wilderness characteristics areas.

About 19,200 acres with potential coal resources and currently unleased would be eliminated from further consideration for leasing (Map 2-70). Most of these eliminated lands are in the Turtle Canyon non-WSA lands with wilderness characteristics area, with some in the Emery coal field near I-70 (Rock Canyon and Molen Reef non-WSA lands with wilderness characteristics areas). This would result in up to 100 million tons of coal unrecoverable and eliminate potential private revenues, federal royalty revenues, and associated economic benefits. Eliminating the coal potential lands in the Turtle Canyon area from further consideration for leasing would limit the life of the proposed Lila Canyon Coal Mine. About 3,500 acres of lands are currently leased in the Turtle Canyon non-WSA land with wilderness characteristics area. Lessees could exercise their valid existing right and mine the coal.

No lands would be withdrawn or recommended for withdrawal from locatable mineral entry for protection of non-WSA lands with wilderness characteristics. However, approximately 70,000 would be withdrawn or recommended for withdrawal from locatable mineral entry in 22 of the 27 non-WSA lands with wilderness characteristics for other reasons.

All acreage in non-WSA lands with wilderness characteristics would be closed to mineral material disposal. This is 33% of the 2.8 million-acre mineral estate managed by PFO. PFO has an estimated 360,000 acres with sand, gravel, and rock resources. Of these acres, 210,000 would be closed to mineral material disposal. This is 58% of the lands available for disposal of sand, gravel, and rock.

Noncommercial excavation or collection of stone would not be permitted at the Willow Springs basalt boulder, Old Woman Wash, and San Rafael River red sandstone areas. However, the Red Seeps, San Rafael River, and Red Canyon sites (Map 3-25 in DRMP/DEIS) would remain open for sales and collection of stone. Overall, there would be a minor limitation on popular stone collection areas.

PFO has an estimated 1,000,000 acres with clay resources. Of these acres, 320,000 would be closed to mineral material disposal. This is 32% of the lands available for disposal of clay. Of the five areas with

the highest potential for mining of clay (Map 3-17 in DRMP/DEIS), two would be totally closed and two would be partially closed (25–50%) to sale of clay and one existing pit (Last Chance) would not be permitted to expand.

Impacts to WSAs: By implementing the prescriptions found in this alternative, manageability of the WSAs and their wilderness values would be enhanced. In some cases, established WSA boundaries that may not be easily identified would be protected and the landscape integrity maintained by protecting non-WSA lands with wilderness characteristics.

Impacts to ACECs: Management for naturalness and outstanding opportunities for solitude or primitive and unconfined recreation within non-WSA lands with wilderness characteristics would complement the protective management of ACECs. Approximately 275,000 acres (32%) of ACECs are within the non-WSA lands with wilderness characteristics. The non-WSA lands with wilderness characteristics management prescriptions are generally more protective than the ACEC prescriptions. They would take precedence over ACEC management and provide a greater degree of protection by prohibiting surface disturbing activities on portions of 17 of the 23 ACECs.

Impacts to wild and scenic rivers: Management for naturalness and outstanding opportunities for solitude or primitive and unconfined recreation within non-WSA lands with wilderness characteristics would complement the protective management of 141 of 641 miles of suitable river segments. This is particularly true for portions of the Price and San Rafael rivers, Muddy Creek, and Cane Wash, which are tentatively classified as Scenic, and Nine Mile Creek, which is tentatively classified as Recreational where more development would have been allowed without the protection afforded by this alternative to non-WSA lands with wilderness characteristics.

Impacts to transportation and motorized access: Any additional county or BLM roads would be precluded on an additional 937,000 acres to protect wilderness characteristics. Approximately 40% of the PFO would remain inaccessible to motorized use. Impacts to OHV use are discussed under the recreation section above.

4.3.12 Forestry and Woodlands

Impacts to air quality, wild horses and burros, lands and realty, minerals and energy resources, ACECs, wild and scenic rivers, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing actions for forest and woodland management actions.

Impacts to soils, water, and riparian resources: Under this alternative, about 40% would be open to harvest of forest and woodland products. Harvest in these areas would result in surface disturbing activities. Disturbance would affect soil, water, and riparian habitat and result in localized soil compaction, as well as changes in the composition and structure of vegetation communities. Soil compaction would reduce water infiltration and could reduce plant growth and nutrient cycling. Indirectly, this could increase sediment loading in streams and reduce riparian/wetland function. Excluding 60% from commercial and private woodland operations would preclude surface disturbances related to forest and woodland harvest. There would be no effect on erosion rates, and water quality and riparian habitat would be maintained.

Impacts to vegetation: Permitting commercial harvest of forest and woodland products on 40% would increase forbs and grasses in the short term in those areas. This would also result in increased vegetation diversity, altered successional status, increased plant vigor, increased available water for herbaceous

vegetation, and improved watershed health. In the remainder of the PFO, the vegetation communities would experience no surface disturbance; hence, the communities would be maintained.

Impacts to cultural resources and paleontology: Precluding commercial and private woodland operations on 60% would protect cultural and paleontological sites in place. On areas open to harvest activities, minor incidental damage to cultural sites could occur. Impacts to paleontological sites would be negligible because these sites generally do not occur in forest and woodland communities.

Impacts to visual resources: The harvest of woodland products on 40%, whether firewood, Christmas trees, or post and poles, would remove vegetation from the landscape. Individual use would not result in substantial changes to vegetation communities, although popular cutting areas would show greater change in vegetation density. The effects to visual resources would be site specific but would not be noticeable on a landscape scale. Removal of vegetation would change the density and create small openings in the canopy. This would introduce some change in the color and texture of the vegetation community, and, over the long term, some variation in the vegetative cover and some increase in the visual appeal of the landscape. Prohibiting commercial and private harvesting on 60% would maintain the existing landscape and meet VRM Class I objectives.

Impacts to special status species and fish and wildlife: In the PFO where harvest is expected, stipulations would be applied that would protect both special status species and crucial big game habitat. Because of these stipulations and the limited potential extent of harvest, only minor impacts would occur.

Impacts to fires and fuels: Precluding the commercial and private harvest of forest and woodland products would result in an increase in fuel accumulations in wooded areas and subsequently increase wildland fire intensity. This could increase the overall canopy bulk density, which would accelerate the movement of fire through the canopy. In the long term, the occurrence of fire would approach a more natural fire regime.

Impacts to non-WSA lands with wilderness characteristics: Precluding the commercial and private harvest of forest and woodland products on all 27 areas could reduce surface disturbance and landscape change, thereby protecting scenic quality. This would complement the management of non-WSAs with wilderness characteristics by maintaining the natural appearance and the quality of opportunities for solitude and primitive recreation.

Impacts to forestry and woodlands: Under this alternative, about 40% would be open to harvest of forest and woodland products. A Forest and Woodland Management Plan would be developed to preserve biodiversity and ecological succession, maintain desired plant communities, and manage the occurrence of fire, insect infestation, and disease. Actions taken under the plan could result in moderate, long-term increases in forest health and sustainability by reducing forest density and decadence.

Prohibiting harvest of forest and woodlands products on 60% would limit management options for meeting healthy forest objectives. The BLM would not be able to meet the demands of the public for forest and woodland products under this alternative.

Impacts to livestock grazing: Forests and woodland harvest could not be used as a tool to maintain previous vegetation treatments or treat new areas to improve livestock forage production (see discussion under vegetation). Where forest and woodland harvest is allowed, the reduction in woodland overstory would increase forage species, increasing forage available for livestock grazing.

Impacts to recreation: Precluding the commercial and private harvest of forest and woodland products in all 27 areas could reduce surface disturbance and landscape change, thereby maintaining the quality of

opportunities for primitive recreation. However, using forest and woodland harvest as a tool to provide new recreational opportunities and settings would be lost.

4.3.13 Livestock Grazing

Impacts to forestry and woodlands, lands and realty, minerals and energy resources, transportation and motorized access, and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing actions for livestock grazing management actions.

Impacts to air quality: There would be impacts to air quality from trucking livestock, trampling of soils, and maintaining range improvement projects (e.g., fences and stock ponds). These would be negligible short-term localized increases in fugitive dust emissions.

Impacts to soils, water, and riparian resources: Livestock grazing would influence soil, water, and riparian habitat. Improper livestock grazing management practices in and near sensitive soil, water, and riparian resource areas could result in site-specific, short-term soil compaction, erosion, and siltation. Removal of livestock grazing in the Desolation Canyon/Green River Corridor, Labyrinth Canyon/Green River Corridor, and Chimney Canyon/Hidden Splendor/Muddy Creek would lessen site-specific, short-term soil disturbance by animals, resulting in more stable soils. This could prevent increased soil loss and increase water absorption of soils, which would lead to less erosion and result in improved water quality and decreased siltation and sediment loading of streams.

Impacts to vegetation: Under this alternative there, would be moderate levels of livestock grazing. It would serve to maintain and/or enhance vegetation conditions by introducing disturbances necessary to achieve desired plant species diversity, age class, and structure. The BLM's *Utah Standards for Rangeland Health* would apply to all allotments. Site-specific monitoring and evaluation strategies are used to measure success in achieving these standards. If livestock grazing was identified as responsible for not meeting a particular standard, grazing practices would be modified. This would help to maintain the health of vegetation communities and reduce the potential for long-term impacts to vegetation. Nine allotments (13,000 AUMs) would be unavailable for livestock grazing, which would help ensure good site productivity, properly functioning riparian and wetland areas (as noted above), and vegetation communities composed of desired species.

Impacts to cultural resources: The context of cultural resources could be affected in areas where livestock congregate and livestock trailing occurs. Cattle congregating and rubbing could damage standing structures and pictograph panels through abrasion. Trampling at spring sources and along streambanks, as well as trailing, could remove protective vegetation cover and increase compaction, creating indirect impacts to cultural resources through the acceleration of erosion above natural rates. These types of impacts would be localized to individual sites. Impacts to specific areas would be identified and mitigated through the livestock grazing permitting process.

Removing livestock grazing from 3 allotments in the Desolation Canyon SRMA would preserve the cultural resource values of the Desolation Canyon NHL created to commemorate the Powell Expedition of 1869. In the long term, this action would lead to increased vegetative cover, which would stabilize the soil matrix around the cultural resources and preserve them in place. Reductions in livestock grazing on 6 other allotments would eliminate the potential for cultural resource damage from livestock activities. Identifying range improvement projects and administrative routes in the permitting process would allow cultural resource inventories and clearances to be completed, and impacts to be identified and mitigated.

Impacts to paleontology: Paleontological assessments before surface disturbance for the construction of range improvements would increase the potential for identification, recordation, and collection of paleontological resources.

Impacts to visual resources: Where livestock grazing continues to be authorized, the installation of livestock facilities (fences, cattle guards, water developments, and roads) would directly affect visual resources by adding features not found in the surrounding landscape. Such impacts would be localized and long term. Existing range improvement projects would remain even if they did not meet the VRM Class objectives. New facilities would be designed and constructed to meet the VRM Class objectives and therefore would not detract from the existing landscape.

Impacts to special status species and fish and wildlife: Under this alternative, there would be moderate levels of livestock grazing. It would serve to maintain and/or enhance vegetation conditions by introducing disturbances necessary to achieve desired plant species diversity, age class, and structure. Continued livestock grazing in and near sensitive soil, water, and riparian resource areas could result in short-term localized soil compaction, erosion, and siltation and degradation of special status species habitat.

Removing livestock grazing from allotments along Desolation Canyon, Labyrinth Canyon, and Chimney Canyon/Hidden Splendor/Muddy Creek could improve riparian habitat conditions. The Mexican spotted owl, southwestern willow flycatcher, and other special status species depend on riparian areas in the late seral stage for their survival. Removing livestock grazing could maintain and improve special status species and fish and wildlife populations and habitat.

The competition which exists between livestock and wildlife for available forage is not to the extent that wildlife habitat is threatened. Removing grazing from 9 allotments (13,000 AUMs) would reduce competition for available forage, which would improve conditions for wildlife.

Impacts to wild horses and burros: Because the competition that exists between livestock and wild horses and burros for available forage does not threaten their habitat, no impacts to wild horses and burros would be expected. Removing grazing from 4 allotments (7,000 AUMs) within the Range Creek and Muddy Creek HMAs would reduce competition for available forage, which would improve forage availability for wild horses.

Impacts to fire and fuels: Livestock grazing would reduce the frequency of fire by reducing fine fuels (such as grasses) that serve as ignition sources. Although this action could result in fewer fires, decreasing the probability of ignition could also provide more time for the accumulation of larger fuel sources (such as shrub vegetation) between fires, which, in turn, could increase the intensity of wildland fires. *Standards for Rangeland Health* promote healthy, diverse vegetation communities, which generally fuel low-intensity fires.

Impacts to non-WSA lands with wilderness characteristics: Existing range improvement facilities within 937,000 acres of non-WSAs with wilderness characteristics were found not to detract from the natural appearance of these areas. Therefore, maintenance of these facilities would not substantially detract from the natural appearance of these areas. However, maintenance would cause short-term localized reductions in the quality of opportunities for solitude because of noise intrusions and the presence of people and equipment.

Impacts to livestock grazing: The requirement to meet the *Standards for Rangeland Health* helps to enhance rangeland conditions and increase long-term forage production. However, such requirements could also affect livestock grazing operators by potentially increasing operating costs and decreasing

AUM use. Livestock grazing management requirements could include modified turnout dates, grazing periods and grazing systems, construction of range improvements, growing season rest, identification of riparian pastures and exclosures, implementation of forage utilization levels, livestock conversions, or other approaches.

Providing for the development and maintenance of range improvement projects when compatible with maintenance of wilderness characteristics would improve livestock distribution and allow livestock to use more of the rangeland, which would enhance rangeland conditions. Specifically, constructing offsite water sources and fencing riparian and spring sources would keep livestock away from sensitive riparian areas and improve riparian conditions.

Other impacts from grazing management would include the effects of forage removal by grazing livestock that could alter the amount, condition, and vigor of the plants being grazed. Pasture and herd rotational grazing practices, including other BMPs, are intended to increase livestock dispersal in pastures and reduce the impacts of grazing livestock. These practices often improve the condition of the forage, thereby increasing flexibility in the grazing management program.

Impacts from livestock grazing management actions would include reductions in AUMs for specific allotments. Approximately 13,000 livestock AUMs (13% of the AUMs in the PFO) would be removed from the Desolation Canyon, Labyrinth Canyon, Hondo, Red Canyon, and McKay Flat areas to help maintain and improve habitat conditions. As a result, livestock operators of these allotments would be forced to find alternative forage and reduce AUM use.

Impacts to recreation: Conflicts between recreationists and livestock grazing occur where both uses occur in the same areas. Because recreational use is increasing along the Green River, developed recreation sites and dispersed campsites adjacent to water sources, conflicts are more frequent between recreationists and livestock. Livestock grazing in these areas could result in short-term changes to vegetation, water, and soil conditions through concentrated use primarily in riparian areas. Livestock could affect the quality of the recreation experience and activities through the presence of livestock manure, odors, and insects. Not authorizing livestock grazing in developed recreation sites and specific allotments within the Desolation Canyon and Labyrinth Canyon SRMAs would enhance the recreation experience in these areas. Recreational setting would be improved in the affected riparian zones by eliminating the short-term impacts from concentrated livestock use on vegetation, soils, and water. The absence of livestock would also eliminate related physical distractions. Not authorizing livestock grazing in the Hondo, Red Canyon, and McKay Flat allotments would maintain and enhance high-value recreational resources opportunities.

Impacts to ACECs: Prohibiting livestock grazing in 6 allotments adjacent to the Green River would reduce impacts to the existing Bowknot Bend and Dry Lake Archaeological District and the potential Desolation Canyon and Lower Green River ACECs. This would maintain the relevant and important resource values of these areas.

Impacts to wild and scenic rivers: Management of livestock grazing, subject to *Standards for Rangeland Health*, is generally compatible with protective management of outstandingly remarkable values where 641 miles of suitable rivers flow through grazing allotments. Not authorizing grazing within the Desolation Canyon, Labyrinth Canyon, or the Green River corridors and along part of the Muddy Creek would enhance the protection of those river segments. There is potential that the presence of livestock could affect recreational outstandingly remarkable values in isolated areas.

4.3.14 Recreation

Impacts to hazardous material and waste: Impacts to these uses are not anticipated from implementation of recreation management actions.

Impacts to air quality: OHV use could cause fugitive dust emissions from travel on unpaved roads and gaseous exhaust emissions from the vehicles. However, eliminating OHV use on 1,520,000 acres within WSAs and non-WSA lands with wilderness characteristics would result in a long-term decrease in fugitive dust and gaseous emissions but would have a negligible impact to the overall air quality.

Impacts to soils, water, and riparian resources: Impacts to soil, water, and riparian habitat could occur from site-specific activities occurring near frequent-use and high-use areas such as campgrounds, parking lots, trailheads, and other recreational-related use areas. Recreational use removes fuel wood near frequently used areas, which indirectly alters soil processes. Trail use, especially during wet periods, could cause soil compaction and loss of vegetation cover, and could lead to increased erosion and a loss of soil resources.

Camping could cause localized impacts to soil, water, and riparian resources because there are no recreation management controls on dispersed recreation in non-designated areas. These impacts would include soil compaction and vegetation loss from human traffic in and around campsites and possible contamination of water resources from improper disposal of human and other wastes. These human impacts could result in erosion, runoff, reduction of soil absorption, decreased water quality, and diminished riparian habitat, including nutrient loading in streams. Requiring the removal of all trash and human waste in the San Rafael SRMA would maintain water quality and riparian function.

Eliminating cross-country OHV use and closing 1,520,000 acres to OHV use would maintain or improve existing soil, water, and riparian resource conditions by concentrating the impacts of OHV use on already disturbed areas, reducing the extent of soil compaction and decreasing erosion and soil runoff. Reducing the extent of soil compaction would indirectly maintain existing infiltration and soil-water distribution patterns. Maintaining the existing condition of riparian/wetland areas would reduce soil erosion and indirectly maintain water quality.

Impacts to vegetation: Dispersed recreational activities would impact vegetation resources by removing and trampling vegetation, which would lead to increases in soil erosion, surface runoff, and the degradation of vegetation communities. Heavy use of hiking trails and OHV routes would create runoff flow paths that could occasionally erode into gullies, which would degrade associated vegetation cover. Dispersed recreational activities could also contribute to the introduction and spread of noxious weeds and invasive plant species, the seeds of which could be transported on vehicle tires. Closing 1,520,000 acres to OHV use and prohibiting cross-country OHV use would improve the vegetative community by preventing disturbance and loss of vegetation.

Impacts to cultural resources: Primitive and motorized recreational activities have the potential to cause incidental damage to cultural sites. The construction of new recreational facilities would have minimal impact to cultural resources because inventories, Section 106 clearances, and mitigation measures would precede construction. Eliminating cross-country OHV use and closing 1,520,000 acres to OHV use would eliminate the potential of incidental damage to cultural sites associated with pioneered routes in areas open to cross-country OHV use. Cultural sites would be protected in place in areas closed to OHV use. However, restrictions on the use of motorized vehicles or equipment would make data recovery for scientific purposes more difficult.

Impacts to paleontology: Expanding the CLDQ SRMA from 80 acres to 2,800 acres would decrease impacts from dispersed recreation, as compared to the No Action Alternative. It could also provide more opportunities for public education and interpretation.

More than 100,000 acres of the geologic formations known to contain vertebrate fossils are located in the Primitive and SPNM ROS classification categories in the San Rafael Swell SRMA. In addition to reduction in surface disturbance, data recovery for scientific purposes in these areas could be more difficult. Although this impact would not result in damage to scientifically significant paleontological resources, attaining some of the paleontological resource management goals would be more difficult in these areas.

Eliminating cross-country OHV use and closing 1,520,000 acres to OHV use would eliminate the potential of incidental damage to paleontological sites associated with pioneered routes in areas open to cross-country OHV use. Paleontological sites would be protected in place in areas closed to OHV use.

Impacts to visual resources: Managing for Primitive and SPNM ROS classes, activities, settings, and experiences within SRMAs would preclude most surface development in these areas. This alternative would preserve scenic values in these areas because they would be managed for limited landscape modification to support the desired recreation opportunities. Primitive and semi-primitive settings would prevent construction of facilities and the surface disturbance caused by such construction, which would otherwise alter the landscape and its visual characteristics, and therefore meet VRM class objectives.

Implementing a system of designated routes for recreational OHV use throughout the planning area would limit the landscape disturbance caused by OHVs. Not designating any areas as open to OHV use would prevent new areas of soil and vegetation damage, thereby protecting scenic quality. Impacts from OHV use on designated routes would occur on 970,000 acres (40%). The impact of not designating routes as open to motorized travel would result in opportunities to reclaim the routes through natural processes, and therefore restore a more natural landscape and improve scenic values. The scenic quality of 1,520,000 acres closed to OHV use would be protected from landscapes changes caused by motor vehicle use.

Impacts to special status species: Human activity associated with recreation, hiking, boating, biking, and equestrians could affect special status species animals and plants by disturbing them during critical stages of their life cycles and damaging their habitat. Restricting OHV use to designated roads and trails and closing 60% to OHV use would reduce potential impacts to special status species. The construction of new recreational facilities would have minimal impact to special status species because inventories, consultation or conference with USFWS, and mitigation measures would precede construction

Restrictions on dispersed camping would reduce impact to special status species by decreasing impacts to vegetation and lowering the opportunity for negative interactions. Limiting rock climbing to areas that are at least 300 feet from raptor nests would improve nest success and contribute to maintaining raptor populations. Designating SRMAs and issuing SRPs would improve special status species populations and habitats by reducing surface disturbance and avoiding populations of these species.

Impacts to fish and wildlife: Impacts resulting from OHV use, even on designated roads and trails, could result in displacement and increased stress for wildlife when they occur in critical habitat or during critical time periods. Closing 60% to OHV use would minimize this impact by reducing motorized recreation, which would lead to less human impacts to local vegetation communities, thereby minimizing the loss of habitat for many wildlife species.

Closing 60% to motorized use would lead to increased recreational activities in the remaining 40%. Increased human presence in these areas would have a moderate localized impact to wildlife and fish

species. Impacts would include increased displacement of wildlife, increased stress on wildlife during critical time periods, and degradation of their habitats, which could lead to avoidance and abandonment of habitats crucial to the life strategies of wildlife.

Impacts to wild horses and burros: Recreation management, such as trail use by hikers, mountain bikers, and equestrians, could impact wild horses and burros through possible harassment and displacement of herds. Closing 1,520,000 acres to OHV use would reduce related impacts in those areas that overlap HMAs. Limiting OHV use to designated routes also would reduce displacement of the herds.

Impacts to fire and fuels: Recreational activities in the PFO would result in impacts to fire and fuels management. The PFO's recreation opportunities attract increasing numbers of visitors, which in turn increases the probability of unintentional wildfires and the need for fire suppression activities. Maintaining developed recreation sites would encourage the use of campfires, which are a primary source of human-caused wildland fires. The exhaust systems on motorized vehicles used in the PFO could also result in unintentional ignitions. Prohibiting cross-country OHV use throughout the PFO and prohibiting all OHV use on 1,520,000 acres, would reduce the distribution of potential ignition sources as well as the level of vegetation removal and damage (and related noxious weed proliferation and fire susceptibility) caused by OHV use.

Impacts to non-WSA lands with wilderness characteristics: The recreation program would be designed for primitive recreation within these areas. Therefore, the quality of opportunities for solitude and primitive recreation would be maintained in these non-WSA lands with wilderness characteristics. Naturalness would be maintained because there would be no surface disturbance from OHV use or new recreational facilities.

Impacts to forestry and woodlands: Motorized recreation has greater potential than primitive recreation to disturb soil and damage vegetation. Closing 1,520,000 acres to OHV use and prohibiting cross-country travel would reduce the potential impacts of OHVs on forest and woodland areas. Potential impacts from OHV use on the remaining PFO acreage would be reduced because use would be restricted to designated routes. Heavily used trails could create runoff flow paths that, in some cases, could erode into gullies and degrade forest and woodland vegetation. Overall, recreational activities would not affect forest and woodland health and productivity.

Impacts to livestock grazing: To enhance the recreational experience and reduce conflicts with livestock grazing within the Desolation Canyon/Green River corridor, Labyrinth Canyon/Green River corridor, and the Chimney Canyon/Hidden Splendor/Muddy Creek areas, grazing would be precluded on 9 allotments. A total of approximately 13,000 livestock AUMs (13% of the AUMs) would be removed. As a result, livestock operators of these allotments would be forced to find alternative forage and reduce AUM use.

Impacts to recreation: This alternative represents a major shift in recreation opportunity from motorized to primitive recreation. This change from motorized to non-motorized use would be mostly within SRMAs, of which Desolation Canyon and San Rafael are the largest.

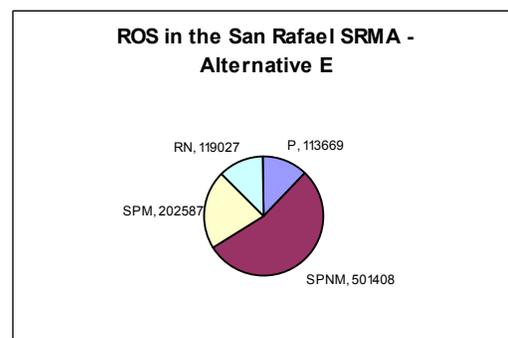
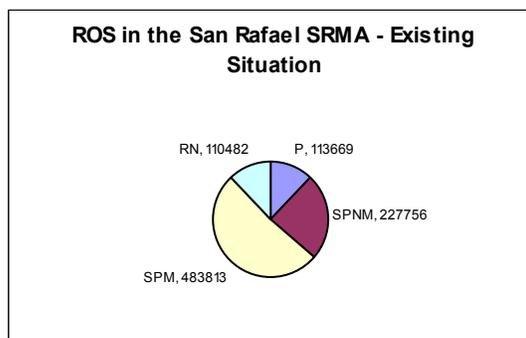
This alternative is the most restrictive to OHV-based recreation; 1,520,000 acres would be closed to OHV use and OHV use on 970,000 acres would be limited to designated routes. No areas would be open to cross-country OHV use. This contrasts with 136,000 acres closed, 1,591,000 acres limited to designated routes, and 754,000 acres open under the No Action Alternative. The Summerville/Chimney Rock trail system would not be designated for OHV use, which would result in a loss of motorized recreation opportunities. Within the San Rafael Motorized Route Designation Plan area, 210 of the 677 miles of designated OHV routes would be closed. Current trends suggest the majority of recreational use will be with motorized and developed forms of recreation. The management plan under this alternative would not

meet the recreational demand and the quality of recreation opportunities for these activities would decline.

Desolation Canyon SRMA: This SRMA would be 300,000 acres compared with 72,500 acres under the No Action Alternative. The major objective under this alternative would be to increase the opportunities for primitive and unconfined recreation. The expanded SRMA would provide more intact habitats, and opportunity for wildlife-based recreation (hunting and viewing) would be improved. Including the non-WSA lands with wilderness characteristics between the WSA and Sand Wash in the northern portion of the SRMA would increase opportunities for primitive recreation in that area. Motorized recreation use would remain available on designated routes on 20,000 acres of the SRMA.

The Green River from Sand Wash to Swasey's Rapid would be closed to motorized boating use. Eliminating motorized boating use would enhance primitive recreation but would have a negative economic impact to commercial outfitters who rely on motorized boating. The Lower Gray Canyon high-use area would become a fee area. Management would emphasize natural processes to achieve self-sustaining ecosystems. A recreation activity plan would maintain existing developments, establish carrying capacity, and limit camping to designated sites.

San Rafael SRMA: The San Rafael SRMA would retain its current size of 936,000. The major objective under this alternative would be to increase the opportunities for primitive and unconfined recreation. The following charts depict the changes from the existing situation in ROS management classes.



CLDQ SRMA: Expanding the SRMA boundary to include 2,800 acres would protect recreation experiences available at the quarry, visitor center, and adjacent areas by increasing the manageability of recreation uses. It would also provide opportunities for expanding recreation facilities and protecting the unique paleontological resources of the area.

Labyrinth Canyon SRMA: Increasing the size of the Labyrinth Canyon SRMA to approximately 84,000 acres would reduce conflicts between recreationists and other users. It would also provide for river- and non-river-related recreational activities and improve manageability of recreation use in and near the Green River corridor.

Nine Mile Canyon SRMA: The Nine Mile Canyon SRMA would be expanded to 59,000 acres. Management of VRM according to VRM Class II objectives would protect the undeveloped landscapes. Most intrusions in this alternative would be associated with recreation facilities, because there would be no surface disturbance from future oil/gas leasing. Installation of interpretive and directional information along the Nine Mile Canyon road corridor would reduce direct impacts to soils, vegetation, and cultural resources and maintain opportunities for future recreational use.

Impacts to lands and realty: The location of developed recreation sites might alter the location of proposed ROWs. Increasing recreation activities might increase demand for land exchanges to consolidate public land ownership.

Managing lands within the five expanded SRMAs for Primitive and SPNM would limit or prevent the location of major new utility corridors, transportation systems, and ROWs. In some cases the BLM would not be able to provide the ROWs to meet the local or regional public need for utilities (e.g., gas, communication, and electricity).

Managing areas of the Old Spanish Trail to retain public lands and acquire State inholdings would affect land ownership adjustments, such as sales or exchanges, by eliminating lands in these segments from consideration for disposal to avoid disposing of public lands containing important trail segments.

Impacts to minerals and energy resources: Subject to valid rights and existing operations, the recreation program would be designed to provide the opportunity for primitive and unconfined recreation on 60% of the lands in the PFO. Therefore, the recreational program is one element that would restrict energy and mineral development potential. Under this alternative, 1,490,000 acres would be closed to oil and gas leasing and 1,540,000 acres would be closed to mineral materials. This would also render some of the leasable and salable minerals (oil and gas, coal, sand and gravel) within these areas unrecoverable. However, 36,000 acres are leased for oil and gas and could be developed under terms of the existing leases. It is estimated that about 200 wells could be drilled in these areas, disturbing about 1,600 acres.

No lands would be withdrawn or recommended for withdrawal from mineral entry in direct support of the recreation program.

Impacts to ACECs: Closing 1,520,000 acres to OHV use would restrict motorized recreational use to BLM and county roads within 89% of the acreage in ACECs. This would minimize or prevent OHV-related damage to the relevant and important values of the ACECs. Recreationists could cause incidental damage to the relevant and important values such as cultural sites and special status plants, but damage would be minimal because access would be limited.

Impacts to wild and scenic rivers: The Desolation Canyon SRMA and Labyrinth Canyon SRMA provide special management of recreation along the Green River. These areas would continue to be managed to maintain the natural character of the canyon environment, while emphasizing river-based recreational opportunities. This management is consistent with protection of the outstandingly remarkable recreational values within the river corridor. All other suitable river segments that have outstandingly remarkable recreational values would also be within SRMAs, primarily the San Rafael Swell SRMA, which would provide complementary special management and protection of recreational values.

Impacts to transportation and motorized access: Any additional county or BLM roads would be precluded in the primitive and semi-primitive non-motorized portions of SRMAs. This could result in long-term access issues for the public because large areas of the PFO would become inaccessible to motorized use.

4.3.15 Lands and Realty

Impacts to air quality: About 30% of the PFO would be open to lands actions that could be used for industrial facilities, which would be major emission sources for air pollutants. If an industrial facility is proposed, an air quality permit would need to be obtained from the State of Utah, which would allow air quality degradation up to the Prevention of Significant Deterioration Class II increments.

Impacts to soils, water, and riparian resources: Management of lands and realty for existing transportation and utility ROW corridors would result in localized impacts to soil, water, and riparian resources. Roads are less permeable than undisturbed soils, lowering percolation and increasing runoff, which would be channeled into the road pathway. In highly erodible soils, this channelized runoff can create gullies, causing an increase in soil erosion resulting in diminished water quality and siltation in riparian habitats. Under this alternative, managing 1,490,000 acres as ROW exclusion areas and mitigation measures would reduce impacts so they would be temporary and localized.

Impacts to vegetation: Development of ROWs would result in clearing vegetation to make way for linear features such as roads, pipelines, and transmission lines. Such disturbances, along with associated soil erosion and surface runoff, could degrade vegetation communities through which ROWs are constructed and could also increase the potential for the introduction and spread of noxious weeds and invasive plant species. Increased vehicle travel on newly constructed roads would further spread invasive species and facilitate access to and use of the PFO, which could in turn lead to removal, trampling, and degradation of vegetation resources. Excluding lands actions on an additional 937,000 acres, as compared to the No Action Alternative, would reduce surface disturbance and vegetation removal during construction authorized by ROWs.

Impacts to cultural resources and paleontology: Construction activities within ROWs and on other lands authorizations could potentially affect cultural and paleontological sites. Unanticipated discoveries could occur during construction and could result in damage to the cultural and paleontological sites. However, damage from such discoveries is often mitigated by data recovery excavations that could increase the understanding of cultural and paleontological resources. Excluding LTAs on an additional 937,000 acres as compared to the No Action Alternative would protect additional cultural and paleontological sites in place.

Impacts to visual resources: Surface disturbance and placement of permanent facilities associated with construction and development of pipelines, powerlines, communication lines and towers, and wind and solar farms in 40% of the PFO would create short- and long-term changes to the landscape and would thereby permanently alter viewsheds. These types of facilities typically introduce strong lines to the landscape and create noticeable edges. Exposure of the underlying soil would also create contrast in the landscape. Reclamation and other mitigating measures would reduce some of these impacts in the long term. Travel routes along the corridors for inspection and maintenance purposes would maintain noticeable lines in the landscape. Limiting ROWs to corridors and prohibiting the building of facilities on an additional 937,000 acres would concentrate facilities and prevent further landscape modification and maintain existing landscape character.

Communication sites are readily visible because they are commonly located on high points in the landscape (e.g., mountain tops). Requiring the use of existing communication sites for all new communication ROWs would eliminate new visual impacts.

Impacts to special status species: Impacts that result from approved lands actions such as powerlines and wind energy development would also impact special status species. However mitigation measures and excluding lands actions on an additional 937,000 acres, as compared to the No Action Alternative, would reduce surface disturbance and vegetation removal during construction authorized by lands actions. Reduction in vegetation disturbance would maintain and prevent the fragmentation of existing habitats for special status species.

Impacts to fish and wildlife: ROWs through big game crucial- or high-value habitats, riparian and wetland zones, or live water would impact fish and wildlife species. The average ROW for a road disturbs about 10 acres per mile. The unused portions of any authorization would be reclaimed. There would be

short-term habitat loss but long-term benefits from successful reclamation. By excluding lands actions on an additional 933,000 acres, as compared to the No Action Alternative, potential impacts would be reduced.

Impacts to wild horses and burros: The exclusion of land actions on 1,490,000 acres would prevent surface disturbance within the Sinbad and Muddy Creek HMAs. Therefore, there would be no lands action related impacts to these two herds. Land actions could occur in about half of the Range Creek HMA. The average ROW for a road disturbs about 10 acres per mile. Even though the unused portions of any authorized project would be reclaimed, there would be short-term reductions in available forage for horses and possible displacement and harassment of the herd. Because mitigation measures would be required, the viability of the herd would not be affected.

Impacts to fire and fuels: Development of ROWs through the Lands and Realty program would result in clearing vegetation to make way for linear features such as roads, pipelines, and transmission lines. Such development would create fuel breaks across the PFO that could be effective in preventing the spread of wildland fires. Surface disturbance caused by development activities would contribute to the modification of the composition and structure of vegetation communities (including increases in noxious weed proliferation) within the vicinity of developed areas, which could be more likely to fuel high-intensity fires. However, prohibition of ROWs on 60% of the PFO would decrease the extent to which ROWs could be used as fuel breaks to control wildland fires, as well as the extent to which surface disturbance would increase the probability of high-intensity fire occurrence.

Impacts to non-WSA lands with wilderness characteristics: Managing non-WSAs as exclusion zones for corridors, ROWs, and other LTAs would prohibit authorization of surface disturbing activities. Therefore, the quality of opportunities for solitude and primitive recreation would be maintained in these non-WSA lands with wilderness characteristics. Naturalness would be maintained because there would be no surface disturbance from approved land actions.

Impacts to forestry and woodlands: Development of ROWs through the Lands and Realty program would result in clearing vegetation to make way for linear features such as roads, pipelines, and transmission lines. Such disturbances, along with associated soil erosion and surface runoff, could degrade forest and woodland vegetation communities through which ROWs are constructed and could also increase the potential for the introduction and spread of noxious weeds and invasive plant species. Increased vehicle travel on newly constructed roads would further spread invasive species and facilitate access to and the use of the PFO, which could in turn lead to removal, trampling, and degradation of vegetation resources. Development of new ROW corridors would be prohibited. Managing an additional 937,000 acres as exclusion areas for ROW would eliminate the effects of vegetation removal during ROW construction. The growth and production of forest and woodland products would be enhanced, but new access needed to harvest forest and woodland products would be precluded on 60%.

Impacts to livestock grazing: Lands and realty actions would impact livestock through removal of forage. Generally, large quantities of forage are not removed for linear ROWs like pipelines and roads. The average ROW for a road disturbs about 10 acres per mile. In the PFO, forage production averages 20 acres per AUM, and therefore, the loss would be about a half an AUM per mile. The unused portions of any authorization would be reclaimed. Large sites or facilities would result in a loss of forage for the life of the project and could result in a reduction of livestock grazing within the affected allotments. Excluding lands actions on an additional 937,000 acres as compared to the No Action Alternative would minimize the potential for reductions in livestock grazing forage.

Impacts to recreation: Recommending areas for withdrawal from locatable or other minerals would maintain or enhance recreation opportunities at these areas by reducing user conflicts and preserving the

natural resources important to recreationists. Recommending the Gordon Creek Wildlife Management Area and Desert Lake Waterfowl Management Area for withdrawal from mineral entry would protect wildlife habitat and ensure ongoing opportunities for hunting and/or wildlife viewing in these areas.

Designation of existing corridors, corridors recommended by the Western Utility Group, and new ROW corridors subject to sensitive resources could centralize transmission facilities outside sensitive, high-value recreation areas. This could reduce surface disturbance and impacts to natural resources that are important to recreationists, thus protecting recreation opportunities and experience. Prohibiting corridors and ROWs on an additional 937,000 acres would enhance opportunities for primitive recreation but would preclude the opportunity for developed and motorized recreation by preventing the authorization of developments.

Impacts to lands and realty: In general ROW corridors within the PFO would be restricted to the existing highway 6, 10, and 24 routes. This would severely limit the BLM's ability to meet utility transmission demands.

Retention in federal ownership of the non-WSA lands with wilderness characteristics, in conjunction with WSAs that are already in a retention status, would result in a total of 60% of lands identified for retention. As a result, less public land would be available for exchanges or sales that would dispose of these lands in support of other land use objectives.

Impacts to minerals and energy resources: Lands and realty management would have a long-term, direct impact to locatable mineral development. Continuing existing withdrawals and recommending withdrawals from locatable mineral development on 530,000 acres would reduce the amount of land available for locatable mineral development. Approximately 80% of the area with high potential for occurrence of gypsum and 90% of the area with high potential for occurrence of uranium would be open to location of mining claims

Subject to valid rights and existing operations, ROWs exclusion on 60% of the PFO would prohibit the placement of leasable and salable mineral extraction facilities, including drilling pads, roads, and pits. This could render unrecoverable the leasable and salable minerals (oil and gas, coal, sand and gravel) in the southeastern half of the PFO. Access would be available to about 95% of the existing oil and gas leases (Map 3-23). The majority of the area of high potential of occurrence of salable mineral is in the western and northwestern part of the PFO and would not be affected by limitation on ROWs.

Impacts to ACECs: All of the existing and potential ACECs would be within ROW exclusion or avoidance areas. Precluding ROWs and other land actions would help to protect the relevant and important values and would be compatible with the management objectives for these areas.

Impacts to wild and scenic rivers: No proposed actions from lands and realty would affect the outstandingly remarkable values, tentative classification, or free-flowing nature of the suitable river segments identified under this alternative. ROW exclusion and avoidance areas encompass about 85% of the suitable river segments (540 miles) and stipulations placed on any land actions would protect the outstanding remarkable values.

Impacts to transportation and motorized access: Any additional county or BLM roads would be precluded in the ROW exclusion and avoidance areas (1,620,000 acres). This would result in long-term access issues for the public because large areas of the PFO would become inaccessible to motorized use.

Impacts to hazardous materials and waste: The permittee of all LTAs would be required to comply with all applicable federal and State hazardous materials regulations and would not be allowed to dispose

of these materials on public lands within the PFO. Therefore, impacts that result from spills and emergency clean-up would be localized.

4.3.16 Minerals and Energy Resources

4.3.16.1 Leasable Minerals

Impacts to air quality: Air emissions would be produced from leasable minerals' (coal, oil and gas, and CO₂) development, including exploration, mining, well development, production, and road and utility construction and use. The major air pollutant from underground coal mining is fugitive dust. Because coal production is expected to remain the same over the life of the plan, fugitive dust emissions are not expected to increase. Fugitive dust from mining is highly localized and the location would change as one mine closes and another opens. Air pollution emissions result from oil and gas and CO₂ exploration, development, and production, including drilling and construction activities, traffic on unpaved and paved roads, compressor operation, and well flaring. These activities would result in emissions of PM_{2.5}, CO, NO_x, SO₂, and hydrocarbons. Closing 1,490,000 acres to leasing would result in a long-term decline in air pollutant emissions and potentially improved air quality.

Impacts to soils, water, and riparian resources: Coal resource development and production is expected to disturb about 125 acres, which would affect soil and vegetation. However, no riparian vegetation or perennial streams would be affected. The impact to soils could include compaction and loss of structure and productivity. Future leasing to extend the life of existing coal mine would result in minor additional soil disturbance from additional support facilities such as new ventilation shafts.

Anticipated development of 950 oil and gas wells would result in an estimated 7,600 acres of initial surface disturbance over the 20-year planning period, resulting in disruption of soils, erosion, increased runoff, sedimentation of water sources, and diminished water quality. After reclamation, the disturbed area would be reduced to 2,850 acres, which represents the anticipated extent of long-term surface disturbance. Closing 1,490,000 acres to oil and gas leasing and designating 130,000 acres open to leasing subject to major constraints (NSO) would help to reduce impacts to soil, water, and riparian/wetland resources as compared to the No Action Alternative. The initial and long-term disturbance from oil and gas development would decrease by approximately 39% as compared to the No Action Alternative, and this would decrease the degree of disturbance to soils and sedimentation of water resources.

Impacts to vegetation: Closing 1,490,000 acres (60%) to oil and gas leasing and limiting 130,000 acres (5%) to NSO would maintain vegetation resources. An estimated 950 oil and gas wells would be drilled during the planning period. Each well would account for an average of 8 acres of initial disturbance per well and a long-term disturbance of 3 acres per well. Therefore, the short-term disturbance would be 7,600 acres for wells and about 200 acres for central facilities. Reclamation would reclaim approximately 5 acres per well (63%) within 5 years after disturbance. Reclamation would provide for adequate plant species diversity but would lower the serial stage of the community by replacing shrubs with grasses and forbs. Reclamation would limit the vulnerability of these areas to noxious weed and invasive plant species infestations.

Impacts to cultural resources and paleontology: Cultural and paleontological resource values on 870,000 acres (35%) open to mineral leasing subject to minor constraints could be impacted by oil and gas development. Surface disturbing activities in association with coal and oil/gas development, such as road building, well pad construction, and so forth, do have the potential to damage cultural and paleontological resources. Surface disturbing activities could expose sites.

Cultural and paleontological resources on 1,620,000 acres (65%) open to oil and gas leasing subject to major constraints (NSO) and closed to leasing, would continue to be protected in place from oil and gas development. Cultural and paleontological resources would have a reduced need for data recovery efforts and an associated reduction in the potential for locality identification and recordation associated with development.

Impacts to visual resources: Development of 950 wells could result in initial disturbance from the development of roads, drill pads, pipelines, and ancillary facilities construction which would create an initial disturbance of approximately 7,600 acres. The magnitude of an impact would depend on the degree of development and the success of mitigation (e.g., facility location, painting, screening, and reseeded) to reduce visual effects. The closure of leasing on an additional 937,000 acres (overall 1,490,000 acres) would protect the landscapes within these VRM Class I areas from mineral-related surface disturbance. However, 36,000 acres of VRM Class I lands are presently leased for oil and gas and could be developed under terms of the existing leases. It is estimated that about 200 wells could be drilled, disturbing about 1,600 acres in VRM Class I areas. If existing oil and gas leases are developed, there would be changes in the landscape that exceed the VRM Class I objectives in the Desolation Canyon, Jack Canyon, Muddy Creek/Crack Canyon, Price River, Lost Springs Wash, Never Sweat Wash, and South Horn Mountain areas (Map 3-27).

Impacts to special status species: Anticipated development would result in loss and fragmentation of habitat. After reclamation, the disturbed area would be reduced to 2,850 acres, which represents the anticipated extent of long-term surface disturbance. However, this alternative would be the most restrictive to oil and gas leasing and development. It would minimize disturbance and would improve and maintain special status species populations and habitats within the 1,620,000 acres closed or NSO for leasing.

Impacts to fish and wildlife: Approximately 870,000 acres would be designated as open to leasing subject to minor constraints (Map 2-63). It is anticipated that 950 oil and gas wells would be drilled resulting in approximately 7,600 acres of initial surface disturbance and 2,850 acres of long-term surface disturbance. Approximately 80% to 90% of disturbance resulting from oil and gas development would be in the area west and northwest of Highway 10 and east and northeast of Highway 6. These areas contain migration corridors and crucial winter habitat for Rocky Mountain bighorn sheep, sage-grouse, mule deer, elk, and pronghorn. Wildlife would be directly impacted through disruption of migration corridors and the fragmentation or loss of crucial winter habitats, potentially causing redistribution or avoidance of some areas.

Because winter habitats are considered the “limiting factor” to wildlife populations, significant modifications to the usefulness of these habitats could impact population numbers (e.g., through higher winter mortality and/or reduced reproductive success). Seasonal restrictions would minimize stress to wildlife by limiting construction, drilling, and other activities potentially disruptive to raptor nest sites, sage-grouse leks, as well as wintering, calving, and lambing wildlife species.

Approximately 1,620,000 acres would be closed or open to leasing subject to major constraints (NSO). Within these areas, wildlife and fish species and their habitats would be protected from surface disturbing activities associated with oil and gas development. Because of these restrictions, there would be less fragmentation of habitat because fewer wells would be allowed in crucial winter range areas. This would result in less habitat fragmentation and better linkage between crucial habitat areas. There would also be less chance that migration corridors would be disrupted because of the presence of humans and human-related activities, resulting in less avoidance and habitat abandonment by these species.

Impacts to wild horses and burros: Oil and gas leasing and development restrictions would prevent surface disturbance within the Sinbad and Muddy Creek HMAs. Oil and gas leasing could occur in about half of the Range Creek HMA. Development of the leases would reduce the forage available for the horses and lead to possible displacement and harassment of the herd. However, because mitigation measures would be applied to oil and gas activities, the viability of the herd would likely not be affected.

Impacts to fire and fuels: About 870,000 acres of the federal mineral estate would be open to oil and gas leasing and approximately 7,600 acres would be disturbed by the development of 950 wells (38% decrease from the No Action Alternative). Approximately 80% to 90% of the development would be in the area west and northwest of Highway 10 and east and northeast of Highway 6.

Mineral development could provide increased accessibility to remote areas for fire suppression equipment and could provide fuel breaks, which would reduce the size of wildland fires. However, activities associated with mineral exploration and development would increase human presence and the use of heavy equipment, which would in turn introduce additional ignition sources. Increased development and its associated infrastructure could increase the potential for wildland fire. In addition, surface disturbance caused by development activities would remove and damage vegetation resources. This could contribute to the modification of the composition and structure of vegetation communities (including increases in noxious weed proliferation) within the vicinity of developed areas, which could in turn be more likely to fuel high-intensity fires. Reclamation would limit the vulnerability of these areas to noxious weed and invasive plant species infestations, thereby reducing wildland fire intensity.

Under this alternative the decrease in development activity as compared to all other alternatives would decrease the level of impact to fire and fuels from mineral-related activities, because fewer ignition sources would be introduced into the PFO and less vegetation cover would be removed and damaged.

Impacts to non-WSA lands with wilderness characteristics: There are 26,019 acres of existing oil and gas leases within 372,700 acres of 7 non-WSA lands with wilderness characteristics areas. This includes Desolation Canyon (6664 acres); Jack Canyon (150 acres); Muddy Creek/Crack Canyon (1986 acres); Price River (878 acres); Lost Springs Wash (10,568 acres); Never Sweat Wash (3,211 acres); and South Horn Mountain (2562 acres). If these oil and gas leases are developed it is estimated that about 175 wells could be drilled, disturbing about 1,400 acres in these 7 non-WSA lands with wilderness characteristics areas. This would result in a loss of natural appearance and quality of the opportunities for solitude and primitive recreation in portions of these areas.

About 3,500 acres of lands are currently under coal leases in the Turtle Canyon non-WSA land with wilderness characteristic area. Development of underground coal could involve surface disturbance on approximately 125 acres for mining facilities that could impact the natural appearance and quality of opportunities for solitude and primitive recreation in this area.

Because mineral-related disturbances would be reclaimed, the loss of wilderness characteristics would be temporary for the life of the projects (10 to 20 years) but would not be irreversible because natural appearance can be restored.

Impacts to forestry and woodlands: Closing 1,490,000 acres (60%) to oil and gas leasing and limiting 130,000 acres (5%) to NSO would maintain forest and woodland areas. An estimated 400 well would be drilled in forest and woodland areas. The short-term disturbance would be 3,200 acres for wells. Reclamation would reclaim approximately 5 acres per well (63%) within 5 years after disturbance, therefore, the long-term disturbance in forest and woodland areas would be about 1,200 acres. Reclamation would provide for adequate plant species diversity but would lower the serial stage of the

community. Reclamation would replace trees and shrubs with grasses and forbs, resulting in a loss of forest and woodlands on 2,000 acres until the trees are reestablished, which could take 25 years or longer.

Impacts to livestock grazing: Approximately 870,000 acres would be designated as open to leasing subject to minor constraints (Map 2-63). It is anticipated that 950 oil and gas wells would be drilled resulting in approximately 7,600 acres of initial surface disturbance and 2,850 acres of long-term surface disturbance. In the PFO, forage production averages 20 acres per AUM and therefore, the short-term loss would be approximately 380 AUMS and the long-term loss would be approximately 140 AUMs or 0.2% of the permitted livestock AUMs (Table 3-24 in the DRMP/DEIS).

Oil and gas development on public lands would create a network of access roads, pipelines, and other related facilities and structures. Increased vehicle traffic on access roads could interfere with livestock management and result in a minor loss of livestock because of collisions.

Impacts to recreation: Overall, the level of mineral-related development and related impacts to recreation would be less than under the other alternatives. Approximately 1,620,000 acres would be closed or NSO for oil and gas leasing. About 90% of the five SRMAs are within areas where oil and gas drilling and development of oil and gas wells would be restricted to existing leases. Within the San Rafael and Desolation Canyon SRMAs, 8,700 acres (0.7% of the acreage of these SRMAs) have been leased. The major objective of these SRMAs under this alternative would be to increase the opportunities for primitive and unconfined recreation. Oil and gas exploration and development would create small localized conflicts with the objective of the SRMAs on these leases.

In areas open to leasing subject to minor constraints (870,000 acres), the development of 950 wells is projected. The majority of mineral development activity would occur in areas northeast of Highway 6 and northwest of Highway 10. The majority of this land is in the extensive recreation management area, and the objective is to provide a diversity of recreational opportunities. Opportunities for primitive recreation would increase but motorized and mechanized forms of recreation activities would be compatible with the level of development in these areas.

Impacts to lands and realty: Land tenure adjustments (disposal or sale of lands) would be limited on leased lands. In this alternative 1,000,000 acres would be open to additional leasing. Lands identified for sale would not be affected because they would be closed to leasing. The issuance of ROWs would not be limited by any leasable mineral decisions. However, the location within ROWs of roads, pipelines, transmission lines, and so forth would have to be placed to avoid oil and gas infrastructure.

Impacts to minerals and energy resources: This alternative would be the most restrictive to leasable mineral development. Approximately 60% (1,490,000 acres) of the PFO would be closed to leasing. This would be 937,000 acres more than with the No Action Alternative. There are 36,000 acres within the closed areas that are already leased and could be developed. Because leasing and development would be precluded in the closed areas, the hydrocarbon resources under these areas would be rendered unrecoverable for the life of the plan. Of the 1,800,000 acres of the PFO with high potential for occurrence of oil and gas, about 56% would be closed to leasing. The areas impeded the most are the West Tavaputs Plateau and the southern portion of the PFO.

Approximately 5% (130,000 acres) of the PFO would be open to leasing subject to major constraints (NSO). Approximately 6% of the area with a high potential for occurrence of oil and gas would be open to leasing subject to major constraints. Oil and gas development in these areas would require directional drilling to extract hydrocarbon resources. Should the areas be wider than technically feasible for directional drilling, some hydrocarbon resources would be rendered unrecoverable.

Approximately 35% (870,000 acres) of the PFO would be open to leasing subject to minor constraints, which would limit oil and gas exploration and development during specific time periods and would increase recovery costs. About 38% of the area with a high potential for occurrence of oil and gas would be open to leasing subject to minor constraints.

Impacts to ACECs: This alternative would close 99% (845,000 acres) of potential ACECs to oil and gas leasing, which would maintain the relevant and important values of these areas. Even though 1% of the ACEC acreage would be open to oil and gas leasing, no development is currently anticipated.

Impacts to wild and scenic rivers: Mineral leasing would have little or no impact to the 641 miles of suitable river segments. About 65% of river segments would be closed to mineral leasing. Valid existing mineral leases located along about 10 miles of suitable river segments could be developed, resulting in impacts to the Gordon Creek, Fish Creek, and Nine Mile Canyon river segments. Surface disturbance could detract from the natural character of the river corridors. However, because of other land use constraints (e.g., avoidance of perennial streams) there is little likelihood that any disturbance would occur within a quarter mile of the river. Even along those suitable river segments where leasing could occur, stipulations would protect the outstandingly remarkable values and free flowing condition.

Impacts to transportation and motorized access: No mineral leasing decision would limit the construction of county and/or BLM system roads. However, increased use of the roads by mineral operators could lead to deterioration of roads and increased maintenance costs to the counties and operators.

Impacts to hazardous materials and waste: Leasable mineral development could result in the use and accidental release of hazardous materials. However, the operators are required to comply with all applicable federal and State regulations. Therefore, impacts resulting from spills and emergency clean-up would be localized.

4.3.16.2 Locatable Minerals

Impacts to air quality: Air emissions would be produced from mining and development of locatable minerals (gypsum, uranium, and so on). Air emissions would be produced during mining operations and reclamation activities. During mining activities, PM emissions would be produced from overburden removal, blasting, truck loading, bulldozing, grading, storage piles, railroad loading, and travel of heavy equipment over unpaved roads. Gaseous emissions from vehicular exhaust (CO, NO_x, SO₂, and hydrocarbons) would occur from heavy equipment and vehicular travel.

Mine operators are required to meet the National Ambient Air Quality Standards and Prevention of Significant Deterioration increments under all alternatives. However, the major air pollutant from mining is fugitive dust, which would increase if new mines are developed. It is anticipated that only one new gypsum mine would be developed. Therefore, air emissions would be localized in the vicinity of the mine and along access routes. Because approximately 90% to 95% of the areas with moderate to high potential for occurrence of locatable minerals (gypsum, uranium/vanadium) would not be withdrawn from location of mining claims under this alternative, the withdrawal of 530,000 acres would have little if any effect on the potential for air pollutant emissions from mining of locatable minerals over the life of the plan as compared to the No Action Alternative.

Impacts to soils, water, and riparian resources: The impact to soils from mining could include compaction and loss of structure and productivity. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for impacts to soil, water, and riparian/wetland resources. However, there would not be a substantial reduction in potential impacts as compared to the No Action

Alternative because about 90% to 95% of the areas with moderate to high potential for occurrence of locatable minerals would remain open to development and production. It is expected that one new gypsum mine would be developed and would disturb up to 100 acres of soil and vegetation. Because mine operations would be conducted under an approved plan of operations, no disturbance would be approved in a riparian zone where loss of riparian vegetation and increases in water pollution would be considered undue and unnecessary degradation to the environment.

Impacts to vegetation: The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related surface disturbance and alteration or loss of vegetation. Mining-related disturbance is anticipated to be up to 100 acres for the life of the plan and plans of operation would require reclamation. Proper reclamation would provide for adequate plant species diversity but would lower the serial stage of the community by replacing shrubs with grasses and forbs. Reclamation would limit the vulnerability of these areas to noxious weed and invasive plant species infestations.

Impacts to cultural resources and paleontology: Cultural and paleontological resource sites could be disturbed by mining activities. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related disturbance and alteration of cultural and paleontological resources. Fossils found as an integral part of locatable minerals are not considered paleontological resources. Other surface disturbing activities associated with mining, such as road building, pond construction, and so for the, also would disturb and destroy cultural and paleontological resources. Mitigation through avoidance is the preferred option, but if that is not feasible, other mitigation measures would be required. Because only one new mine is anticipated during the life of the plan, and because plans of operation and mitigation would be required for activities that do not meet the definition of casual use, impacts to cultural and paleontological sites from the locatable mineral decisions would be minimal.

Surface disturbing activities can expose cultural and paleontological sites that otherwise would not have been exposed. Withdrawal of 20% of the PFO area from location of claims would limit the opportunity to discover new sites through mining; however, over the life of the plan loss of information would be minimal because 90% to 95% of the acreage in the PFO with moderate to high potential for occurrence of locatable minerals would remain open to the location of mining claims.

Impacts to visual resources: Locatable development would result in removal of vegetation, alteration of the landform, and placement of structures on the landscape. The construction of roads to the mine site would create lines in the landscape. The type of vegetation and the slope of the landform would influence the degree of contrast created. Construction of mine pits, tunnels, and adits and the resultant waste piles would introduce horizontal lines and terraces, especially on steep or angular slopes. Because about 30% of the areas with moderate to high potential for locatable mineral occurrence would be in VRM Class I and II areas, mine development under valid mining claims would conflict with objectives for management of visual resources.

However, over the life of the plan it is anticipated that only one mine would be developed and that impacts to the visual components of the landscape would be localized. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related disturbance and maintain the existing landscape and the visual qualities of surrounding areas within the withdrawn areas.

Impacts to special status species, and fish, and wildlife: Mining and development of locatable minerals could result in loss and fragmentation of habitat. Wildlife would be directly impacted through disruption of migration corridors and the loss and fragmentation of crucial habitats, potentially causing redistribution or avoidance of some areas. Because the areas of moderate to high potential occurrence for locatable minerals are in and surrounding the San Rafael Swell and 90% to 95% would be open to location of claims, impacts could still occur from gypsum and uranium development (Map 2-64).

Pronghorn and Desert bighorn sheep crucial-value year long habitat could be disturbed and raptor nesting could also be disrupted if mining were to occur near cliffs. Special status species such as the Mexican spotted owl and sage-grouse would likely not be affected by mining of locatable minerals because habitats for these species do not overlay areas with moderate to high potential for occurrence of locatable minerals. Over the life of the RMP it is anticipated that only one mine would be developed, affecting only up to 100 acres. Under this scenario, impacts to wildlife and special status species would be localized and minor. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related disturbance and impacts to wildlife, including special status species in the withdrawn areas.

Impacts to wild horses and burros: The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related disturbance and impacts to wild horses and burros. It would prevent mine-related surface disturbance on about 95% of the Range Creek HMA and 15% of the Sinbad HMA. No areas with moderate to high occurrence potential for locatable minerals are available for development in these HMAs, therefore no impacts are anticipated. None of the Muddy Creek HMA would be recommended for withdrawal, but only about 5% of the HMA has high potential for occurrence of locatable minerals. Because only one gypsum mine is anticipated in the PFO over the life of the RMP, mining would result in only minor localized impacts to wild horses and the viability of the herds would not be affected.

Impacts to fire and fuels: Because only one gypsum mine is anticipated over the life of the RMP, there would be only minimal and localized impact to fire and fuels management from locatable mineral development. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related sources of ignition within the withdrawn areas. This would decrease the frequency of fires in the withdrawn areas comprising 20% of the PFO.

Impacts to non-WSA lands with wilderness characteristics: Large portions (20% to 100%) of Devils Canyon, Eagle Canyon, Flat Tops, Molen Reef, Mussentuchit Badland, Never Sweat Wash, Price River, San Rafael River, Sids Mountain, and Upper Muddy Creek and small portions (less than 10%) of Cedar Mountain, Mexican Mountain, Muddy Creek-Crack Canyon, San Rafael Knob, South Horn Mountain, Sweetwater Reef, and Wild Horse Mesa non-WSA lands with wilderness characteristics have moderate to high potential for locatable mineral occurrence and would be open to location of mining claims. Operations on mining claims would alter the natural appearance and reduce the quality of opportunities for solitude and primitive and unconfined recreation on non-WSA lands with wilderness characteristics. Because only one new mine is anticipated to disturb up to 100 acres over the life of the RMP, mining activities could eliminate the wilderness characteristics on small portions of one or more non-WSA lands with wilderness characteristics.

Approximately 70,400 of the 937,000 acres (8%) in non-WSA lands with wilderness characteristics would be withdrawn or recommended for withdrawal from locatable mineral entry. The total withdrawal of 530,000 acres from locatable mineral entry would reduce the potential for mining-related alteration of naturalness and reductions in the quality of opportunities for solitude and primitive and unconfined recreation on portions of 22 of the 27 non-WSA lands with wilderness characteristics areas.

Impacts to forestry and woodlands: One gypsum mine with up to 100 acres of disturbance is anticipated over the life of the RMP. If the mine were to occur in a forest or woodland area, the vegetation would be disturbed or removed. Trees and shrubs would be replaced with grasses or forbs and there would be a minor loss of forest and woodlands until trees are reestablished. In some areas, trees could not be reestablished for 25 or more years following reclamation. Because the areas with moderate to high potential for occurrence of locatable minerals are at lower elevations, the potential for disturbance and loss of woodland products from mining is greatest in low-elevation pinyon and juniper vegetation.

The withdrawal of 530,000 acres would reduce the potential for mining-related removal of forest and woodland vegetation and products from the withdrawn areas.

Impacts to livestock grazing: One gypsum mine with up to 100 acres of disturbance is anticipated over the life of the RMP. If the mine were to occur in a grazing allotment, forage for livestock would be removed. In the PFO, forage production averages 20 acres per AUM; therefore, the loss would be about 5 AUMS until mining and reclamation are complete. Any losses of forage as a result of mining would likely be so small that adjustments in livestock grazing levels would not be required. Mining and development on public lands would create access roads and other related facilities and structures. Increased vehicle traffic on access roads could interfere with livestock management and result in a minor loss of livestock from collisions with vehicles.

The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related removal of livestock forage or conflicts between mining activities and livestock management on 20% of the PFO.

Impacts to recreation: The major objective of the SRMAs under this alternative would be to increase the opportunities for primitive and unconfined recreation. Locatable mineral exploration and mining would conflict with the objective of the SRMAs. All of the Nine Mile Canyon and Labyrinth Canyon SRMAs and approximately 80% of the Desolation Canyon SRMA would be recommended for withdrawal from mineral location. The portion of the Desolation Canyon SRMA that would not be recommended for withdrawal is in an area with low potential for occurrence of locatable minerals. The total withdrawal of 530,000 acres from locatable mineral entry would help to reduce the potential for mining-related impacts to primitive and unconfined recreation within these SRMAs.

The San Rafael Swell SRMA is in areas with moderate to high potential occurrence for locatable minerals and would be open to location of claims. Gypsum and uranium mining and development could conflict with the primitive recreation objective of the SRMA. It is projected that one gypsum mine would be developed and would disturb up to 100 acres. Opportunities for primitive recreation would decrease but motorized and mechanized forms of recreation activities would be compatible with the level of locatable mineral development in this area.

Impacts to lands and realty: The issuance of ROWs would not be limited by any locatable mineral decisions. However, the location of roads, pipelines, transmission lines, and so forth within ROWs would have to be placed to avoid mining infrastructure.

Impacts to minerals and energy resources: The mineral estate within the PFO encompasses approximately 2,800,000 acres. About 530,000 acres of land are withdrawn or recommended for withdrawal from mineral entry. This is 20% of the total mineral estate managed by the PFO. It is estimated that about 90% to 95% of the lands with moderate to high potential for occurrence of locatable minerals would remain available for location of claims and mining operations (Map 2-64). Withdrawal from the General Mining Law would not place restrictions on exploration for other energy and mineral resources. Therefore, with this alternative, there would be little impact to the availability of energy and minerals from management of locatable mineral decisions.

Impacts to ACECs: Portions of the following ACECs have moderate to high potential for locatable mineral occurrence within areas that would be open to location of mining claims: I-70 Scenic, Lower Muddy Creek, Muddy Creek, Mussentuchit Badlands, Prairie Dog, San Rafael Canyon, Sids Mountain, Heritage Sites, Temple Cottonwood Dugout, and Uranium District. Mining operations on mining claims would impact the cultural, historical, scenic, geological, biological, and recreational values of these

ACECs. Because only one mine is anticipated to disturb up to 100 acres over the life of the RMP, mining would likely affect the values of only one or two of the potential ACECs.

Approximately 853,100 acres are identified as potential ACECs. Under this alternative, 440,000 of the 530,000 acres that are withdrawn or recommended for withdrawal from mineral entry are in ACECs. Therefore, about 52% of the ACECs would be protected from potential impact from locatable mineral mining and development.

Impacts to wild and scenic rivers: Location and development of mining claims located within the corridors of the suitable river segments (a quarter mile on each side of the high-water mark) could impact the outstandingly remarkable values. Mining activities would primarily affect scenic and recreation values by detracting from the natural character of the river corridors. Fish, wildlife, and ecological values could be altered by surface disturbing activities, which could lead to increases in erosion and sedimentation. However, only one mine is anticipated to disturb up to 100 acres over the life of the RMP. Therefore mining would likely affect the relevant and important values of only one of the suitable river segments that would remain open to location of claims. The Price River, San Rafael River, North Salt Wash, South Fork Coal Wash, and Cane Wash river segments pass through areas with high potential for occurrence of locatable minerals and are the only suitable river segments that could be affected by locatable mineral development.

Actions associated with locatable mineral resources would, in large part, be compatible with recreational river segments because allowable activities and the degree of development within the river corridor would be consistent with the recreational classification. The corridors of the Green River, Range Creek, Rock Creek, Bear Canyon, Keg Canyon, Nine Mile Creek, and the upper portions of Gordon Creek are withdrawn or would be recommended for withdrawal from mineral entry reducing the potential for mining-related impacts to the outstandingly remarkable values of these river segments.

Impacts to transportation and motorized access: Decisions regarding withdrawal of areas from location of mining claims or leaving areas open to location and development would not limit the construction or use of county or BLM system roads. However, increased use of the roads by mine operators could lead to deterioration of roads and increased maintenance costs to the counties.

Impacts to hazardous materials and waste: Mining and development of locatable minerals such as gypsum or uranium could result in the use or accidental release of hazardous materials. However, the operators would be required to comply with all applicable federal and State regulations and would be required to bond for reclamation. Therefore, releases of toxic and hazardous materials would be localized and would result from accidental spills.

4.3.16.3 Mineral Materials

Impacts to air quality: Air pollutant emissions would be produced from mining, excavation, and development of salable minerals (sand, gravel, stone, clay, humates, etc.). Particulate (PM) emissions would be produced from overburden removal, blasting, truck loading, bulldozing, grading, storage piles, loading, and travel of heavy equipment over unpaved roads. Gaseous emissions from vehicular exhaust (CO, NO_x, SO₂, and hydrocarbons) would occur from heavy equipment and vehicular travel.

The major air pollutant from mining of mineral materials is fugitive dust. Fugitive dust would increase if new mines, quarries, and pits are developed. It is anticipated that existing mineral material sites outside of the closed area would be expanded and new sites would be added over the life of the RMP. These sites would be sources of air pollutant emissions, but emissions would be localized in the vicinity of the operations and along access routes.

Impacts to soils, water, and riparian resources: The impact to soils from mining and excavation could include compaction and loss of structure and productivity. Closing about 1,540,000 acres to mineral material disposal would curtail additional development in the closed areas and help to reduce the potential for impacts to soil, water, and riparian/wetland resources. This would protect soils, water, and riparian vegetation along the lower portions of the Price River, a small section of the Green River near its confluence with the San Rafael River, and along the San Rafael River and Muddy Creek where there is a high potential for clay occurrence.

Impacts to vegetation: It is anticipated that existing mineral material sites outside of the closed area would be expanded and new sites would be added over the life of the RMP. Vegetation would be removed and altered in the disturbed areas. Proper reclamation would provide for adequate plant species diversity but would lower the serial stage of the community by replacing shrubs with grasses and forbs. Reclamation would limit the vulnerability of these areas to noxious weed and invasive plant species infestations.

Closure of 1,540,000 acres would help to reduce the potential for mining and excavation-related surface disturbance and alteration or loss of vegetation. This would mostly protect vegetation around and within the San Rafael Reef where there is moderate to high potential for development of new stone quarries.

Impacts to cultural resources and paleontology: Cultural and paleontological resource sites could be disturbed by mining and excavation activities. It is anticipated that existing mineral material sites outside of the closed area would be expanded and new sites would be added over the life of the RMP. Other surface disturbing activities such as road building, pond construction, etc. also could disturb and destroy cultural and paleontological resources. Mitigation through avoidance is the preferred option, but if that is not feasible, other mitigation measures would be required. Impacts to cultural and paleontological sites from the salable mineral decisions would be minimal because proposed operations would be subject to clearances and mitigation of potential impacts to cultural and paleontological resources.

Cultural resources and paleontological resources in areas closed to mineral materials activities (1,540,000 acres) would be protected in place from development of minerals. Surface disturbing activities can expose cultural and paleontological sites that otherwise would not have been brought to light. Closure of 1,540,000 acres to mineral material sales would limit the opportunity to discover new sites through mining and excavation.

Impacts to visual resources: Mineral development would result in removal of vegetation, alteration of the landform, and placement of structures on the landscape. The construction of roads and quarries would create lines in the landscape through removal of vegetation and cutting and filling of soils for the road bed. The type of vegetation and the slope of the landform would influence the degree of contrast created. Removal of vegetation to accommodate mineral material operations would create changes in the line and texture of vegetation. Because large areas with moderate to high potential for clay occurrence would be in VRM Class II areas, development of clay sites could conflict with objectives for management of visual resources in VRM II areas between Wellington and East Carbon (Maps 2-57 and 2-65).

Closing the area to mineral material activities would maintain the existing landscape and the visual qualities of surrounding areas. Because all of the VRM Class I areas would be closed to mineral material sales, they would be protected from mineral material activities with this alternative.

Impacts to special status species, and fish, and wildlife: It is anticipated that existing mineral material sites outside of the closed areas would be expanded and new sites would be added over the life of the RMP. Mining and development of mineral materials could result in loss and fragmentation of habitat. Wildlife would be directly impacted through disruption of migration corridors and the loss and

fragmentation of crucial habitats, potentially causing redistribution or avoidance of some areas. About 70% of the crucial-value yearlong pronghorn habitat for the Icelder herd has a high potential for occurrence of clay and would be available for sales of clay and other mineral materials. About 70% to 80% of the crucial mule deer and elk winter range north and west of Price, Utah also possesses high mineral material potential and would remain open for sale and development. Because mines, pits, and quarries generally occupy only a few acres, most impacts to these species would be from development and use of roads. Most impacts to wildlife could be adequately mitigated as projects are approved.

Desert and Rocky Mountain bighorn sheep habitats would likely not be disturbed by mineral material sales and developments because more than 90% of these habitats would be closed to mineral material sales. Mexican spotted owls would not be affected because their habitat is in an area that would be closed to mineral material disposal. Sage-grouse would likely not be affected by mineral material activities because the important habitats for this species do not overlay areas with moderate to high potential for occurrence of salable minerals; the one exception is approximately 160,000 acres of high-value yearlong and winter habitat around the Gordon creek wildlife management area where there is high potential for clay occurrence. Impacts to sage-grouse would be adequately mitigated through stipulations or conditions of approval.

Impacts to wild horses and burros: Closure of 1,540,000 acres to mineral material sales would prevent mineral material related surface disturbance on about 50% of the Range Creek HMA, 80% of the Sinbad Wild Burro HMA, and 75% of the Muddy Creek HMA. The Range Creek HMA would not likely be impacted by mineral material development because the area within the HMA that would be open has low potential for mineral materials. The portions of the other HMAs that would remain open to mineral materials possess moderate to high potential for occurrence of mineral materials and would be impacted if sales and development occur. Because mines, pits, and quarries generally occupy only a few acres, most impacts to wild horses and burros would be from the development and use of roads. Impacts to wild horses and burros would be adequately mitigated through stipulations or conditions of approval. Therefore, mineral material sales would create only minor localized impacts to wild horses and the viability of the herds would not be affected.

Impacts to fire and fuels: Activities associated with mineral material exploration and development would increase human presence and the use the heavy equipment, which would in turn introduce additional ignition sources. These ignition sources would increase the probability of wildland fire occurrences and the need for fire suppression activities. Increased development and its associated infrastructure would increase the potential for wildland fire, and therefore for fire suppression, to occur within WUI areas. In addition, surface disturbance caused by development activities would remove and damage vegetation resources. This could contribute to the modification of the composition and structure of vegetation communities (including increases in noxious weed proliferation) within the vicinity of developed areas, which could in turn be more likely to fuel high-intensity fires. Mineral material development, however, could also provide increased accessibility to remote areas for fire suppression equipment and could also provide fuel breaks in the case of wildland fire events.

Closing 1,540,000 acres to sales of mineral materials (62%) would decrease development activity within the closed areas, which in turn would decrease the level of impact to fire and fuels management because fewer ignition sources would be introduced.

Impacts to non-WSA lands with wilderness characteristics: The wilderness characteristics of non-WSA lands with wilderness characteristics would not be affected by mineral material developments because the non-WSA lands with wilderness characteristics would be closed to mineral material disposal.

Impacts to forestry and woodlands It is anticipated that existing mineral material sites outside of the closed areas would be expanded and new sites would be added over the life of the RMP. Mines, pits, quarries, and so forth in forest or woodland areas would disturb or remove vegetation. Through reclamation, trees and shrubs would be replaced with grasses or forbs and there would be a minor loss of forest and woodlands until trees are reestablished. In some areas, trees could not be reestablished for 25 or more years following reclamation. Areas with moderate to high potential for occurrence of mineral materials occur through a variety of woodlands, including aspen and mixed conifer, but are mainly in desert shrub and pinyon-juniper woodland. Therefore, the potential for disturbance and loss of woodland products from mineral material sales and development is greatest in low-elevation pinyon and juniper vegetation. Because mines, pits, and quarries generally occupy only a few acres, there would be only minor reductions in the availability of woodland products.

Closure of 1,540,000 acres to disposal of mineral materials would reduce the potential for mineral material related removal of forest and woodland vegetation and products. Compared to the No Action Alternative, the affected acreage from surface disturbing activities would decrease, which would decrease the degree of disturbance.

Impacts to livestock grazing: It is anticipated that existing mineral material sites outside of the closed areas would be expanded and new sites would be added over the life of the RMP. If mines, pits, quarries, and so forth were to occur in a grazing allotment, forage for livestock would be removed. Mines, pits, and quarries generally occupy only a few acres, and in the PFO forage production averages only 20 acres per AUM. Therefore, the loss of forage would be minimal until mining and reclamation are complete. Any losses of forage as a result of mining would likely require no adjustments in livestock grazing levels. Mineral material development on public lands would create access roads and other related facilities and structures. Increased vehicle traffic on access roads could interfere with livestock management and result in a minor loss of livestock from collision with vehicles.

Closure of 1,540,000 acres to disposal of mineral materials would reduce the potential for mineral material related removal of livestock forage or conflicts with livestock management on 62% of the PFO.

Impacts to recreation: The major objective of these SRMAs under this alternative would be to increase the opportunities for primitive and unconfined recreation. Mineral material exploration and development would conflict with the objective of the SRMAs. About 80% of the Nine Mile, 20% of the San Rafael, 70% of the CLDQ and 25% of the Labyrinth Canyon SRMAs would be open to mineral material sales and development, including increased vehicle traffic on access roads, that could conflict with the objectives of the SRMAs. The Desolation Canyon SRMA would not be affected because it would be closed to mineral material sales.

Closure of 1,540,000 acres to disposal of mineral materials would reduce the potential for mineral material related impacts to primitive and unconfined recreation within the closed portions of the SRMAs.

Impacts to lands and realty: Mineral material decisions would not place constraints on issuance of ROWs or adjustments of land tenure. However, the presence of mines, pits, quarries, and so forth could require that the location of ROWs be adjusted to avoid conflicts with mineral production facilities and sites. Because mines, pits, and quarries generally occupy only a few acres, there would not be major constraints on the location and use of ROWs from mineral material sales and development.

Impacts to minerals and energy resources: The mineral estate within the PFO encompasses approximately 2,800,000 acres. Of this, 1,540,000 acres of land would not be open for mineral material disposal. This is 55% of the total federal mineral estate managed by the PFO.

PFO has an estimated 360,000 acres with sand, gravel, and rock resources. Of these acres, 210,000 would be closed to mineral material disposal. This is 58% of the lands available for mineral material disposal (sand, gravel, and rock), and 13% of the total mineral estate. However, because only one existing sand and gravel pit is in an area that would be closed to the sale of mineral materials, closure of 210,000 acres to mineral material sales would not limit production of sand and gravel over the life of the RMP.

Existing noncommercial excavation or collection of stone would not be possible at the three red sandstone areas. But three other areas (Map 3-25 in DRMP/DEIS) would remain open for sales and collection of stone. Overall there would be a minor limitation on popular stone collection areas.

PFO has an estimated 1,000,000 acres with clay resources. Of these acres, 320,000 would be closed to mineral material disposal. This is 31% of the lands available for disposal of clay, and 21% of the total mineral estate that would not be open for mineral material disposal. Of the five areas with the highest potential for mining of clay (Map 3-17 in DRMP/DEIS), two would be totally closed and two would be partially closed to sale of clay, and one existing pit (Last Chance) would not be able to expand. Clay operations would likely relocate to more marginal conditions because large tracts with moderate potential for occurrence of clay would remain open to sales and development. Humate resources are in areas that would be closed and would not be available for mineral material disposal or mining.

Impacts to ACECs: Approximately 853,100 acres within the PFO are identified as potential ACECs. This alternative would close 760,000 acres (89% of the ACEC acreage) to the disposal of mineral materials. The remaining areas within the ACECs that would be open to sale of mineral materials would not likely be impacted because they have only a low potential for mineral material occurrence.

Impacts to wild and scenic rivers: Sale and development of mineral materials located within the suitable river corridors could impact the outstandingly remarkable values of river segments. Actions associated with salable mineral resources would, in large part, be compatible with recreational river segments, because allowable activities and the degree of development within the river corridor would be consistent with the recreational classification.

Most river segments would be closed to disposal of mineral materials, which would protect the outstanding remarkable values of the suitable river segments. Increased access associated with mineral material development on lands bordering rivers tentatively classified as wild river corridors could affect some or all of the river segments' outstandingly remarkable values. Impacts would primarily affect scenic and recreational values by detracting from the natural character of the surrounding area. Fish, wildlife, and ecological values could be altered by surface disturbing activities, which could lead to increases in erosion and sedimentation.

Because sale of mineral materials are discretionary, the BLM would place stipulations designed to avoid or minimize impacts to wild and scenic river segments as projects are approved. Therefore, impacts to the outstandingly remarkable values of wild and scenic river suitable segments would likely be minimal.

Impacts to transportation and motorized access: Decisions regarding sales of mineral materials would not directly limit the construction or use of county or BLM system roads. Increased use of the roads by operators could lead to deterioration of roads and increased maintenance costs to the counties. Because only one existing sand and gravel pit would be closed, and because large tracts with high potential for sand and gravel would remain open for use near roads and highways, the decision to close 1,540,000 acres to mineral material sales would not constrain the availability of sand or gravel for road construction over the life of the RMP. However, in those instances when mineral materials would not be sold and new pits could not be developed, sand and gravel would have to be hauled long distances. This would increase the costs of maintenance and construction for the counties, State, and the BLM.

Impacts to hazardous materials and waste: Mining and development of mineral materials such as sand and gravel, clay, stone, and humates could result in the use and accidental release of hazardous materials. However, the operators would be required to comply with all applicable federal and State regulations and would be required to bond for reclamation. Therefore, releases of toxic and hazardous materials would be localized and would result from accidental spills.

4.3.17 Wilderness Study Areas

The management of WSAs under Alternative E is the same as with Alternatives A to D and the impacts of the decisions on WSAs is addressed in the DRMP/DEIS pages 4-472 to 4-479.

4.3.18 Areas of Critical Environmental Concern

Impacts to transportation and motorized access and hazardous materials and waste: Impacts to these resources and uses are not anticipated from the implementation of ACEC management actions.

Impacts to air quality: The restrictions placed on surface disturbing activities in 21 of the 23 potential ACECs would reduce the potential for air pollutant emissions, thus helping to maintain the current air quality.

Impacts to soils, water, and riparian resources: Management actions in 21 of the 23 potential ACECs limiting surface disturbing activities, would limit the potential for soil loss, destruction of sensitive soil, erosion, and runoff, which could in turn avoid degradation of water quality and riparian habitat.

Impacts to vegetation: Management actions in 21 of the 23 potential ACECs would limit surface disturbing activities, loss of vegetation, and related changes to the composition and structure of vegetation communities.

Impacts to cultural resources: Restrictions within the ACECs would preserve cultural resources. Restricted activities include oil and gas leasing, mineral materials and locatable minerals activities, ROW establishment, woodland product harvest, land treatments, and OHV use. Cultural resource values in the 17 potential (existing or proposed) ACECs with cultural relevant and important values would receive direct protection because of an ACEC potential designation. Cultural sites would receive indirect protection from six ACECs potentially designated to protect non-culturally relevant and important values.

Impacts to paleontology: One ACEC would be designated to specifically protect and allow scientific use of paleontological resources. The CLDQ ACEC (770 acres) would protect the paleontological resource values both in and adjacent to the existing quarry and would maintain public access to and provide for the continued scientific study of these paleontological resources.

Restrictions on surface disturbing actions in ACECs would protect paleontological resources in place. This alternative would place restrictions on oil and gas leasing (21 ACECs either closed or open to leasing subject to major constraints), mineral materials (16 closed) and locatable minerals (11 withdrawn or recommended for withdrawal), vegetation treatments (9 closed), and OHV use (10 closed).

Impacts to visual resources: Eight ACECs would be managed as VRM Class I, which would maintain the existing landscapes and allow only limited alterations of the landscape. In addition, 21 of the 23 potential ACECs would restrict surface disturbing activities, which would reduce or eliminate impacts to vegetation and maintain the existing landscapes.

Impacts to special status species: The White-Tailed Prairie Dog ACEC would provide protection for this special status species by placing specific restrictions on activities within the colony. Special management applied to ACECs established for other resource values would indirectly improve special status species habitat in those areas by reducing surface disturbance.

Impacts to fish and wildlife: ACECs exist to provide special management attention to relevant and important historic, cultural, and scenic values; fish and wildlife; natural systems or processes; or to protect life and safety from natural hazards. The provisions implemented to protect these resources provide ancillary benefit to fish and wildlife species and their habitats. Special management applied to ACECs established for other resource values would indirectly improve fish and wildlife habitat in those areas by reducing surface disturbance.

Impacts to fire and fuels: Management prescriptions associated with the potential ACECs would affect fire and fuels management by restricting fire suppression activities and vegetation treatments. Managing 350,000 acres as VRM Class I could limit fire suppression methods to the level consistent with the VRM classification. This could inhibit fire suppression efforts and therefore the ability to control large, intense wildland fires. Furthermore, 340,000 acres of ACECs would be excluded from land treatments, which would eliminate the effects on fire and fuels management that would otherwise be realized from proposed vegetation treatments. However, restricting surface use in these ACECs would also help to promote healthy, diverse vegetation communities, which generally burn with less intensity than degraded vegetation communities.

Impacts to wild horses and burros: The Range Creek, Sinbad, and Muddy Creek HMAs are overlapped by some of the ACECs. Restrictions on surface disturbing activities in the ACECs would reduce loss of forage on about 50% of the Range Creek and Sinbad HMAs, and about 15% of the Muddy Creek HMA. This would reduce impacts to the herds and maintain the status quo.

Impacts to non-WSA lands with wilderness characteristics: Management to protect the relevant and important values within the ACECs would complement the naturalness of and the opportunities for solitude and primitive recreations within the non-WSA lands with wilderness characteristics. Approximately 275,000 acres (32%) of ACECs are within the non-WSA lands with wilderness characteristics areas. Some of the ACEC management prescriptions are more stringent than those for non-WSA lands with wilderness characteristics, and in those cases there would be even less impacts.

Impacts to forest and woodland products: Managing ACECs to protect their relevant and important values would indirectly protect forest and woodland resources within these areas. Managing ACECs as closed to oil and gas leasing or as open to leasing subject to major constraints (NSO) would prevent surface disturbing activities associated with such development. This would reduce the potential for the introducing and spreading noxious weeds and help to maintain vegetation cover, species diversity and health, and the composition and structure of forest and woodland communities. Similarly, managing ACECs as VRM Class I would help to manage alterations to the landscape and consequently to limit surface disturbing activities, which in turn would reduce the removal and disturbance of vegetation. Although VRM restrictions would help to maintain forest and woodland resources, they would decrease the opportunities for product harvest; restrictions on surface use could also limit or preclude the harvest of forest and woodland products.

Impacts to livestock grazing: Excluding livestock grazing from the Big Flat Tops, Bowknot Bend, Rock Art, Lower Green River, Gordon Creek, and Uranium Districts ACECs would reduce the available AUMs by about 3,000. Applying special conditions on new range improvements within the Highway I-70, Muddy Creek, and Sid's Mountain ACECs; excluding range improvements from the Rock Art, San

Rafael Reef, and Heritage Sites ACECs; and precluding vegetation treatment on 9 ACECs would limit livestock management flexibility, livestock distribution, and rangeland use by livestock.

Impacts to recreation: Maintaining the designation and expanding the east boundary of the Highway I-70 ACEC to State Highway 6 and managing the area as VRM Class I would maintain and enhance opportunities for scenic driving. Designating the Lower Green River and the Desolation Canyon ACECs would also protect natural resources important to recreation and enhance primitive recreation opportunities; however, the ACEC would be closed to OHV use, which would restrict motorized access in the area to county and BLM system roads. Designating the Temple-Cottonwood Dugout Wash ACEC would protect natural and cultural resources important to recreation and enhance primitive recreation opportunities; however, the ACEC would be closed to OHV use. Designating the Range Creek ACEC would preserve and protect opportunities for dispersed, non-motorized recreation in the Range Creek area by limiting recreation access to hiking and horseback use. Closure of the area to OHV use and mineral development would maintain existing natural resources and levels of surface disturbance important to primitive recreation experiences. Designating the CLDQ ACEC would enhance recreation management in the area by removing conflicting uses, adding visitor facilities, and limiting types of recreation use to areas that would not impact paleontological resources. Closing the area to OHV use would restrict motorized access in the area to county and BLM system roads; however, it would also protect natural and cultural resources important to recreation and enhance primitive recreation opportunities. Because of the small size (approximately 2,600 acres) and narrow configuration of the Gordon Creek ACEC, loss of motorized access would be a negligible effect. Closing the Heritage Site ACEC to mineral development, lands and realty actions, and range improvements would maintain opportunities for heritage recreation by preserving the historic integrity of these sites. No firewood collection would be allowed in the Uranium Mining Districts ACEC, which would preserve the integrity of historic structures and maintain opportunities for heritage recreation.

Impacts to lands and realty: Managing 697,503 acres as excluded from ROW would alter the location of major utility corridors and transportation systems. In addition, managing 174,100 acres as ROW avoidance in ACECs could alter the location of major utility corridors and transportation systems.

Impacts to minerals and energy resources: ACEC prescriptions close 845,000 acres to oil and gas leasing, which means that 30% of the federal mineral estate would not be available for oil and gas development. They also recommend the withdrawal of 440,000 acres from mineral entry, which means that 22% of the federal mineral estate potentially would not be available for mineral entry and development. The prescriptions also close 760,000 acres to the disposal of mineral materials, which means that 28% of the federal mineral estate would not be available for mineral material production.

Impacts to wild and scenic rivers: Portions of the San Rafael River, Muddy Creek, North Salt Wash, Coal Wash, Cane Wash, Gordon Creek, and the Green River are within ACECs. North Fork Coal Wash and South Fork Coal Wash are entirely within the Sid's Mountain ACEC. Management of ACECs would complement protective management of outstandingly remarkable values and tentative classifications of these suitable river segments. Approximately 22% of the suitable river segments would receive additional protections for their outstandingly remarkable values by being located within an ACEC

4.3.19 Wild and Scenic Rivers

Impacts to wild horses and burros, fires and fuels, forestry and woodlands, and hazardous materials and waste: Impacts to these resources and uses are not anticipated from implementing actions for wild and scenic river management actions.

Impacts to air quality: Designating 641 miles of rivers as suitable for inclusion in the NWSRS would place restrictions on surface disturbing activities. Such restrictions would reduce the potential for air pollutant emissions, thus helping to maintain the current air quality.

Impacts to soils, water, and riparian resources: Implementing protective management along all 38 river segments (641 miles) to maintain their free-flowing nature and outstandingly remarkable values (ORVs) would indirectly protect riparian vegetation and soils within a quarter-mile on each side of the suitable rivers from surface disturbing activities, particularly along the 273 miles of river tentatively classified as Wild. These effects would also occur along the 238 miles of river tentatively classified as Scenic and along the 130 miles tentatively classified as Recreational, but to a lesser degree. Although specific developments, such as check dams to reduce salinity, may not be allowed on public lands within the suitable river corridors, none are currently proposed. Overall, water quality would be maintained or improved from the protection of soils and vegetation because the potential for salinity from surface runoff would be reduced.

Protection of the free-flowing character of suitable river segments would generally protect riparian vegetation along these segments, except where segments contain lands not administered by the BLM (Table 4 of Appendix 3 [in the DRMP/DEIS] indicates percent of ownership). Management of these areas by either private or other holdings could result in shoreline modifications or other development that would remove riparian vegetation, resulting in increased erosion within the Fish Creek, Bear Canyon Creek, Buckskin Canyon Creek, Gordon Creek, Nine Mile Creek, and Range Creek segments (less than 60% federal ownership). Overall, the BLM controls about 72% of the suitable river segments.

Impacts to vegetation: Implementing protective management along all 38 river segments to maintain the free-flowing nature and ORVs would indirectly protect vegetation resources along 641 miles of river. Restrictions on surface use within one-quarter mile of these river segments would generally protect vegetation communities from surface disturbing activities. This would reduce the potential for the introduction and spread of noxious weeds and would help to maintain vegetation cover; species diversity; and the health, composition, and structure of vegetation communities. However, the vegetation along some river segments would deteriorate from expansion of non-native and invasive species because of the lack of effective treatment methods. The effects of protective management would be greatest along the 273 miles of river tentatively classified as Wild. These effects would also occur along the 238 miles of river tentatively classified as Scenic and, to a lesser degree, along the 130 miles of river tentatively classified as Recreational.

Impacts to cultural resources: Implementing protective management on public lands in a half-mile corridor along 641 miles (within a quarter-mile buffer zone on each side of the river) of river segments determined suitable would protect cultural resources within the 35 river segments where cultural values have been identified as outstandingly remarkable. Effects would be greatest along the 273 miles of river tentatively classified as Wild, where surface disturbing activities would generally be precluded. These effects would also occur along the 238 miles of river tentatively classified as Scenic, and to a lesser degree along the 130 miles tentatively classified as Recreational. However, the opportunities to collect information would be limited because surface disturbing activities exposes cultural sites that otherwise would not have been discovered.

Impacts to paleontology: Known paleontological resources that have been identified as ORVs along 32 miles of the Green River (Table 4 of Appendix 3 [in the DRMP/DEIS]) would be protected by continued protective management of this suitable river segment. In addition, protective management would indirectly protect paleontological resources where these may occur along the remaining 609 miles of suitable river corridors. Managing these areas for tentative classifications and ORVs could reduce surface disturbing activities, protecting paleontological resources in place. Effects would be greatest along river

segments tentatively classified as Wild (273 miles), where surface disturbing activities are generally precluded. These effects would also result along river segments tentatively classified as Scenic (238 miles) and Recreational (130 miles), but to a lesser degree because management under these classifications is less restrictive. However, the opportunities to collect information would be limited because surface disturbing activities exposes paleontological sites that otherwise would not have been discovered.

Impacts to visual resources: Implementing protective management along all 38 river segments determined suitable would protect landscapes and visual resources along 641 miles (205,000 acres) of river corridors. Managing to protect the ORVs would reduce surface disturbing activities and preserve scenic quality. Segment protections would be greatest along segments tentatively classified as Wild (273 miles, 87,000 acres) where the management emphasis is on protecting natural landscapes. These effects would also occur along river segments tentatively classified as Scenic (238 miles, 76,000 acres) and as Recreational (130 miles, 42,000 acres), but to a lesser degree because surface disturbing activities are not as limited under those classifications.

Impacts to special status species: Special status fish species (i.e., humpback chub, bonytail chub, razorback sucker, and Colorado pikeminnow) that contribute to the outstandingly remarkable fish values in 294 miles of suitable rivers would benefit from protection of riparian values, water quality, and the free-flowing nature of the rivers, which would result from the management of these rivers as suitable. Protection of ORVs within the Green River corridor would also protect designated critical habitat for the Mexican spotted owl.

Impacts to fish and wildlife: Fish and wildlife have been identified as an ORV along 351 miles of suitable river segments. In these segments, fish and wildlife would receive direct protection from impairing activities, as well as protection of riparian values, water quality, and the free-flowing nature of the rivers that would result from continued management of these rivers.

Impacts to non-WSA lands with wilderness characteristics: Managing 141 miles of suitable segments within non-WSA lands with wilderness characteristics would limit surface disturbance and complement management for naturalness and outstanding opportunities for solitude or primitive and unconfined recreation. This is particularly true where recreation is identified as an ORV and along those river segments tentatively classified as Wild. Whichever management prescriptions are more protective of the values of concern would take precedence, and therefore, management of suitable river segments would not compromise the wilderness characteristics present on non-WSA lands.

Impacts to livestock grazing: Livestock grazing would not be affected by protective management of river segments determined suitable for inclusion in the National Wild and Scenic River System. All existing range developments are consistent with the tentative classifications (273 miles of Wild, 238 miles of Scenic, and 130 miles of Recreational). Any new constructions would involve site-specific NEPA analysis to determine appropriate methods and mitigation measures to protect the ORVs, in keeping with the tentative classifications. To protect their free-flowing nature, no impoundment of suitable streams would be permitted. In general, management actions of livestock grazing, which are subject to Standards for Rangeland Health, would be compatible with protective management of the rivers' ORVs.

Impacts to recreation: Restrictions to protect the ORVs on all 38 suitable river segments would limit surface disturbing activities and enhance the opportunities for river-related recreation. However, this would limit the opportunity for motorized recreation that would impact the ORVs within the half-mile river corridors.

Impacts to lands and realty: The 273 miles of suitable Wild river segments would preclude the placement of facilities in ROWs within a quarter-mile on each side of the high-water mark to maintain the tentative classification of Wild. The 238 miles of Scenic river segments would limit the placement of facilities in ROW within the river corridors (a quarter-mile on each side of the high-water mark to maintain the tentative classification of Scenic). The 130 miles of suitable Recreational river segments would have minimal impacts to the placement of facilities in ROWs. The Green River would limit the east-west corridors on the eastern portion of the PFO to the existing corridor in the vicinity of the town of Green River. Management to protect ORVs of the Price River and San Rafael Scenic segments would complicate the use of the U.S. 6 (north-south) and I-70 (east-west) corridors. Highway I-70 is the only major east-west corridor that traverses the PFO. U.S. 6 is the only major north-south corridor in the eastern portion of the PFO.

Impacts to minerals and energy resources: The 273 miles of suitable Wild river segments would require a no surface occupancy stipulation on any lands leased in the half-mile corridor. These segments would be closed to mineral material sales. However the location of mining claims or placement of mining facilities would not be affected by the tentative classification of Wild. The 238 miles of Scenic river segments would require a controlled surface use stipulation on any lease issued, which could affect the placement of facilities within the corridor. These segments would be open to mineral material sales subject to protection of the ORVs. However the location of mining claims or placement of mining facilities would not be affected by the tentative classification of Scenic. The 130 miles of suitable Recreational river segments would have minimal impacts to the placement of energy and mineral facilities subject to stipulations for protection of the ORVs.

Impacts to ACECs: 161 miles of Wild, 62 miles of Scenic, and 35 miles of Recreational suitable river segments are within 13 ACECs. The BLM would implement whichever management prescriptions are more protective of the ACECs' relevant and important values. Therefore, management of suitable river segments would complement ACEC management.

Impacts to transportation and motorized access: Protective management of all suitable river segments (641 miles) would have relatively minor effects on the existing transportation system. All existing travel routes were taken into consideration and are consistent with the tentative classifications (273 miles of Wild, 238 miles of Scenic, and 130 miles of Recreational).

Managing 273 miles of river segments as suitable for inclusion as Wild would restrict this area from new transportation system developments, road maintenance, and motorized access within one-quarter mile of these river segments.

4.3.20 Transportation and Motorized Access

Because the management actions for transportation and motorized access are common to all alternatives and there is no additional management proposed under alternative E, the impacts are the same as those described in the DRMP/DEIS, page 4-570. Because this alternative would prohibit construction of new roads in non-WSA lands with wilderness characteristics, it would limit future options for motorized access to remote areas and leave large portions of the PFO inaccessible. The impacts of OHV decisions and uses are addressed under recreation.

4.3.20 Hazardous Materials and Waste

Because the management actions for hazardous materials and waste are common to all alternatives and there is no additional management proposed under alternative E, the impacts are the same as those described in the DRMP/DEIS, page 4-569.

4.3.22 Social and Economics Impacts

Activities within the PFO would continue to support a number of jobs within the planning area. Mining, government, and services are and would continue to be the major employers in the PFO. However, recreation activities and grazing operations would also generate employment within the PFO.

4.3.22.1 Economic Impacts

Impacts to employment: Employment impacts under Alternative E are expected to remain the same as described under the No Action Alternative for coal production. The coal acreage unavailable for future leasing because of restrictions to maintain wilderness characteristics is small and some of the area has already been leased. A major source of jobs in Emery and Carbon Counties is through coal mining activities. This includes several coal mines within the PFO. For instance, in 2003, coal mining was estimated to support 1,452 employees throughout Utah, which generated 70% of total coal production for Utah; a large percentage of these jobs were located in Emery and Carbon Counties. It is expected that coal production within the PFO would exceed 17 million short tons per year during the life of the plan and is estimated to support an average of 875 direct jobs.

Grazing use would continue to provide jobs in the planning area under Alternative E. Employment supported by grazing activities within the PFO was estimated to be 77 part-time and full-time jobs per year. This employment estimate was based on the average use in the PFO of 44,000 AUMs. No reductions in grazing use would be made specifically to protect non-WSA lands with wilderness characteristics. However, the average grazing use in the PFO would decline slightly because of the proposed 13% reduction in permitted AUMs. This would be only a small decline because a large number of AUMs are currently not being grazed (Table 3-24 [in DRMP/DEIS]).

Employment associated with gas development is expected to decline in the long term relative to the No Action Alternative. Under Alternative E, the number of wells expected to be drilled and completed would decrease by 590 relative to the No Action Alternative, because 1,490,000 acres would be closed to additional leasing. Decreased gas development would lower future potential employment in the area by about 90 part-time and full-time jobs per year as compared to the No Action Alternative.

Recreational activities within the PFO are expected to remain important economically and socially to residents and visitors who travel to the area for its unique opportunities. Recreation would continue to have economic value for local residents and to affect the regional economic activity. Estimates of recreational use within the PFO indicate that there might be as many as several hundred thousand recreational visitor-days spent in this area each year. As visitors come to this area to recreate, they spend money on goods and services, such as lodging, meals, gasoline, and other items that support their activities. These expenditures could be an important economic stimulus to the area. Thus outdoor recreation would have intrinsic value for providing economic activity for local residents and economic stimulus for the regional economy. Accurate quantification of the economic stimulus associated with recreation in the PFO is not possible at this time because verifiable data on recreational use is lacking.

Under Alternative E, demand for traditional recreational activities, including floating, hiking, and camping, and other opportunities is expected to grow. An increase in demand for recreational activities would generate economic benefits in the local economy, including jobs and income, as a result of visitors spending money while visiting the area. In addition, local government entities would benefit from increased tax revenues associated with lodging and sales taxes. Conversely, restrictions on OHV use, including the closure of an additional 210 miles of designated routes, could decrease demand because fewer places would be available to meet the rapidly growing demand for motorized recreation.

Impacts to income: Activities within the PFO generate an important source of income for residents within the planning area. These include coal mining, oil and gas development, grazing, and recreation. Annual income associated with coal mining and grazing would not change from the No Action Alternative. However, the life of the proposed Lila Canyon coal mine would be shortened because the additional reserves are in non-WSA lands with wilderness characteristics and would be unavailable for leasing. Coal mining provided as much as 90% of total mining earnings during 2000 for Carbon and Emery Counties and was estimated to be more than \$110 million. In addition, future coal production within the PFO is estimated to provide on average of \$80 million in direct earnings per year. Additional economic activity generated by coal mining within the PFO is estimated to generate an added \$29 million in earnings to the regional economy. Grazing would also continue to generate earnings in the area and is estimated to be more than \$186,000 per year under the No Action Alternative.

Closing about 1,490,000 acres to oil and gas leasing would reduce the income in Carbon and Emery Counties. This would reduce the anticipated number of wells by 590 compared to the No Action Alternative, resulting in a \$4.7 million annual decline. The majority of the projected wells are in the coalbed natural gas and West Tavaputs gas fields that have been leased or would be still available for leasing and development. It is also expected that tax revenues and royalties to the State of Utah and local communities would be lower than under the No Action Alternative.

Under Alternative E, some recreationists would benefit from increased protection of non-WSA lands with wilderness characteristics that would maintain the appearance of naturalness and opportunities for solitude and primitive and unconfined recreation. Studies show that managing lands for wilderness characteristics may have some positive benefits to the local economy, above and beyond benefits to individual users of these areas. For example, private property next to these areas may increase in value. However, most of the land adjacent to the non-WSA lands with wilderness characteristics is federal and State owned.

OHV recreationists are expected to be affected under this alternative because of the elimination of all open areas and closing an additional 937,000 acres to OHV use, including a reduction in about 210 miles of designated motorized routes in the San Rafael Swell that were approved in 2003. Opportunities for trail-based OHV use would be curtailed impacting those who enjoy these activities.

Under Alternative E, limits would be imposed on motorized and dispersed camping recreational uses in the PFO. This would limit recreation use and visitor spending. The emphasis on natural processes would result in limitations on the installation of facilities, access to recreation sites, and areas open to various types of recreation use. Employment and income opportunities directly associated with non-primitive recreation from Alternative E would be diminished. Management of other resources would generally support dispersed and primitive forms of recreation activities, but would limit motorized and developed recreation activity. None of the open areas identified in the No Action Alternative would remain open to cross-country OHV use, again limiting recreational access, which could lead to a decline in spending in the local economy.

Impacts to natural resources important to recreation opportunities would be minimized, but demand for OHV-based recreation would not be met. The quality of primitive recreation would be improved. However, current trends suggest the majority of recreational use will be with motorized and developed forms of recreation. The management plan under this alternative would not meet the recreational demand, and the quality of recreation for these activities would decline. It is unlikely that the increase in recreation demand would be met, minimizing income and employment gains for the area. Thus, the quality of recreation for some of the visitors and the potential recreation-related employment and income gains under Alternative E would be the least of all the alternatives.

Impacts to population: Any population change that could be associated with the implementation of Alternative E would likely be linked to employment changes. Activities within the PFO would continue to support a notable number of jobs in the planning area.

Changes in employment because of a decline in oil and gas activity and recreational use, while not expected to be major throughout the planning area, would result in localized impacts in communities tied to these activities. Communities that are located near public lands and activities that take place on these lands may realize more of the potential employment declines than other communities. This may lead to a decline in population if similar employment opportunities are not available.

Impacts to community services: Notable changes in the current population are not expected under this alternative. Therefore, identifiable changes in demand or supply for government services are not expected as a result of this alternative.

4.3.22.2 Social Impacts

Impacts to livestock/grazing/ranching: The future management of grazing under Alternative E is expected to remain the same as the No Action Alternative. Conflicts with recreationist are expected to decrease in some areas where motorized recreational opportunities are restricted. In addition, the elimination of OHV use on 1,520,000 acres would benefit livestock grazing operations by reducing resource impacts. Limiting range improvement projects and re-treatment of vegetation could result in a decline in grazing. Eliminating grazing on nine allotments could reduce the size of some ranching operations. Changes in ranching operations could lead to a change in lifestyle for those involved in ranching.

Impacts to conservation: Some individuals who place a high value on undeveloped areas would benefit from reductions in gas development and elimination of OHVs on 1,520,000 acres. These actions would increase protection of resources, protect scenic quality and aesthetics, maintain the natural appearance, and protect important wildlife habitats.

Further protection of VRM classes is expected to maintain visual resources in some areas of the PFO, providing benefits to conservation-minded individuals. Because development of coal and gas resources is likely to occur on previously leased areas under Alternative E, it is expected that some conservation-minded individuals would still experience long-term impacts from loss of open landscapes, degradation of visual resources, and loss of solitude in these leased areas. However, these impacts are expected to be smaller than the No Action Alternative.

Impacts to recreation: Under Alternative E, recreationists who enjoy primitive recreation would benefit from increased protection of non-WSA lands with wilderness characteristics that would maintain the appearance of naturalness and opportunities for primitive and unconfined recreation or solitude by restricting landscape change.

OHV recreationists are expected to be affected under this alternative because of the elimination of all open areas and the closing of approximately 1,520,000 acres to OHV use, including a reduction in 210 miles of designated motorized routes in the San Rafael Swell that were approved in 2003. Trail-based OHV use would be curtailed, which would limit and degrade the quality of opportunities for those who enjoy these activities.

Some individuals would continue to be affected by continued development of coal and gas resources. However, these impacts are expected to vary across the PFO. Surface disturbance might continue in some SRMAs because 40% of the PFO would be open to oil and gas leasing, although these impacts would be

less than under any other alternative. This leasing could reduce the quality of recreational experiences, displace recreational users to less developed areas, or eliminate some uses altogether for some users.

Not authorizing livestock grazing in developed recreation sites and specific allotments within the Desolation Canyon and Labyrinth Canyon SRMAs would enhance the recreation experience in these areas. The recreational setting would be improved in the affected riparian zones by eliminating the short-term impacts from concentrated livestock use to vegetation, soils, and water. The absence of livestock would also eliminate related physical distractions.

Impacts to energy: Decreases in opportunities to drill and develop natural gas wells under Alternative E would have economic impacts to some of the involved companies and to the local communities and governments. Management actions under this alternative are also expected to affect energy and mineral developers because of stipulations associated with access, habitat and wildlife protection, timing limitations, and VRM. These restrictions are expected to increase cost of production and potentially reduce total production over time.

Impacts to environmental justice: Based on the results of the socioeconomic and environmental impact analysis conducted for this project, it can be concluded that those persons who reside in and around the PFO would bear some effects due to the continued management of the PFO. However, based on the data and criteria identified, no environmental justice populations are present in the planning area. It is possible that some highly localized minority or low-income populations exist, but it is unlikely that any such populations would be disproportionately affected compared to the general population under Alternative E.

4.3.22.3 Summary

Management actions within the PFO as described under Alternative E are expected to cause a decrease in potential employment and loss of personal income in the local economy because of restrictions to maintain naturalness and opportunities for solitude or primitive recreation in the 27 non-WSA lands with wilderness characteristics. However, employment impacts are not expected to have significant impacts to population trends or community services. Continued development of coal and natural gas is expected to provide significant tax revenues to the State of Utah and local government entities, but at lower levels for oil and gas than expected under the No Action Alternative. Under Alternative E, existing conditions and social trends would generally remain the same, and environmental justice impacts are not expected. In addition, conflicts between certain types of recreationists (motorized and non-motorized) and livestock grazing are expected to decline in some areas.

4.4 NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

Note: Replace the DRMP/DEIS Chapter 4 analysis, pages 4-480 to 4-484 with the following analysis. This replacement analyzes the impacts of all other resource or resource use decisions on non-WSA lands with wilderness characters for Alternatives No Action, A, B, C, and D. Impacts to non-WSA lands with wilderness characters from Alternative E decisions are analyzed above.

4.4.1 Impacts of Air Quality Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Air quality management requires compliance with the National Ambient Air Quality Standards and Prevention of Significant Deterioration increments. This compliance would ensure that the PFO would

continue to be an attainment area. However, there would be a decline in the air quality up to the Prevention of Significant Deterioration limit, that would affect the air quality in the non-WSA lands with wilderness characteristics.

4.4.2 Impacts of Soils, Water, and Riparian Resources Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

The objective of water and riparian management is to maintain, restore, improve, and protect perennial streams and riparian and wetland areas and ensure proper functioning conditioning. To achieve these objectives under all alternatives, the BLM would prohibit surface disturbing activities within 100-year floodplains, 100 meters of perennial streams and riparian areas, and 300 meters of springs.

Maintenance, restoration, and protection of riparian and wetland vegetation would improve the natural vegetation condition of non-WSA lands with wilderness characteristics, and thus its natural values. Improved riparian and wetland conditions would enhance wildlife habitat, and thus, the natural values of non-WSA lands. Further, improved wildlife habitat would lead to increases in riparian obligate wildlife species populations and opportunities for wildlife viewing. Improved riparian and wetland conditions would improve the setting for other primitive recreational opportunities, including hiking, camping, and nature study.

Surface disturbing activities on slopes between 21% and 40% would not be approved without an approved erosion control strategy and a topsoil segregation/restoration plan. While the strategy would prevent unnecessary and undue degradation of the environment, it would not prevent soil and vegetation disturbance that would degrade the natural character of the non-WSA lands with wilderness characteristics. Further, the presence and noise of people and equipment connected with a proposed project would temporarily diminish opportunities for solitude and primitive and unconfined types of recreation typically sought in areas with wilderness characteristics.

The prohibition of surface disturbance on slopes greater than 40% would prevent surface disturbance that would degrade the natural condition of non-WSA lands with wilderness characteristics. The prohibition on disturbance would also protect opportunities for both solitude and primitive forms of recreation.

4.4.3 Impacts of Vegetation Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

Vegetation treatments with fire would have no long-term effect on the wilderness characteristics of the non-WSA lands. Treatments by mechanical means (bulldozers or chainsaws), however, would introduce soil and vegetation disturbance to the landscape, and a clearly evident hand of humans on the landscape, that would degrade the natural character of the non-WSA areas.

Using fire, mechanical, biological, or chemical treatments to control noxious weeds and insects would have both positive and negative impacts on the wilderness characteristics of non-WSA lands. Using fire, chemical, and biological treatments would control noxious weeds and insects with no apparent evidence of human intervention on the landscape. Thus, there would be no noticeable effect on the natural character of the non-WSA lands with wilderness characteristics. Control of non-native vegetation and restoration of

native vegetation communities would result in a more natural vegetation community and thus, a natural condition of the non-WSA areas.

In the long term, vegetation treatments with prescribed fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics, this objective would enhance the natural character of the non-WSA lands. In the short term, however, operation of a prescribed burning operation would result in disturbance of the landform and vegetation through fire line construction needed to manage the fire. Further, the presence and noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return. Soil and vegetation disturbance for fire line construction would diminish the natural character of the non-WSA lands, but reclamation would restore the natural conditions in a relatively short period of time.

Mechanical treatments, however, would have long-term impacts on the natural character of the non-WSA lands and opportunities for solitude and primitive and unconfined recreation. While restoration of native vegetation communities would improve the natural character of non-WSA lands with wilderness characteristics, using chainsaws, bulldozers, brush hogs, etc., to accomplish the objective would leave an obvious imprint of human activity on the land. Also, in the short term, the presence and noise of people and equipment would eliminate opportunities for solitude and primitive forms of recreation in proximity to the treatment area. In the long term, a setting clearly manipulated by humans would diminish the opportunities for both solitude and primitive recreation.

Commercial and non-commercial collection of vegetation products could result in small localized surface disturbance that could affect the natural appearance of the non-WSA lands with wilderness characteristics.

Alternative A

The effects of vegetation treatments would be the same as described under the No Action Alternative, except under this alternative about 9,800 acres of pinyon juniper and 460 acres of aspen would be treated per year. The effects of sagebrush steppe vegetation treatments (about 6,300 acres per year) to enhance livestock and wildlife forage would detract from the natural composition and age of the steppe and alter the natural appearance of the landscape.

Alternative B

The effects of vegetation treatments would be the same as described under the No Action Alternative, except under this alternative about 4,800 acres of pinyon juniper and 315 acres of aspen would be treated per year. The effects of sagebrush steppe vegetation treatments (about 3,100 acres per year) to maintain natural composition would, in the long term, be compatible with the natural appearance of the non-WSA lands with wilderness characteristics. Vegetation treatments would introduce an unnatural element to the landscape, degrading the natural appearance of the non-WSA lands, but natural appearance would be restored within about 5 years.

Alternative C

Restricting vegetative treatments to natural process would complement the management within non-WSAs lands with wilderness characteristics to maintain the natural appearance of the area and the quality

of the opportunities for solitude and primitive recreation. However, the opportunity to improve the natural appearance would be limited. Under this alternative about 2,500 acres of pinyon juniper and 120 acres of aspen would be treated per year. The effects of treating sagebrush steppe vegetation with fire (about 1,600 acres per year) to maintain natural composition would be compatible with the natural appearance of the non-WSA lands with wilderness characteristics.

Alternative D

The effects of vegetation treatments would be the same as described under the No Action Alternative, except under this alternative about 4,800 acres of pinyon juniper and 120 acres of aspen would be treated per year. The effects of sagebrush steppe vegetation treatments (about 1,600 acres per year) to maintain natural composition would, in the long term, be compatible with the naturalness of the non-WSA lands with wilderness characteristics. Vegetation treatments would introduce an unnatural element to the landscape, degrading the natural appearance of the non-WSA lands, but natural appearance would be restored within about 5 years.

4.4.4 Impacts of Cultural Resources Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, and D

A number of cultural resource decisions would provide protection of cultural resources, including monitoring sites, inventorying new sites, ensuring compliance with the National Historic Preservation Act, implementing interim protection to newly discovered sites, mitigating impacts to sites, allocating sites to public and scientific purposes, consulting with tribes, and others. Protecting historic and prehistoric resources in non-WSA lands with wilderness characteristics would enhance opportunities for primitive forms of recreation. Knowing more about the cultural resources of an area, interpreting the resource in an appropriate fashion, and viewing cultural resource sites in the non-WSA areas would add to the enjoyment of these areas for primitive recreational purposes. Protecting cultural resources would add to the character of the setting that supports these recreational opportunities.

Management actions associated with cultural resources, which would allow for access, excavation, inventories, and collections to those resources, would affect non-WSA lands with wilderness characteristics. Short-term surface disturbance associated with such activities would result in temporary impacts on the natural appearance of the area. In addition, the presence of people, vehicles, and equipment in proximity to the area and the corresponding increases in noise levels would temporarily reduce the quality of opportunities for solitude and primitive recreation.

Alternative B

The impacts of cultural resource management would be the same as the No Action Alternative, except a cultural survey of areas of direct impact, plus 100 feet would be required to reduce the potential impacts to cultural resources. This action would limit the potential for additional surface disturbance in non-WSA lands with wilderness characteristics. However, projects may have to be relocated to non-WSA lands with wilderness characteristics to avoid cultural sites. If this relocation were to happen, a loss of natural appearance and a reduction in the quality of opportunities for solitude and primitive recreation would occur. If projects are moved farther from non-WSA lands with wilderness characteristics to protect cultural resources, the effect of the projects on the appearance of naturalness and opportunities for primitive recreation would be reduced. Overall, these impacts would be minor because moving noticeable facilities only 100 feet would generally not change the visual aspects of a project.

Alternative C

The impacts of cultural resource management would be the same as Alternative B, except a cultural survey would be required for areas of direct impact plus 300 feet rather than 100 feet.

4.4.5 Impacts of Paleontology Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Paleontology decisions provide for cooperation with local communities, interest groups, individuals, and agencies to enhance public understanding and enjoyment of fossils. Like cultural resources, knowing more about the paleontological resources of the area, interpreting the resource in an appropriate fashion, and viewing fossil sites in the non-WSA lands with wilderness characteristics would add to the enjoyment of these areas for primitive recreational purposes. Protection of fossils adds to the character of the setting that supports these recreational opportunities.

Management actions associated with paleontological resources, which would allow for access, excavation, inventories, and collections to those resources, would affect non-WSA lands with wilderness characteristics. Short-term surface disturbance associated with such activities would result in temporary impacts on the natural appearance of the area. In addition, the presence of people, vehicles, and equipment in proximity to the area and the corresponding increases in noise levels would temporarily reduce the quality of opportunities for solitude.

4.4.6 Impacts of Visual Resources Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

The four objectives for visual resources management (VRM Classes I – IV) allow for various levels of landscape protection and change. The objective of VRM Class I is to preserve the characteristic landscape, while the objective of VRM Class IV provides for landscape modifications (Chapter 3, Section 3.2.6, Table 3-10 [in DRMP/DEIS]). Land use planning decisions to manage areas by VRM Class I objectives would preserve the characteristics landscape. In non-WSA lands with wilderness characteristics, this objective would preserve the natural character of the area. VRM Class II objectives would retain the characteristics landscape, allowing for minor changes to the landform and vegetation. This objective would generally protect the natural condition of the land in non-WSA areas. The objective of VRM Class III is to partially retain the existing character of the landscape, allowing for moderate changes to land and vegetation. This objective is not compatible with preserving the wilderness characteristics of non-WSA lands. VRM Class IV objectives provide for major modification of the landscape, clearly incompatible with preservation of the natural appearance of non-WSA lands. Table 4-1 shows the VRM by class and the alternative for each non-WSA land with wilderness characteristics areas.

Portions of 20 of the 27 non-WSA lands with wilderness characteristics (a total of 285,000 acres) would be managed to meet VRM Class I and II objectives. Thus, natural appearance would be protected on 30% of the non-WSA lands with wilderness characteristics.

Alternative A

Portions of 13 of the 27 non-WSA lands with wilderness characteristics (a total of 150,000 acres) would be managed to meet VRM Class I and II objectives. Thus, natural appearance would be protected on 16% of the non-WSA lands with wilderness characteristics.

Alternative B

Portions of 20 of the 27 non-WSA lands with wilderness characteristics (a total of 288,000 acres) would be managed to meet VRM Class I and II objectives. Thus, natural appearance would be protected on 30% of the non-WSA lands with wilderness characteristics.

Alternative C

Portions of 23 of the 27 non-WSA lands with wilderness characteristics (a total of 417,000 acres) would be managed to meet VRM Class I and II objectives. Thus, natural appearance would be protected on 44% of the non-WSA lands with wilderness characteristics.

Alternative D

Portions of 20 of the 27 non-WSA lands with wilderness characteristics (a total of 286,000 acres) would be managed to meet VRM Class I and II objectives. Thus natural appearance would be protected on 30% of the non-WSA lands with wilderness characteristics.

Table 4-1. VRM Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Cedar Mountain					
• Class I	0	0	0	0	0
• Class II	4,900	4,900	4,900	5,120	4,900
• Class III	1,080	1,080	10,100	1,080	10,100
• Class IV	9,020	9,020	0	8,800	0
Desolation Canyon					
• Class I	4,500	4,500	4,500	15,400	4,500
• Class II	42,100	0	42,400	37,100	34,500
• Class III	42,400	84,500	42,100	36,500	50,000
• Class IV	0	0	0	0	0
Devils Canyon					
• Class I	460	0	460	1,440	460
• Class II	10,540	60	10,540	9,560	10,540
• Class III	0	10,940	0	0	0
• Class IV	0	0	0	0	0
Eagle Canyon					
• Class I	70	70	70	1,860	70
• Class II	3,120	390	3,120	11,600	3,120
• Class III	4,900	7,630	4,900	4,260	4,900
• Class IV	30,910	30,910	30,910	21,280	30,910

Table 4-1. VRM Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Flat Top					
• Class I	190	0	0	0	190
• Class II	0	0	0	0	0
• Class III	390	390	7,100	390	6,910
• Class IV	6,520	6,710	0	6,710	0
Hondu Country					
• Class I	1,820	1,820	1,820	1,820	1,820
• Class II	5,880	0	5,880	15,110	5,880
• Class III	4,680	10,560	12,300	2,970	12,300
• Class IV	7,620	7,620	0	100	0
Jack Canyon					
• Class I	0	0	0	400	0
• Class II	1,100	0	1,100	750	1,100
• Class III	400	1,500	400	350	400
• Class IV	0	0	0	0	0
Labyrinth					
• Class I	890	5,700	12,010	12,550	0
• Class II	15,500	10,690	6,630	7,310	14,140
• Class III	0	0	7,360	0	11,860
• Class IV	9,610	9,610	0	6,140	0
Limestone Cliffs					
• Class I	0	0	0	0	0
• Class II	10	0	10	10	10
• Class III	1,090	1,100	1,090	1,090	1,090
• Class IV	0	0	0	0	0
Lost Springs Wash					
• Class I	0	0	0	40	0
• Class II	0	0	4,536	0	0
• Class III	32,000	32,000	32,000	31,600	32,000
• Class IV	0	0	0	0	0
Mexican Mountain					
• Class I	560	560	560	910	560
• Class II	11,970	11,970	11,970	18,800	11,970
• Class III	14,360	14,360	14,360	9,790	14,360
• Class IV	14,110	14,110	14,110	11,500	14,110
Molen Reef					
• Class I	2,400	0	2,400	2,400	1,620
• Class II	20,050	0	20,050	20,050	20,830
• Class III	6,660	29,110	6,660	6,660	6,660
• Class IV	3,890	3,890	3,890	3,890	3,890

Table 4-1. VRM Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Muddy Creek/Crack Canyon					
• Class I	21,800	21,800	21,800	22,500	21,800
• Class II	34,800	25,000	34,800	65,200	35,000
• Class III	20,600	30,400	76,400	16,900	76,200
• Class IV	55,800	55,800	0	28,400	0
Mussentuchit Badlands					
• Class I	0	0	0	0	0
• Class II	0	0	0	15,500	0
• Class III	5,050	5,050	25,000	3,000	25,000
• Class IV	19,950	19,950	0	6,500	0
Never Sweat Wash					
• Class I	0	0	0	0	0
• Class II	0	0	0	0	0
• Class III	29,000	29,000	29,000	29,000	29,000
• Class IV	0	0	0	0	0
Price River					
• Class I	0	0	0	0	0
• Class II	6,900	6,900	6,900	15,500	6,900
• Class III	61,600	61,600	61,600	53,500	61,600
• Class IV	21,500	21,500	21,500	21,000	21,500
Rock Canyon					
• Class I	2,150	0	2,150	2,150	0
• Class II	6,400	0	6,400	6,400	8,600
• Class III	6,350	14,900	8,450	6,350	8,400
• Class IV	2,100	2,100	0	2,100	0
San Rafael Knob					
• Class I	1,820	1,820	1,820	1,820	1,820
• Class II	14,780	0	14,780	14,780	14,780
• Class III	900	15,680	900	900	900
• Class IV	0	0	0	0	0
San Rafael Reef					
• Class I	7,250	7,250	7,250	7,250	7,250
• Class II	1,250	1,250	1,250	3,650	4,400
• Class III	18,200	18,200	37,500	17,000	34,350
• Class IV	19,300	19,300	0	18,100	0
San Rafael River					
• Class I	0	0	0	0	0
• Class II	0	0	0	4,500	0
• Class III	21,500	21,500	104,000	21,500	104,000
• Class IV	82,500	82,500	0	78,000	0

Table 4-1. VRM Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Sids Mountain					
• Class I	2,750	2,750	2,750	4,600	2,750
• Class II	18,250	17,300	18,250	19,400	18,250
• Class III	6,750	7,700	6,750	5,800	6,750
• Class IV	8,250	8,250	8,250	6,200	8,250
South Horn Mountain					
• Class I	0	0	0	0	0
• Class II	0	0	0	0	0
• Class III	6,400	6,400	6,400	6,400	6,400
• Class IV	0	0	0	0	0
Sweetwater Reef					
• Class I	0	0	0	0	0
• Class II	0	0	0	26,000	0
• Class III	0	0	63,000	0	63,000
• Class IV	63,000	63,000	0	37,000	0
Turtle Canyon					
• Class I	0	0	0	750	0
• Class II	5,000	0	4,950	4,250	4,950
• Class III	0	0	50	0	50
• Class IV	0	5,000	0	0	0
Upper Muddy Creek					
• Class I	3,500	800	3,500	5,600	2,200
• Class II	8,300	0	8,300	10,700	9,700
• Class III	4,200	15,200	6,200	900	6,100
• Class IV	2,000	2,000	0	800	0
Wild Horse Mesa					
• Class I	0	0	0	50	0
• Class II	24,400	24,400	24,400	24,400	31,200
• Class III	6,800	6,800	7,100	6,750	300
• Class IV	300	300	0	300	0
Wildcat Knolls					
• Class I	0	0	0	0	0
• Class II	0	0	0	0	0
• Class III	340	340	340	340	340
• Class IV	0	0	0	0	0
Total					
• Class I	50,000	47,000	61,000	81,000	45,000
• Class II	235,000	103,000	227,000	336,000	241,000
• Class III	296,000	431,000	570,000	263,000	572,000
• Class IV	356,000	356,000	79,000	257,000	79,000

4.4.7 Impacts of Special Status Species Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Protective measures geared to special status species would complement the management within non-WSAs with wilderness characteristics and assist in maintaining the long-term naturalness of the area and the opportunities for solitude and primitive recreation. These actions would improve special status species habitat and reduce surface disturbance. Habitat enhancement by any methods in the short term would introduce an unnatural element to the landscape, degrading the natural condition of the non-WSA lands. However, these methods would last as long as necessary for restoration of the habitat, about 5 years. Improving riparian conditions would also improve wildlife habitat, enhancing wildlife viewing opportunities and the primitive recreational values of these non-WSA lands.

4.4.8 Impacts of Fish and Wildlife Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Under all alternatives, a variety of actions would be implemented to restore, maintain, and enhance native wildlife populations. Improved wildlife populations would enhance the natural character of the land in all of the non-WSA lands with wilderness characteristics. Further, larger and healthier wildlife populations would expand opportunities for primitive and unconfined recreation opportunities, including wildlife viewing, hunting, and natural history study. Construction of water sources (guzzlers) to support wildlife population would result in more wildlife and the benefits described above. Construction of human made features on the land, however, would degrade the natural, undeveloped character of the non-WSA lands with wilderness characteristics.

Protecting wildlife habitat through stipulations on other land uses (e.g., collocation of ROWs, utility corridors, and oil and gas wells) would reduce surface disturbance and landscape change, thereby maintaining undeveloped landscapes. This action would complement management within non-WSAs lands with wilderness characteristics to maintain natural appearance and quality of opportunities for solitude and primitive recreation within the 27 identified areas.

4.4.9 Impacts of Wild Horses and Burros Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

There are four wild horse and one burro HMA in the PFO, Range Creek, Muddy Creek, Robbers Roost, and Sinbad (horse and burro). A portion of the Jack Canyon and Desolation Canyon non-WSA lands with wilderness characteristics are in the Range Creek HMA. The Mexican Mountain and San Rafael Reef non-WSA lands with wilderness characteristics are in the Sinbad burro HMA. The Sweetwater Reef, Flat Tops, and San Rafael River non-WSA lands with wilderness characteristics are in the Robbers Roost HMA. The Molen Reef, Devils Canyon, Upper Muddy Creek, Cedar Mountain, San Rafael Knob, and Hondu Country non-WSA lands with wilderness characteristics are in the Muddy Creek HMA. The San Rafael Knob, Muddy Creek/Crack Canyon and Hondu Country non-WSA lands with wilderness characteristics are in the Sinbad horse HMA.

About 50% of the five HMAs are within non-WSA lands with wilderness characteristics. Management of wild horses and burros would have minor impact on those lands during gathers. This would be limited because most trap locations are usually on or adjacent to main routes outside of the non-WSA lands with wilderness characteristics. Also the helicopters used for about 1 week every 4 years to gather the animals would have a negligible impact on the opportunity for solitude. Maintenance of healthy horse and burro herds in these HMAs would complement the opportunities for primitive forms of recreation these non-WSA lands offer. Viewing wild horses and burros would be primitive recreation activity.

Alternative A

Eliminating horses from all HMAs and setting the AML at zero would eliminate the impacts of gathers on the 12 non-WSA lands with wilderness characteristics that are within portions of the four-horse HMAs. The Sinbad burro herd would continue to affect the Mexican Mountain and San Rafael Reef non-WSA lands with wilderness characteristics during gathers, as discussed under the No Action Alternative.

Alternative B

Eliminating horses from the Robbers Roost HMAs and setting the AML at zero would eliminate the impacts of gathers on the three non-WSA lands with wilderness characteristics that are within portions of the HMAs. Converting the Muddy Creek and Sinbad horse HMAs to burro HMAs and maintaining the Range Creek Horse and Sinbad burro HMA would continue to affect the non-WSA lands with wilderness characteristics within those HMAs during gathers as discussed in the No Action Alternative. The conversion of horses to burros would have no additional impact on these areas.

Alternatives C and D

The effects on wilderness characteristics management resulting from managing wild horses and burros would be eliminated on the Robbers Roost HMA from setting AML at zero and the HMA would lose its status. With 50% of the other three wild horse and burro HMAs within non-WSA lands with wilderness characteristics, managing wild horses and burros may have minor impact on those lands during gathers. This impact would be limited because most trap locations are usually on or adjacent to main routes that would remain open and outside of the non-WSA lands with wilderness characteristics. Also, the helicopters used for about 1 week every 4 years for gathers would have a negligible impact on the opportunity for solitude. The Sinbad horse HMA would be combined with the Muddy Creek HMA, and the total number of wild horses would increase by about 25, which would slightly increase the level of soil disturbance and vegetation trampling. However, this increase would not noticeably alter the natural appearance of any of the non-WSA lands with wilderness characteristics.

4.4.10 Impacts of Fire and Fuels Management Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, and D

Under all alternatives, the BLM would attempt to restore natural fire regimes in fire-dependent and adapted ecosystems using prescribed or managed wildland fire. The PFO would be divided into fire management areas (Chapter 3.2.10 in DRMP/DEIS) to determine where fire is desirable and where it is not; these areas are the same for all alternatives. Further, under all alternatives, following any wildland fire event, ESR actions would be developed and implemented. Hazardous fuel treatments would be implemented with the use of fire or by chemical and mechanical methods.

Restoration of fire to fire-dependent and adapted ecosystems would restore a more natural vegetation community (in both species and composition) and watershed conditions and wildlife populations dependent on those communities. Treatments would introduce an unnatural element to the landscape, degrading the natural appearance of the non-WSA lands, but natural appearance and more natural conditions would be restored within about 5 years.

Setting fire objectives through fire management categories would identify where fire is desired on the land, leading to the same benefits to the naturalness of the areas as restoring fire to fire-dependent and adapted ecosystems. When it is necessary to suppress fire in non-WSA lands with wilderness characteristics, development and implementation of the ESR plan would restore vegetation on fire suppression disturbances (e.g., fire line construction), resulting in the restoration of the natural appearance of the non-WSA areas. Hazardous fuel treatments in non-WSA lands with wilderness characteristics would aid in restoring a more natural fire regime in the non-WSA lands. Using fire to accomplish this reduction would result in a burned but natural-appearing landscape. Using mechanical treatments would leave an apparent imprint of human work on the land that would degrade the natural appearance of the non-WSA lands with wilderness characteristics until natural-appearing vegetation is restored (5 years).

During any fire operation or hazardous fuels treatment, the presence of people, vehicles, equipment, and aircraft would detract from opportunities for both solitude and primitive types of recreation in the non-WSA areas. This effect would be short-term, however, lasting only during the extent of the fire (including restoration) or treatment. Upon completion of vegetation restoration, opportunities for solitude and primitive recreation would be reestablished.

These alternatives would provide for prescribed fire treatments on approximately 3,000 acres per year. Where fire treatments occurred in non-WSA lands with wilderness characteristics. Further, the degree of impact would vary by vegetation community and landform. For example, the effects of fire burning in a pinyon-juniper community in mountainous terrain would remain more visible to the visitor than fire burning on a sage brush flat. Prescribed fire treatments would restore native vegetation communities and a more natural composition of forbs, grasses, shrubs, and trees, enhancing a more natural landscape. In the short term, a burned landscape may reduce opportunities for primitive recreation. In the long term, however, a more natural landscape would benefit the natural character of the non-WSA lands and enhance the setting and opportunities for primitive forms of recreation, including hiking, backpacking, hunting, wildlife viewing, and nature study.

In the short term, fire operations (aircraft over-flights, fire line construction, etc.) would impact the natural landscape and character of the non-WSA lands. The noise and presence of the people, equipment, and operations would also impact opportunities for solitude and primitive forms of recreation. In the long term, however, surface disturbance associated with the fire treatment would be restored, with little to no net effect on the appearance of naturalness. And, the effects of fire operations on the quality of opportunities for solitude and primitive recreation would cease, restoring those opportunities.

Alternative C

The impacts for this alternative would be the same as the No Action Alternative, except the impacts from 3,000 acres of prescribed burns would not occur because vegetation treatments would be limited to natural processes.

4.4.11 Impacts of Non-WSA Land with Wilderness Characteristics Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Under these alternatives, no specific actions would be prescribed to directly protect or maintain the non-WSA lands with wilderness characteristics values of naturalness or the opportunity for solitude or primitive recreation. Thus, the impacts on wilderness characteristics would be caused by activities for other resources and uses.

4.4.12 Impacts of Forestry and Woodlands Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

There are roughly 70,000 acres of forests and 650,000 acres of woodlands with pinyon juniper being the primary component. Under the No Action Alternative, actions would be implemented to maintain and restore forest and woodlands ecosystems to a condition in which biodiversity would be preserved, insects and disease would be controlled to normal levels, relict stands would be maintained, fuel loading would be reduced, historic fire regimes would be restored, and forests and woodlands would be managed for multiple use and sustained yield through fire and mechanical treatments. Salvaging forest and woodland products that are dead or dying would be permitted throughout the PFO. However, commercial harvest of forest products would not be authorized.

Forest and woodland treatments with fire would restore native vegetation communities and a more natural composition of grasses, forbs, shrubs, and/or trees in those communities. If these treatments occurred in non-WSA lands with wilderness characteristics, this objective would enhance the natural character of the non-WSA lands. In the short term, however, operation of a prescribed burning operation would result in disturbance of the landform and vegetation through fire line construction needed to manage the fires. Further, the presence and noise of people, vehicles, equipment, and aircraft would eliminate opportunities for solitude and primitive and unconfined recreation in proximity to the fire. The impacts on opportunities for solitude and primitive recreation would be temporary, lasting for the duration of the prescribed burning operation and reclamation. When the fire and reclamation operations are complete, these opportunities would return. Soil and vegetation disturbance for fire line construction would diminish the natural character of the non-WSA lands, but reclamation would restore the natural conditions in a relatively short period of time.

If mechanical treatments (heavy equipment and chainsaws) were conducted on non-WSA lands with wilderness characteristics, the surface disturbance would have long-term impacts on the natural character of the non-WSA lands and on opportunities for solitude and primitive and unconfined recreation. While restoration of native vegetation communities would improve the natural character of non-WSA lands with wilderness characteristics, using chainsaws, bulldozers, etc., to accomplish woodland objectives would leave an obvious imprint of human activity on the land. Also, in the short term, the presence and noise of people and equipment would eliminate opportunities for solitude and primitive forms of recreation in proximity to the treatment area. In the long term, a setting clearly manipulated by humans would also diminish the quality of opportunities for both solitude and primitive recreation.

Alternatives A, B, and D

While these alternatives provide for production of forest and woodland products for public use, the effects of harvest and treatment on non-WSA lands with wilderness characteristics would be the same as described under the No Action Alternative. In addition, public use of forest and woodland products would be permitted to achieve desired future conditions (e.g., vegetation treatments).

Alternative C

The impacts for this alternative would be the same as Alternative A, except the impacts from prescribed burns would not occur because vegetation treatments would be limited to natural processes.

4.4.13 Impacts of Livestock Grazing Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action and A

During inventories for the presence of wilderness characteristics, existing range improvement facilities within non-WSAs with wilderness characteristics were found not to detract from the natural appearance of these areas. Therefore, maintaining these facilities would not substantially detract from the natural appearance of these areas. However, maintaining them would cause short-term localized reductions in the quality of the opportunity for solitude because of noise intrusions and presence of people and equipment.

Grazing is guided by the livestock objectives set in the *Standards for Rangeland Health* and *Guidelines for Grazing Management* and in the riparian objectives of Proper Functioning Condition. Proper levels of livestock use are guided by grazing and riparian objectives. These objectives would not permit degradation of the lands. While there would be some visual evidence of livestock use in the non-WSA lands with wilderness characteristics (presence of livestock, feces, trampling of soil, and consumption of vegetation), rangeland health and riparian condition would be maintained. For some visitors, the presence of livestock would detract from the desired experience (connection with the natural world and experiences of solitude). However, this effect would be seasonal. At other times of the year, livestock would be gone, soils would recover, and vegetation would regrow, reducing the effect to the visitor experience.

Alternatives B and D

The impacts of Alternatives B and D would be the same as the No Action Alternative with one exception: closing 3 allotments to grazing would eliminate the visual evidence of livestock use in the Desolation Canyon non-WSA land with wilderness characteristics area. This closure would improve riparian and watershed conditions if livestock use is a factor in poor conditions. In these areas the vegetation and soil condition of the watershed would appear more natural. Further, removing livestock-related intrusions would contribute to the setting needed to support wilderness-related recreation opportunities (primitive and unconfined recreation) and the experience of solitude that wilderness visitors seek.

Alternative C

During inventories for the presence of wilderness characteristics, existing range improvement facilities within non-WSAs with wilderness characteristics were found not to detract from the natural appearance of these areas. Therefore, maintaining these facilities would not substantially detract from the natural appearance of these areas. However, maintaining these facilities would cause short-term localized reductions in the quality of the opportunity for solitude because of noise intrusions and human presence.

Small portions of the non-WSA lands with wilderness characteristics are within the 9 allotments that would be closed to grazing. Vegetation would be unaffected by livestock grazing, resulting in reduced visual intrusions on non-WSA lands with wilderness characteristics along the Green River and Muddy Creek. Without livestock grazing, the vegetation and soil condition of the watershed would improve, and the closed areas would appear more natural. A more natural appearance would sustain the setting needed to support wilderness-related recreation opportunities (primitive and unconfined recreation) and the experience of solitude wilderness visitors seek.

4.4.14 Impacts of Recreation Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

Approximately 10,000 acres of the Desolation Canyon SRMA would be in the Desolation Canyon non-WSA lands with wilderness characteristics area. About 16,500 acres of the Labyrinth Canyon SRMA would be in the Labyrinth Canyon and San Rafael River non-WSA lands with wilderness characteristics areas. About 400,000 acres of the San Rafael Swell SRMA would be in 14 non-WSA lands with wilderness characteristics areas. Those portions of the SRMAs (138,500 acres) managed for their Primitive or SPNM ROS values would continue to provide opportunities for solitude and primitive recreation. Construction of recreational facilities and motorized recreation that would degrade the naturalness of the non-WSA lands with wilderness characteristics would be allowed on about 288,000 acres of the SRMA. Further, the noise and presence of vehicles and facilities would impact opportunities for solitude and primitive and unconfined forms of recreation.

Managing approximately 510,000 acres of non-WSA lands with wilderness characteristics as part of the ERMA would allow for dispersed motorized and non-motorized recreation uses with minimal facility construction. Non-motorized, undeveloped forms of recreation would not affect the natural appearance or the quality of opportunities for solitude and primitive and unconfined recreation. However, motorized recreation and construction and placement of facilities to support recreation activities would degrade the natural appearance of the non-WSA areas. Further, the noise and presence of vehicles and facilities would reduce the quality of opportunities for solitude and primitive and unconfined forms of recreation.

Allowing cross country OHV travel on 338,890 acres in 18 of 27 non-WSA lands with wilderness characteristics (Table 4-2) would result in surface disturbance to soils and vegetation, altering the landscape and degrading the natural appearance in these areas. Further, the presence and noise of OHVs would reduce the quality of opportunities for solitude and primitive and unconfined recreation.

OHV use would be limited to 211 miles of designated routes on 587,350 acres of non-WSA lands with wilderness characteristics. This would confine soil and vegetation disturbance caused by motor vehicles to existing routes and maintain the natural appearance of the non-WSA lands. The presence and noise of vehicles on the designated routes, however, would reduce the quality of opportunities for solitude and primitive and unconfined recreation along the routes. Closing 11,200 acres in 6 of 27 non-WSA lands with wilderness characteristics would prevent surface disturbance caused by motorized travel and maintain the natural appearance of the non-WSA areas. Closure to OHV use also would eliminate the presence and noise of OHV travel and maintain opportunities for solitude and primitive forms of recreation in these areas.

Alternative A

Approximately 10,000 acres of the Desolation Canyon SRMA would be in the Desolation Canyon non-WSA lands with wilderness characteristics area. About 3,500 acres of the Labyrinth Canyon SRMA would be in the Labyrinth Canyon and San Rafael River non-WSA lands with wilderness characteristics areas. About 430,000 acres of the San Rafael Swell SRMA would be in 15 non-WSA lands with wilderness characteristics areas. About 100 acres of the CLDQ SRMA would be in Price River non-WSA lands with wilderness characteristics area. Those portions of the SRMAs (134,000 acres) managed for their Primitive or SPNM ROS would continue to provide opportunities for solitude and unconfined recreation. Construction of recreational facilities and motorized recreation would be allowed on about 310,000 acres of the SRMAs. Wilderness characteristics would be impacted in the same ways as described in the No Action Alternative.

Approximately 493,000 acres of non-WSA lands with wilderness characteristics would be managed as part of the ERMA. Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction, and the kinds of impacts on wilderness characteristics would be the same as those described in the No Action Alternative.

OHV use would be limited to designated routes or closed. This limitation would eliminate cross-country travel and the potential for impacts on the natural appearance and opportunities for solitude and primitive and unconfined recreation in these areas. OHV use would be limited to 825 miles of designated routes on 893,450 acres (95%) of non-WSA lands with wilderness characteristics. This limitation would confine soil and vegetation disturbance caused by motor vehicles to existing routes and maintain the natural appearance of the non-WSA lands. The presence and noise of vehicles on the designated routes, however, would reduce the quality of opportunities for solitude and primitive and unconfined recreation along the routes. Closing 43,900 acres in 7 of 27 non-WSA lands with wilderness characteristics would prevent surface disturbance caused by motorized travel and the natural character of the non-WSA areas and the quality of opportunities for solitude and primitive forms of recreation in these areas.

Alternative B

About 10,000 acres of the Desolation Canyon SRMA would be in the Desolation Canyon non-WSA lands with wilderness characteristics area. About 14,000 acres of the Labyrinth Canyon SRMA would be in Labyrinth Canyon and San Rafael River non-WSA lands with wilderness characteristics areas. About 430,000 acres of the San Rafael Swell SRMA would be in 15 non-WSA lands with wilderness characteristics areas. About 250 acres of the CLDQ SRMA would be in the Price River non-WSA lands with wilderness characteristics area. About 7,000 acres of the Nine Mile Canyon SRMA would be in the Desolation Canyon non-WSA lands with wilderness characteristics area. Those portions of the SRMAs (143,000 acres) managed for their Primitive or SPNM ROS values would experience the same kinds of impacts as described in the No Action Alternative. Construction of recreational facilities and motorized recreation would be allowed on about 318,000 acres of the SRMAs. Wilderness characteristics would experience the same types of impacts as described in the No Action Alternative.

Approximately 476,000 acres of non-WSA lands with wilderness characteristics would be managed as part of the ERMA. Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction, and the kinds of impacts on wilderness characteristics would be the same as those described in the No Action Alternative.

OHV use would be limited to designated routes or closed, eliminating cross-country travel and the subsequent impacts on the naturalness and opportunity for solitude and primitive and unconfined recreation in these areas. OHV use would be limited to 825 miles of designated routes in 904,140 acres

(96%) of non-WSA lands with wilderness characteristics. Limiting OHV use to 825 miles of designated routes would confine soil and vegetation disturbance caused by motor vehicles to existing routes and maintain the natural character of the non-WSA lands. The presence and noise of vehicles using these routes, however, would reduce the quality of opportunities for solitude and primitive and unconfined recreation in the non-WSA areas in proximity to the routes. Closing 33,300 acres in 7 of 27 non-WSA lands with wilderness characteristics would prevent surface disturbance caused by motorized travel, and protect the natural character of the non-WSA areas. Closure to OHV use also would eliminate the presence and noise of OHV travel and maintain opportunities for solitude and primitive forms of recreation in these areas.

Alternative C

About 27,000 acres of the Desolation Canyon SRMA would be in Desolation Canyon and Turtle Canyon non-WSA lands with wilderness characteristics areas. About 26,000 acres of the Labyrinth Canyon SRMA would be in the Labyrinth Canyon and San Rafael River non-WSA lands with wilderness characteristics areas. About 430,000 acres of the San Rafael Swell SRMA would be in 15 non-WSA lands with wilderness characteristics areas. About 250 acres of the CLDQ SRMA would be in the Price River non-WSA lands with wilderness characteristics area. About 15,000 acres of the Nine Mile Canyon SRMA would be in Desolation Canyon and Jack Canyon non-WSA lands with wilderness characteristics areas. Those portions of the SRMAs (158,000 acres) managed for their Primitive or SPNM ROS values would experience the same impacts as those described in the No Action Alternative. Construction of recreational facilities and motorized recreation would be allowed on about 340,000 acres of the SRMAs. Wilderness characteristics would experience the same types of impacts as those described in the No Action Alternative.

Approximately 438,000 acres of non-WSA lands with wilderness characteristics would be managed as part of the ERMA. Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction, and the kinds of impacts on wilderness characteristics would be the same as those described in the No Action Alternative.

OHV use would be limited to designated routes or closed, eliminating cross-country travel and the subsequent impacts on the naturalness and opportunity for solitude and primitive and unconfined recreation in these areas. OHV use would be limited to 229 miles of designated routes in 804,740 acres (90%) of non-WSA lands with wilderness characteristics. Limiting OHV use to 229 miles of designated routes would confine soil and vegetation disturbance caused by motor vehicles to existing routes and maintain the natural character of the non-WSA lands. The presence and noise of vehicles using these routes, however, would reduce the quality of opportunities for solitude and primitive and unconfined recreation in the non-WSA areas in proximity to the routes. Closing 132,700 acres in 9 of 27 non-WSA lands with wilderness characteristics would prevent surface disturbance caused by motorized travel and protect the natural character of the non-WSA areas. Closure to OHV use also would eliminate the presence and noise of OHV travel and maintain opportunities for solitude and primitive forms of recreation in these areas.

Alternative D

About 10,000 acres of the Desolation Canyon SRMA would be in the Desolation Canyon non-WSA lands with wilderness characteristics area. About 14,000 acres of the Labyrinth Canyon SRMA would be in the Labyrinth Canyon and San Rafael River non-WSA lands with wilderness characteristics areas. About 430,000 acres of the San Rafael Swell SRMA would be in 15 non-WSA lands with wilderness characteristics areas. About 250 acres of the CLDQ SRMA would be in the Price River non-WSA lands with wilderness characteristics area. About 7,000 acres of the Nine Mile Canyon SRMA would be in the

Desolation Canyon non-WSA lands with wilderness characteristics area. Those portions of the SRMAs (143,000 acres) managed for their Primitive or SPNM ROS values would experience the same impacts as those described in the No Action Alternative. Construction of recreational facilities and motorized recreation would be allowed on about 318,000 acres of the SRMAs. Wilderness characteristics would experience the same types of impacts as those described in the No Action Alternative.

Approximately 476,000 acres of non-WSA lands with wilderness characteristics would be managed as part of the ERMA. Dispersed motorized and non-motorized recreation uses would continue with minimal facility construction, and the kinds of impacts on wilderness characteristics would be the same as those described in the No Action Alternative.

OHV use would be limited to designated routes or closed, eliminating cross-country travel and the subsequent impacts on the naturalness and opportunity for solitude and primitive and unconfined recreation in these areas. OHV use would be limited to 441 miles of designated routes in 768,740 acres (82%) of non-WSA lands with wilderness characteristics. Limiting OHV use to 441 miles of designated routes would confine soil and vegetation disturbance caused by motor vehicles to existing routes and maintain the natural character of the non-WSA lands. The presence and noise of vehicles using these routes, however, would reduce the quality of opportunities for solitude and primitive and unconfined recreation in the non-WSA areas in proximity to the routes. Closing 168,700 acres in 9 of 27 non-WSA lands with wilderness characteristics would prevent surface disturbance caused by motorized travel and protect the natural character of the non-WSA areas. Closure to OHV use also would eliminate the presence and noise of OHV travel and maintain opportunities for solitude and primitive forms of recreation in these areas.

Table 4-2. OHV Management Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Cedar Mountain					
• Open*	0	0	0	0	0
• Limited*	15,000	15,000	15,000	15,000	15,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Desolation Canyon					
• Open*	44,000	0	0	0	0
• Limited*	45,000	57,000	67,000	45,000	22,000
• Closed*	0	32,000	22,000	44,000	67,000
• Designated Routes**	0	60	60	6	3
Devils Canyon					
• Open*	0	0	0	0	0
• Limited*	11,000	11,000	11,000	11,000	11,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Eagle Canyon					
• Open*	0	0	0	0	0
• Limited*	39,000	39,000	39,000	39,000	39,000
• Closed*	0	0	0	0	0
• Designated Routes**	10	10	10	10	10

Table 4-2. OHV Management Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Flat Tops					
• Open*	5,700	0	0	0	0
• Limited*	1,200	7,100	7,100	0	0
• Closed*	200	0	0	7,100	7,100
• Designated Routes**	0	2	2	2	2
Hondu Country					
• Open*	0	0	0	0	0
• Limited*	20,000	20,000	20,000	20,000	20,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Jack Canyon					
• Open*	1,500	0	0	0	0
• Limited*	0	1,500	1,500	1,500	1,500
• Closed*	0	0	0	0	0
• Designated Routes**	0	2	2	2	2
Labyrinth Canyon					
• Open*	8,300	0	0	0	0
• Limited*	167,00	25,000	25,000	14,000	14,000
• Closed*	1,000	1,000	1,000	12,000	12,000
• Designated Routes**	5	10	10	10	10
Limestone Cliffs					
• Open*	550	0	0	0	0
• Limited*	550	1,100	1,100	1,100	1,100
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Lost Springs Wash					
• Open*	27,000	0	0	0	0
• Limited*	5,000	32,000	32,000	32,000	32,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	140	140	1	60
Mexican Mountain					
• Open*	12,400	0	0	0	0
• Limited*	28,200	40,500	40,600	40,500	40,500
• Closed*	400	500	400	500	500
• Designated Routes**	13	30	30	15	20
Molen Reef					
• Open*	100	0	0	0	0
• Limited*	32,900	33,000	33,000	33,000	33,000
• Closed*	0	0	0	0	0
• Designated Routes**	20	12	12	12	12

Table 4-2. OHV Management Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Muddy Creek–Crack Canyon					
• Open*	17,700	0	0	0	0
• Limited*	107,300	125,000	125,000	125,000	125,000
• Closed*	8,000	8,000	8,000	8,000	8,000
• Designated Routes**	30	40	40	40	40
Mussentuchit Badlands					
• Open*	6,000	0	0	0	0
• Limited*	19,000	25,000	25,000	25,000	25,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Never Sweat Wash					
• Open*	24,700	0	0	0	0
• Limited*	4,300	29,000	29,000	29,000	29,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	150	150	0	80
Price River					
• Open*	68,500	0	0	0	0
• Limited*	21,500	89,900	89,900	89,900	89,900
• Closed*	0	100	100	100	100
• Designated Routes**	0	240	240	3	70
Rock Canyon					
• Open*	4,000	0	0	0	0
• Limited*	13,000	17,000	17,000	17,000	17,000
• Closed*	0	0	0	0	0
• Designated Routes**	1	5	5	5	5
San Rafael Knob					
• Open*	0	0	0	0	0
• Limited*	17,500	17,500	17,500	17,500	17,500
• Closed*	0	0	0	0	0
• Designated Routes**	25	20	20	20	20
San Rafael Reef					
• Open*	0	0	0	0	0
• Limited*	45,600	45,600	45,600	45,600	45,600
• Closed*	400	400	400	400	400
• Designated Routes**	40	40	40	40	40
San Rafael River					
• Open*	58,000	0	0	0	0
• Limited*	46,000	104,000	104,000	62,000	62,000
• Closed*	0	0	0	42,000	42,000
• Designated Routes**	30	20	20	20	20

Table 4-2. OHV Management Class by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	No Action	Alternative A	Alternative B	Alternative C	Alternative D
Sids Mountain					
• Open*	0	0	0	0	0
• Limited*	34,800	34,800	34,800	18,200	18,200
• Closed*	1,200	1,200	1,200	17,800	17,800
• Designated Routes**	25	20	20	20	20
South Horn Mountain					
• Open*	200	0	0	0	0
• Limited*	6,200	6,400	6,400	6,400	6,400
• Closed*	0	0	0	0	0
• Designated Routes**	4	3	3	3	3
Sweetwater Reef					
• Open*	55,000	0	0	0	0
• Limited*	8,000	63,000	63,000	63,000	50,000
• Closed*	0	0	0	0	13,000
• Designated Routes**	5	20	20	20	20
Turtle Canyon					
• Open*	4,900	0	0	0	0
• Limited*	100	4,300	4,800	4,200	4,200
• Closed*	0	700	200	800	800
• Designated Routes**	0	1	1	0	4
Upper Muddy Creek					
• Open*	0	0	0	0	0
• Limited*	18,000	18,000	18,000	18,000	18,000
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Wildcat Knolls Extension					
• Open*	340	0	0	0	0
• Limited*	0	340	340	340	340
• Closed*	0	0	0	0	0
• Designated Routes**	0	0	0	0	0
Wild Horse Mesa					
• Open*	0	0	0	0	0
• Limited*	31,500	31,500	31,500	31,500	31,500
• Closed*	0	0	0	0	0
• Designated Routes**	3	0	0	0	0
Total					
• Open*	338,890	0	0	0	0
• Limited*	587,350	893,540	904,140	804,740	768,740
• Closed*	11,200	43,900	33,300	132,700	168,700
• Designated Routes**	211	825	825	229	441

*Acres; **Miles

4.4.15 Impacts of Lands and Realty Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

If communication towers and facilities were sited in non-WSA lands with wilderness characteristics, the placement of permanent structures and associated surface disturbance would reduce the natural character of the affected non-WSA lands in the location of the communication site. The presence of structures would also reduce the quality of the setting in which to pursue opportunities for primitive recreation.

Consideration would be given to developing alternative energy sources, including wind, solar, and geothermal, consistent with the other program goals and objectives of the PFO. Developing these energy sources typically includes substantial surface disturbance and construction of significant structures (solar panels, wind turbines, buildings, powerlines, pipelines, etc.). If these energy sources were developed in non-WSA lands with wilderness characteristics, they would diminish the natural character of the non-WSA areas. Further, the presence of these structures would reduce the quality of the setting for primitive recreation activities and degrade the opportunity to seek and experience solitude.

Approximately 70,400 acres (8%) would be withdrawn or recommend for withdrawal from locatable mineral entry in 22 of the 27 non-WSA lands with wilderness characteristics areas. The proposed withdrawals would prohibit entry for hard rock mining, protecting the existing character of the landscape. Further, prohibition of mining would preserve the opportunities for both solitude and primitive forms of recreation in each of these non-WSA areas.

Construction and operation of facilities within ROWs (roads, surface and buried pipelines, and powerlines) would create soil and vegetation disturbance, and the presence of permanent structures would degrade the naturalness of non-WSA lands with wilderness characteristics.

Construction noise, including the presence of work crews, vehicles, and equipment, would degrade opportunities for solitude and conflict with primitive recreational opportunities in proximity to industrial development. As recreational visitors move away from the sources of development, the sights and sounds of development would diminish. However, it can be expected that sights and sounds from development would reduce opportunities for solitude and primitive and unconfined recreation up to a half mile beyond the direct loss of natural character.

4.4.16 Impacts of Minerals and Energy Resources Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

For analysis purposes, the following assumptions for oil and gas exploration and development were used in analyzing impacts to non-WSA lands with wilderness characteristics:

- The number of wells projected in each development area would not be evenly distributed throughout the development area. Greater densities of wells would cluster in areas of exploration interest and/or production.
- Lessees would exercise rights on existing leases (valid existing rights) in areas with high potential for oil and gas occurrence.
- There would be 8 acres of surface disturbed per well, including roads and pipelines; 5 acres would be reclaimed immediately after drilling and completion. The remaining 3 acres would be

occupied by facilities necessary for production and would not be reclaimed until the well is abandoned after 20 or more years.

- Average well spacing would be 160 acres.

A number of variables would determine the degree of impact to non-WSA lands with wilderness characteristics, including where surface disturbing activities occur, land form or topography, vegetation type, sequence of development, and reclamation time. Soil types and climate would affect the time it takes to reclaim disturbances. Reclamation to the point that the intrusion is substantially unnoticeable would take about 5 to 10 years.

Construction and operation of oil and gas wells and associated support facilities, including roads, surface and buried pipelines, powerlines, compressor stations, and other permanent structures, would create soil and vegetation disturbance and visual intrusions. The affected portions of non-WSA lands with wilderness characteristics would no longer appear natural. In addition to site-specific surface disturbance, the cumulative number of wells and density of spacing would change the natural appearance of the landscape to an industrial landscape.

The noise of construction and operation of producing wells, including the presence of work crews, vehicles, and equipment, would degrade the quality of opportunities for solitude and primitive and unconfined recreation in proximity to industrial development. The sights and sounds of development would diminish with distance from the intrusions and activities; however, it is expected that sights and sounds from development would reduce the quality of opportunities for solitude and primitive and unconfined recreation up to a half mile beyond the direct loss of natural appearance. Given the number and spacing of industrial facilities, the quality of opportunities for solitude and primitive recreation would be degraded throughout the areas with wilderness characteristics.

Oil and gas development is reasonably foreseeable in areas with high potential for occurrence of oil and gas. About 617,000 acres of high potential for occurrence of oil and gas is in non-WSA lands with wilderness characteristics. About 320,000 acres with low potential for occurrence of oil and gas, where oil and gas development is not likely, are in non-WSA lands with wilderness characteristics. The low occurrence area is in the San Rafael Swell and includes all or portions of 12 non-WSA lands with wilderness characteristics areas. The natural appearance and opportunities for solitude and primitive recreation in these areas would likely not be affected by oil and gas activities. Table 4-3 identifies leasing categories and potential for oil and gas occurrence for the non-WSA lands with wilderness characteristics.

About 877,000 acres (94%) of 27 non-WSA lands with wilderness characteristics would be open to leasing with standards terms and conditions or open to leasing with minor constraints. Given the resource potential, level of past production, existing leases, availability of lands for further leasing, increased leasing interest, and ongoing exploration and development, it is anticipated that about 580,000 acres in all or portions of 24 non-WSA lands with wilderness characteristics would be subject to loss of natural appearance and degradation of the quality of opportunities for solitude and primitive recreation.

Alternative A

About 892,000 acres (95%) of 27 non-WSA lands with wilderness characteristics would be open to leasing with standard terms and conditions. Given the resource potential, level of past production, existing leases, availability of lands for further leasing, increased leasing interest, and ongoing exploration and development, it is anticipated that about 580,000 acres in all or portions of 24 non-WSA lands with wilderness characteristics would be subject to loss of natural appearance and degradation of the quality of opportunities for solitude and primitive recreation.

Alternative B

About 748,000 acres (80%) of 27 non-WSA lands with wilderness characteristics would be open to leasing with standard terms and conditions or open to leasing with minor constraints. Given the resource potential, level of past production, existing leases, availability of lands for further leasing, increased leasing interest, and ongoing exploration and development, it is anticipated that about 490,000 acres in all or portions of 24 non-WSA lands with wilderness characteristics would be subject to loss of natural appearance and degradation of the quality of opportunities for solitude and primitive recreation.

Alternative C

About 646,000 acres (69%) of 27 non-WSA lands with wilderness characteristics would be open to leasing with standard terms and conditions or open to leasing with minor constraints. Given the resource potential, level of past production, existing leases, availability of lands for further leasing, increased leasing interest, and ongoing exploration and development, it is anticipated that about 425,000 acres in all or portions of 24 non-WSA lands with wilderness characteristics would be subject to loss of natural appearance and degradation of the quality of opportunities for solitude and primitive recreation.

Alternative D

About 841,000 acres (90%) of 27 non-WSA lands with wilderness characteristics would be open to leasing with standard terms and conditions or open to leasing with minor constraints. Given the resource potential, level of past production, existing leases, availability of lands for further leasing, increased leasing interest, and ongoing exploration and development, it is anticipated that about 555,000 acres in all or portions of 24 non-WSA lands with wilderness characteristics would be subject to loss of natural appearance and degradation of the quality of opportunities for solitude and primitive recreation.

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
Cedar Mountain (15,000 acres)							
No Action	X		13,000	1,850	150	0	0
Alternative A	X		15,000	0	0	0	0
Alternative B	X		0	11,100	3,900	0	0
Alternative C	X		0	11,100	3,900	0	0
Alternative D	X		14,850	0	150	0	0
Desolation Canyon (89,000 acres)							
No Action	X		38,200	46,000	4,400	400	6,664
Alternative A	X		84,450	0	4,500	50	6,664
Alternative B	X		0	69,000	9,000	11,000	6,664
Alternative C	X		0	52,000	11,000	26,000	6664
Alternative D	X		37,000	31,000	15,500	5,500	6,664

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
Devils Canyon (11,000 acres)							
No Action	X		4,850	5,600	500	50	0
Alternative A	X		10,950	0	50	0	0
Alternative B	X		6,600	4,400	0	0	0
Alternative C	X		6,600	4,350	0	50	0
Alternative D	X		10,150	300	500	50	0
Eagle Canyon (39,000 acres)							
No Action	X		11,200	27,300	500	0	0
Alternative A	X		33,500	0	5,400	100	0
Alternative B	X		0	22,700	16,200	100	0
Alternative C	X		0	22,400	16,500	100	0
Alternative D	X		30,000	3,200	5,700	100	0
Flat Tops (7,100 acres)							
No Action	X	X	6,300	600	0	200	0
Alternative A	X	X	6,900	0	0	200	0
Alternative B	X	X	0	6,900	0	200	0
Alternative C	X	X	0	0	6,900	200	0
Alternative D	X	X	6,900	0	0	200	0
Hondu Country (20,000 acres)							
No Action		X	18,200	0	1,800	0	0
Alternative A		X	18,200	0	1,800	0	0
Alternative B		X	0	5,200	14,800	0	0
Alternative C		X	0	5,200	14,800	0	0
Alternative D		X	0	18,400	1,600	0	0
Jack Canyon (1,500 acres)							
No Action	X		0	1,500	0	0	150
Alternative A	X		1,500	0	0	0	150
Alternative B	X		0	1,500	0	0	150
Alternative C	X		0	1,500	0	0	150
Alternative D	X		0	1,500	0	0	150
Labyrinth Canyon (26,000 acres)							
No Action	X		10,100	14,100	1,800	0	0
Alternative A	X		26,000	0	0	0	0
Alternative B	X		0	14,000	12,000	0	0

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
Alternative C	X		0	13,300	12,700	0	0
Alternative D	X		17,700	4,600	3,700	0	0
Limestone Cliffs (1,100 acres)							
No Action	X		600	500	0	0	0
Alternative A	X		1,100	0	0	0	0
Alternative B	X		0	1,100	0	0	0
Alternative C	X		0	1,100	0	0	0
Alternative D	X		1,090	0	10	0	0
Lost Springs Wash (32,00 acres)							
No Action	X	X	22,000	10,000	0	0	10,568
Alternative A	X	X	31,800	0	200	0	10,568
Alternative B	X	X	0	31,800	200	0	10,568
Alternative C	X	X	0	31,800	200	0	10,568
Alternative D	X	X	31,600	0	400	0	10,568
Mexican Mountain (41,000 acres)							
No Action		X	35,500	3,900	1,100	500	0
Alternative A		X	40,200	0	700	100	0
Alternative B		X	0	30,000	10,700	300	0
Alternative C		X	0	28,400	12,000	600	0
Alternative D		X	11,300	26,300	800	2,600	0
Molen Reef (33,000 acres)							
No Action	X		7,800	22,800	2,400	0	0
Alternative A	X		32,400	0	600	0	0
Alternative B	X		0	30,000	3,000	0	0
Alternative C	X		0	30,000	3,000	0	0
Alternative D	X		30,000	0	3,000	0	0
Muddy Creek/Crack Canyon (133,000 acres)							
No Action	X	X	88,100	22,100	22,800	0	1,986
Alternative A	X	X	115,800	0	15,600	1,600	1,986
Alternative B	X	X	0	77,200	54,800	1,000	1,986
Alternative C	X	X	0	75,900	55,500	1,600	1,986
Alternative D	X	X	50,400	64,200	16,800	1,600	1,986
Mussentuchit Badlands (25,000 acres)							
No Action	X		9,000	15,800	200	0	0

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
Alternative A	X		25,000	0	0	0	0
Alternative B	X		0	25,000	0	0	0
Alternative C	X		0	25,000	0	0	0
Alternative D	X		24,800	0	200	0	0
Never Sweat Wash (29,000 acres)							
No Action	X	X	24,200	4,800	0	0	3,211
Alternative A	X	X	29,000	0	0	0	3,211
Alternative B	X	X	0	29,000	0	0	3,211
Alternative C	X	X	0	29,000	0	0	3,211
Alternative D	X	X	28,900	100	0	0	3,211
Price River (90,000 acres)							
No Action	X	X	46,300	42,300	1,400	0	878
Alternative A	X	X	89,800	0	100	100	878
Alternative B	X	X	0	89,800	100	100	878
Alternative C	X	X	0	82,700	7,200	100	878
Alternative D	X	X	60,600	27,600	1,700	100	878
Rock Canyon (17,000 acres)							
No Action	X		4,300	10,400	2,300	0	0
Alternative A	X		17,000	0	0	0	0
Alternative B	X		0	14,800	2,200	0	0
Alternative C	X		0	14,800	2,200	0	0
Alternative D	X		14,700	0	2,300	0	0
San Rafael Knob (17,500 acres)							
No Action	X	X	15,600	0	1,800	100	0
Alternative A	X	X	15,700	0	1,800	0	0
Alternative B	X	X	0	15,700	1,800	0	0
Alternative C	X	X	0	15,200	2,300	0	0
Alternative D	X	X	4,400	10,800	2,300	0	0
San Rafael Reef (46,000 acres)							
No Action		X	35,300	3,300	4,400	3,000	0
Alternative A		X	38,500	0	4,400	3,100	0
Alternative B		X	0	35,900	8,100	2,000	0
Alternative C		X	0	35,400	7,000	3,600	0
Alternative D		X	3,200	35,300	4,400	3,100	0

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
San Rafael River (104,000 acres)							
No Action	X	X	12,300	90,000	1,700	0	0
Alternative A	X	X	100,900	0	3,100	0	0
Alternative B	X	X	0	100,900	3,100	0	0
Alternative C	X	X	0	53,700	50,300	0	0
Alternative D	X	X	99,500	0	4,500	0	0
Sids Mountain (36,000 acres)							
No Action	X	X	9,500	23,000	2,000	1,500	0
Alternative A	X	X	35,100	0	900	0	0
Alternative B	X	X	0	24,300	10,500	1,200	0
Alternative C	X	X	0	21,500	13,300	1,200	0
Alternative D	X	X	6,700	15,100	1,900	12,300	0
South Horn Mountain (6,400 acres)							
No Action	X		700	5,700	0	0	2,562
Alternative A	X		6,400	0	0	0	2,562
Alternative B	X		0	6,400	0	0	2,562
Alternative C	X		0	6,400	0	0	2,562
Alternative D	X		4,200	2,200	0	0	2,562
Sweetwater Reef (63,000 acres)							
No Action	X		50,300	12,700	0	0	0
Alternative A	X		63,000	0	0	0	0
Alternative B	X		0	63,000	0	0	0
Alternative C	X		0	50,300	12,700	0	0
Alternative D	X		63,000	0	0	0	0
Turtle Canyon (5,000 acres)							
No Action	X		0	5,000	0	0	0
Alternative A	X		4,900	0	0	100	0
Alternative B	X		0	4,800	0	200	0
Alternative C	X		0	4,800	0	200	0
Alternative D	X		0	4,800	0	200	0
Upper Muddy Creek (18,000 acres)							
No Action	X		10,300	3,700	4,000	0	0
Alternative A	X		17,200	0	800	0	0
Alternative B	X		0	4,000	14,000	0	0

Table 4-3. Oil and Gas Leasing by Non-WSA Lands with Wilderness Characteristics

Non-WSA Lands with Wilderness Characteristics	Occurrence Potential		Oil & Gas Leasing (Acres)				Currently Under Lease (Acres)
	H	L	Open to leasing subject to standard terms	Open to leasing subject to minor constraints	Open to leasing subject to major constraints	Closed to leasing	
Alternative C	X		0	3,700	14,300	0	0
Alternative D	X		14,200	0	3,800	0	0
Wild Horse Mesa (31,500 acres)							
No Action	X	X	6,800	23,900	800	0	0
Alternative A	X	X	31,500	0	0	0	0
Alternative B	X	X	0	23,700	7,800	0	0
Alternative C	X	X	0	23,700	7,800	0	0
Alternative D	X	X	31,100	0	400	0	0
Wildcat Knolls Extension (340 acres)							
No Action	X		100	240	0	0	0
Alternative A	X		340	0	0	0	0
Alternative B	X		0	340	0	0	0
Alternative C	X		0	340	0	0	0
Alternative D	X		0	340	0	0	0
Total (937,440 acres)							
No Action	*	*	480,550	397,090	54,050	5,750	26,019
Alternative A	*	*	892,140	0	39,950	5,350	26,019
Alternative B	*	*	6,600	742,540	172,200	16,100	26,019
Alternative C	*	*	6,600	643,590	253,600	33,650	26,019
Alternative D	*	*	596,290	245,740	69,660	25,750	26,019

* High or low potential is not applicable to totals

4.4.17 Impacts of ACEC Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

Managing the 13 existing ACEC to protect their relevant and important values would complement the natural appearance and provide opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics. Approximately 6% of ACECs (55,000 acres) would be within 12 non-WSA lands with wilderness characteristics areas. The ACEC prescriptions generally are closed or open to leasing with major constraints (NSO) for oil and gas leasing, closed to mineral material disposal, and exclusion or avoidance for ROWs. These restrictions would prevent surface disturbance and protect the natural appearance and quality of opportunities for solitude and primitive recreation in these areas. Most of the ACECs, however, would be available for locatable mineral entry, firewood cutting, and OHV use on designated routes. These actions would result in surface disturbances that would alter the landscape and natural appearance of the non-WSA lands. The presence and noise of vehicles and

equipment, and OHV uses, would diminish the quality of opportunities for solitude and primitive recreation. Because 15 non-WSA lands with wilderness characteristics areas would not be within an ACEC, they would not benefit from an ACEC designation (Table 4-4).

Alternative A

Managing 8 potential ACECs to protect their relevant and important values would complement the natural appearance and provide opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics. Approximately 4% of ACECs (40,000 acres) would be within 14 non-WSA lands with wilderness characteristics. The ACEC prescriptions generally are closed or open to leasing with major constraints (NSO) for oil and gas leasing, closed to mineral material disposal, and exclusion or avoidance for ROWs. These restrictions would prevent surface disturbance and protect the natural appearance and quality of opportunities for solitude and primitive and unconfined recreation of the non-WSA lands with wilderness characteristics. Most of the ACEC acreage, however, would be available for locatable mineral entry, firewood cutting, and OHV use on designated routes. These actions could result in surface disturbances that alter the landscape and natural appearance of the non-WSA lands. The presence and noise of vehicles and equipment, and OHV uses, would degrade the quality of opportunities for solitude and primitive recreation. Because 13 non-WSA lands with wilderness characteristics areas would not be within an ACEC, they would not benefit from an ACEC designation (Table 4-4).

Alternative B

Managing 14 potential ACECs to protect their relevant and important values would complement the natural appearance and provide opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics. Approximately 11% of ACECs (105,000 acres) would be within 18 non-WSA lands with wilderness characteristics. The ACEC prescriptions generally are closed or open to leasing with major constraints (NSO) for oil and gas leasing, closed to mineral material disposal, and exclusion or avoidance areas for ROWs. These restrictions would prevent surface disturbance and protect the natural character of the non-WSA lands with wilderness characteristics and opportunities for solitude and primitive recreation. Most of the ACEC acreage, however, would be available for locatable mineral entry, firewood cutting, and OHV use on designated routes. These actions would result in surface disturbances that alter the landscape and natural appearance of the non-WSA lands. The presence and noise of vehicles and equipment, and OHV uses, would degrade the quality of opportunities for solitude and primitive recreation. Because 9 non-WSA lands with wilderness characteristics areas would not be within an ACEC, they would not benefit from an ACEC designation (Table 4-4).

Alternative C

Managing 23 potential ACECs to protect their relevant and important values would complement the natural appearance and provide opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics. Approximately 29% of ACECs (275,000 acres) would be within 23 non-WSA lands with wilderness characteristics. The ACEC prescriptions generally are closed or open to leasing with major constraints (NSO) for oil and gas leasing, closed to mineral material disposal, and exclusion or avoidance for ROWs. These restrictions would prevent surface disturbance and protect the natural appearance and quality of opportunities for solitude and primitive and unconfined recreation of the non-WSA lands with wilderness characteristics. Most of the ACEC acreage, however, would be available for locatable mineral entry, firewood cutting, and OHV use on designated routes. These actions would result in surface disturbances that alter the landscape and natural appearance of the non-WSA lands. The presence and noise of vehicles and equipment, and OHV uses, would degrade the quality of opportunities for solitude and primitive recreation. Because 4 non-WSA lands with wilderness characteristics areas would not be within an ACEC, they would not benefit from an ACEC designation (Table 4-4).

Alternative D

Managing 15 potential ACECs to protect their relevant and important values would complement the natural appearance and provide opportunities for solitude and primitive recreation within the non-WSA lands with wilderness characteristics. Approximately 10% of ACECs (90,000 acres) would be within 18 non-WSA lands with wilderness characteristics. The ACEC prescriptions generally are closed or open to leasing with major constraints (NSO) for oil and gas leasing, closed to mineral material disposal, and exclusion or avoidance for ROWs. These restrictions would prevent surface disturbance and protect the natural appearance and quality of opportunities for solitude and primitive and unconfined recreation of the non-WSA lands with wilderness characteristics. Most of the ACEC acreage, however, would be available for locatable mineral entry, firewood cutting, and OHV use on designated routes. These actions would result in surface disturbances that alter the landscape and natural appearance of the non-WSA lands. The presence and noise of vehicles and equipment, and OHV uses, would degrade the quality of opportunities for solitude and primitive recreation. Because 9 non-WSA lands with wilderness characteristics areas would not be within an ACEC, they would not benefit from an ACEC designation (Table 4-4).

Table 4-4. Non-WSA Lands with Wilderness Characteristics Located in ACECs

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Cedar Mountain (15,000 acres)	0	0	0	35	0
Desolation Canyon (89,000 acres)	0	0	27,500	49,800	22,400
Devils Canyon (11,000 acres)	500	60	520	520	520
Eagle Canyon (39,000 acres)	0	5,300	5,300	5,300	5,300
Flat Tops (7,100 acres)	200	200	0	7,100	200
Hondu Country (20,000 acres)	1,800	1,800	1,800	1,800	1,800
Jack Canyon (1,500 acres)	0	0	0	1,500	0
Labyrinth Canyon (26,000 acres)	0	0	11,900	11,900	0
Limestone Cliffs (1,100 acres)	0	0	0	0	0
Lost Springs Wash (32,000 acres)	0	200	200	200	200
Mexican Mountain (41,000 acres)	2,300	700	5,400	5,400	5,400
Molen Reef (33,000 acres)	2,400	600	3,000	3,000	3,000
Muddy Creek/Crack Canyon (133,000 acres)	16,400	17,100	17,100	32,200	17,500
Mussentuchit Badlands (25,000 acres)	0	10	10	24,300	10
Never Sweat Wash (29,000 acres)	0	0	0	0	0
Price River (90,000 acres)	0	200	200	200	200
Rock Canyon (17,000 acres)	2,100	0	2,100	2,200	2,100
San Rafael Knob (17,500 acres)	1,900	1,800	1,800	2,200	2,200
San Rafael Reef (46,000 acres)	7,900	7,400	7,400	7,900	7,900
San Rafael River (104,000 acres)	3,100	3,100	3,100	45,600	3,100
Sids Mountain (36,000 acres)	13,300	800	13,900	30,500	13,900
South Horn Mountain (6,400 acres)	0	0	0	0	0
Sweetwater Reef (63,000 acres)	0	0	0	12,700	0

Table 4-4. Non-WSA Lands with Wilderness Characteristics Located in ACECs

Non-WSA Lands with Wilderness Characteristics	No Action Acres	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres
Turtle Canyon (5,000 acres)	0	0	200	200	200
Upper Muddy Creek (18,000 acres)	3,500	800	3,500	3,500	3,500
Wildcat Knolls Extension (340 acres)	0	0	0	0	0
Wild Horse Mesa (31,500 acres)	0	0	0	24,400	0
Total (937,440 acres)	55,400	40,070	104,930	272,455	89,430

4.4.18 Impacts of Wild and Scenic River Decisions to Non-WSA Lands with Wilderness Characteristics

No Action Alternative

Of the 641 miles of eligible river segments, 141 miles would be within 8 non-WSA lands with wilderness characteristics. Managing these segments to protect their ORVs would limit surface disturbance, complement the natural appearance, and provide opportunities for solitude or primitive and unconfined recreation. This is particularly true where river segments are tentatively classified as Wild.

Alternative A

Of the 124 miles of the Green River recommended as suitable, 34 miles would be within two non-WSA lands with wilderness characteristics with a classification of Scenic in the upper end of the river and Recreational in the lower end (Table 4-5). Protecting river values (until Congress acts on the BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural appearance or degrade opportunities for solitude and primitive and unconfined recreation of the Desolation Canyon and Labyrinth Canyon non-WSA lands with wilderness characteristics areas.

Alternative B

Of the 243 miles of the Green River, San Rafael River, Price River, Range Creek, and Rock Creek recommended as suitable, 47 miles would be within four non-WSA lands with wilderness characteristics with a classification of Wild, Scenic, or Recreational (Table 4-5). Protecting river values (until Congress acts on the BLM's recommendation) would prevent uses and surface disturbances that would detract from the natural appearance or degrade opportunities for solitude and primitive and unconfined recreation of the Desolation Canyon, Labyrinth Canyon, Mexican Mountain, and Sids Mountain non-WSA lands with wilderness characteristics areas.

Alternative C

Of the 641 miles of suitable river segments, 141 miles would be within 8 non-WSA lands with wilderness characteristics. Managing these segments to protect their ORVs would limit surface disturbance, complement the natural appearance, and provide opportunities for solitude or primitive and unconfined recreation. This is particularly true where river segments are tentatively classified as Wild.

Alternative D

Of the 223 miles of the Green River and San Rafael River recommended as suitable, 45 miles would be within four non-WSA lands with wilderness characteristics with a classification of Scenic for the Green River and Recreational for the San Rafael River (Table 4-5). Protecting river values (until Congress acts on the BLM’s recommendation) would prevent uses and surface disturbances that would detract from the natural appearance and outstanding opportunities for solitude or primitive and unconfined recreation of these non-WSA lands with wilderness characteristics areas.

Table 4-5. Wild and Scenic Rivers Segments in Non-WSA Lands with Wilderness Characteristics

Non-WSA lands with Wilderness Characteristics	No Action WSR Miles	Alternative A WSR Miles	Alternative B WSR Miles	Alternative C WSR Miles	Alternative D WSR Miles
Desolation Canyon	20	12	14	20	12
Labyrinth Canyon	28	22	27	28	27
Mexican Mountain	6	0	5	6	5
Muddy Creek/Crack Canyon	12	0	0	12	0
Price River	29	0	0	29	0
San Rafael River	14	0	0	14	0
Sids Mountain	20	0	1	20	1
Upper Muddy Creek	12	0	0	12	0
Total	141	34	47	141	45

4.4.19 Impacts of Transportation and Motorized Access Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Road realignment or construction of roads within a non-WSA land with wilderness characteristics area would alter the natural appearance of the area. Further, the presence of roads and related structures would reduce the quality of opportunities for solitude and primitive and unconfined recreation in the affected areas. No specific proposals for road realignment or construction are being considered at this time.

4.4.20 Impacts of Hazardous Material and Waste Decisions to Non-WSA Lands with Wilderness Characteristics

Alternatives No Action, A, B, C, and D

Cleanup of any discovered hazardous waste disposal could affect non-WSA lands with wilderness characteristics. Short-term surface disturbance associated with such activities would result in loss of natural appearance of the area. In addition, the presence of people, vehicles, and equipment in proximity to the area, and the corresponding increases in noise levels, would temporarily reduce the quality of opportunities for solitude and primitive and unconfined recreation.

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MAPS