

Executive Summary



**Bureau of Land Management
Glenwood Springs Field Office**



EXECUTIVE SUMMARY

This Draft Roan Plateau Resource Management Plan Amendment (RMPA) and Environmental Impact Statement (EIS) presents options for management of Bureau of Land Management (BLM) administered lands in the Roan Plateau Planning Area. This includes former Naval Oil Shale Reserves (NOSRs) Numbers 1 and 3. The Planning Area includes approximately 73,602 acres of Federal land in western Garfield County and a small portion of southern Rio Blanco County, both in Colorado.

The Planning Area lies north of Interstate 70 (I-70) between the towns of Rifle and Parachute and consists of three visually, geologically, and ecologically distinct areas: (1) xeric (dry) semi-desert habitats at lower elevations, (2) relatively mesic (moist) montane and subalpine habitats at higher elevations, and (3) a band of high and mostly unbroken cliffs separating these areas. Lands within the Planning Area drain westward to Parachute Creek, eastward to Government Creek, or southward to the Colorado River. Parachute Creek and Government Creek are also tributaries of the Colorado River.

Plan Foundation

The National Defense Authorization Act for Fiscal Year 1998, Public Law 105-85 (Transfer Act) transferred jurisdiction for lands within NOSRs 1 and 3 from the U.S. Department of Energy to the BLM. This Roan Plateau RMPA/EIS analyzes options for implementing the Transfer Act, which directed BLM to enter into leases, as soon as practicable, with one or more private entities for the purpose of exploration, development and production of petroleum. In addition, the Transfer Act stipulates that the transferred lands be managed in accordance with the Federal Land Policy and Management Act (FLPMA) and other laws applicable to public lands.

FLPMA requires the preparation of land use plans for public lands. This RMPA will establish management prescriptions, resource

objectives, and land use allocations for the Roan Plateau Planning Area.

This Draft RMPA/EIS was developed with input from the following Cooperating Agencies: State of Colorado Department of Natural Resources; Garfield County, Colorado; Rio Blanco County, Colorado; the Town of Rifle, Colorado; and the Town of Parachute, Colorado.

Management Alternatives

Management alternatives and associated environmental impacts in this document are analyzed as part of the requirements for an EIS pursuant to the National Environmental Policy Act (NEPA). The five alternatives represent possible amendments to the current management of the Planning Area.

Current management direction is provided by the 1984 Resource Management Plan (RMP) for the Glenwood Springs Resource Area (GSRA), revised in 1988 and amended in 1991, 1996, 1997, 1999, and 2002 and the 1997 White River Resource Area (WRRRA) RMP. The 1999 GSRA RMPA for Oil and Gas Leasing and Development allowed for the leasing of much of the former NOSR 3, including lands that already contained oil and gas production and facilities.

The alternatives described and analyzed in this document represent possible management scenarios. They reflect a reasonable range of potential future land use and resource management scenarios based on information received as part of the public scoping process and at locally held BLM focus group meetings. Input was received from BLM staff, other resource or land management agencies, local governments, individual citizens, BLM's Northwest Colorado Resource Advisory Council (RAC), environmental groups, industry, and other interested parties.

These alternatives are not "set in stone" but instead may be refined as part of this RMPA/EIS

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process. The final RMPA may include components from all of the alternatives.

- **Alternative I** is the No Action Alternative, a requirement of NEPA. For this RMPA/EIS, Alternative I generally assumes that current management actions and goals and existing or approved land uses would continue. An exception is that the interim travel management of the transferred lands (NOSRs 1 and 3) would be vacated, and travel would be managed the same as for other BLM lands in the Planning Area. Specifically, cross-country motorized and mechanized travel would be permitted throughout the Planning Area. Interim management of the transferred lands, announced in Federal Register on July 3, 2000, closes the NOSRs to cross-country motorized and mechanized travel and restricts travel to designated routes.

The other four alternatives represent differing levels of resource development and human activity with applicable environmental provisions. Some oil and gas development already occurs within a portion of the 73,602 acres of Federal surface and/or minerals and the 53,405 acres with both private surface and private minerals.

In Alternative I, a large portion of the Planning Area would remain unavailable for further oil and gas leasing and development during the anticipated 20-year life of this RMPA. Management actions and restrictions on surface use described in the 1999 Final Supplemental EIS (FSEIS) would continue to be applied. These include more than 22,000 acres with NGD (no ground disturbance) and/or SSR (site-specific relocation) restrictions that would be applied to avoid, minimize, or mitigate impacts to sensitive resources. For the purposes of this RMPA/EIS, the terms NGD and SSR include NSO (no surface occupancy) and CSU (controlled surface use) lease stipulations, respectively, for oil and gas development. A 5-month seasonal restriction (timing limitation [TL]

stipulation) limits activity in areas of deer and elk winter range.

Cross-country motorized or mechanized travel is permitted throughout the Planning Area under this alternative.

- **Alternative II** analyzes management for a full array of multiple-use activities, including mineral leasing, for all lands except 21,382 acres identified as having wilderness character. Although not designated as Wilderness Study Areas (WSAs), these areas would be managed to protect and maintain their characteristics of roadlessness, naturalness, and opportunities for solitude or primitive and unconfined recreation (Map 35).

Other resource protection goals would be accomplished through special management prescriptions associated with the designation of four Areas of Critical Environmental Concern (ACECs). Streams eligible for a suitability study under the Wild and Scenic Rivers Act (WSRA) will be managed to protect those values pending the results of the study. Alternative II analyzes more than 59,000 acres with no leasing, NGD, and/or SSR restrictions, as well as the 5-month TL for deer and elk winter range.

Motorized or mechanized travel, including over-snow travel by snowmobile, would be restricted to designated routes throughout the Planning Area. Hubbard Mesa would be designated a Special Recreation Management Area (SRMA) to be managed for off-highway vehicle (OHV) use on designated routes.

- **Alternative III**, BLM's Preferred Alternative, analyzes management for a full array of multiple-use activities, including mineral leasing, while maintaining key ecological, visual, and recreational values. The two drainage-based ACECs in Alternative II (Trapper/Northwater Creek and East Fork Parachute Creek) would also be designated in Alternative III although

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reduced in area to include primarily the floors of the major drainages. Additionally, however, the entire Parachute Creek watershed atop the plateau, with a total area of more than 29,000 acres, would be combined into a Parachute Creek Watershed Management Area (WMA).

Alternative III would protect roadlessness and naturalness on a total of 9,006 acres (Map 36) through NGD restrictions for other resource values. NGD areas within the 9,006 acres would not be subject to modification, waiver, or exceptions.

Protection of river segments found eligible under the WSRA would continue pending a suitability study. Resource protection goals would be achieved by applying NGD and/or SSR restrictions to more than 60,000 acres, as well as the 5-month TL for deer and elk winter range.

Motorized or mechanized travel would be restricted to designated routes, including the Hubbard Mesa SRMA but excluding over-snow travel by snowmobile.

A key difference between Alternative III and the other alternatives is that leasing and drilling for oil and gas in nearly 35,000 acres above the rim would be deferred until 80 percent of anticipated wells below the rim have been completed. The exact time to reach the 80-percent threshold cannot be predicted with certainty because it depends on a number of technical, geological, and economic factors. The estimate used in this RMPA/EIS is 16 years, although the threshold could be met as early as 10 years or as late as 20 years or more. The basis for the estimate of 16 years is discussed in Section 4.5.5.3, along with information on BLM's monitoring of progress toward reaching the threshold and potential adjustments. BLM could issue leases on top of the plateau during leasing of lands below the rim if necessary to prevent drainage, although the acreage is likely to be minimal.

- **Alternative IV** analyzes management for a full array of multiple-use activities, including mineral leasing, while maintaining key ecological, visual, and recreational values. Alternative IV would designate ACECs for the two principal watersheds on top of the plateau (Trapper/Northwater and East Fork Parachute Creeks), and the former would also be designated as a WMA. No areas would be managed specifically for maintenance of wilderness characteristics. Protection of river segments found eligible under the WSRA would be maintained pending the results of a suitability study. Resource protection goals would be achieved by identifying more than 58,000 acres subject to NGD and/or SSR restrictions. Impacts in deer and elk winter range would be mitigated with a 2-month TL applied in the permitting process as a condition of approval instead of a lease stipulation.

Motorized or mechanized travel would be restricted to designated routes, excluding over-snow travel by snowmobile, throughout most of the Planning Area. However, the Hubbard Mesa SRMA would be designated as open to cross-country OHV travel.

- **Alternative V** analyzes management for a full array of multiple-use activities, emphasizing mineral development and motorized public access while protecting all special status species and limiting development on slopes steeper than 50 percent. This alternative would identify more than 43,000 acres subject to NGD and/or SSR restrictions.

Except for over-snow travel by snowmobile, Alternative V would limit motorized or mechanized travel to designated routes throughout the Planning Area. This restriction would apply to the Hubbard Mesa OHV area, although it would not be designated an SRMA.

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Table ES-1 summarizes the types and extent of land-use restrictions and protective designations incorporated into each of the five alternatives, including some areas not available for oil and gas leasing. Figure ES-1 illustrates the extent of the land-use restrictions and limitations.

Table ES-2 summarizes anticipated levels of gas development for the five alternatives, based on the types and extents of lease stipulations and other surface use restrictions and assumptions used in BLM's Reasonable Foreseeable Development (RFD)(Appendix H).

Table ES-3 presents general impact levels for the alternatives, including impacts associated with oil and gas development, other land uses (e.g., recreation and grazing), and the resource designations and management actions outlined in Table ES-1 (described fully in Chapters 2 and 4).

The impacts summarized in Table ES-3 incorporate positive effects of proposed special designations, management actions, mitigation measures, and best management practices to reduce or partially offset negative impacts. Table ES-3 does not reflect positive socioeconomic impacts of increasing the supply of natural gas, including direct and indirect economic benefits from increased employment, tax revenues, and royalty payments.

The general terms used in Table ES-3 to describe impact levels (negligible, minor, moderate, and major) are intended for relative, comparative purposes only — i.e., as a general comparison of impact levels among alternatives within a resource category. Thus, Table ES-3 is essentially a “roll-up” table of the impact levels identified in the technical resource sections of Chapter 4. Where the technical resource sections describe a range of potential impacts, the more severe impact level is presented in Table ES-3. Specific definitions of the impact levels differ among the resource categories and are defined more fully in Chapter 4.

Note that the increasing levels of impacts defined above may reflect increasing number, size, or permanence of impact areas, or some combination of these. Under none of the alternatives would land uses, resource development activities, or management actions be allowed to violate Federal or State laws or exceed applicable Federal or State standards.

Maps 1 through 10 (Appendix A) depict the relative area of land available for oil and gas leasing and subject to different levels of surface-use restrictions under Alternatives I through V. As noted above, these surface-use restrictions also apply to other land uses and management actions (e.g., grazing and recreation) as appropriate.

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Table ES-1. Limitations and Resource/Management Designations Used in Impact Analysis

Limitation/Designation	Alternative					
	I	II	III	IV	V	
Areas with Surface Stipulations or Other Restrictions, Limitations, or Special Requirements ¹						
No Lease for Oil and Gas ¹	44,267 ac	21,382 ac	0	0	0	
Deferred Lease for Oil and Gas ²	0	0	34,758 ac	0	0	
No Ground Disturbance, No Surface Occupancy (NGD/NSO)	13,912 ac	31,200 ac	30,928 ac	30,928 ac	21,609 ac	
Site-Specific Relocation, Controlled Surface Use (SSR/CSU)	8,256 ac	7,015 ac	29,594 ac	27,486 ac	21,517 ac	
Timing Limitation (TL) for Deer Winter Range ³	24,978 ac (5 months)	24,978 ac (5 months)	24,978 ac (5 months)	24,978 ac (2 months)	0 ac	
Timing Limitations (TLs) for Raptor, Shorebird, and Waterfowl Nesting ³	3,692 ac	3,692 ac	3,692 ac	3,692 ac	3,692 ac	
Standard Restrictions, Limitations, and Oil and Gas Stipulations	7,167 ac	14,006 ac	13,080 ac	15,188 ac	30,746 ac	
Areas with Protective Designations or Management Actions ¹						
Designated Areas of Critical Environmental Concern	0	36,184 ac	11,529 ac	11,529 ac	0	
Areas Managed to Protect Roadlessness and Naturalness ⁴	0	21,382 ac	9,006 ac	0	0	
Streams Managed to Preserve Wild & Scenic River Eligibility	0	7,883 ac	7,883 ac	7,883 ac	0	
Watershed Management Areas	0	0	29,073 ac	14,219 ac	0	
Motorized or Mechanized Travel	Open	66,934 ac	0	0	2,460 ac	0
	Designated Routes Only ⁵	0	45,552 ac	66,934 ac	64,474 ac	66,934 ac
	Closed	0	21,382 ac	0	0	0
Visual Resource Management	VRM Class I	0	37,240 ac	925 ac	925 ac	0
	VRM Class II	24,039 ac	13,428 ac	48,752 ac	48,752 ac	0
	VRM Class III	37,115 ac	14,607 ac	15,563 ac	15,563 ac	63,022 ac
	VRM Class IV	10,340 ac	8,350 ac	8,350 ac	8,350 ac	10,568 ac
	VRM Class V	2,096 ac	0	0	0	0
Upland Vegetation – Condition Rating Objective	40%	70%	50%	50%	40%	
Riparian and Wetland Vegetation – Level of Protection	Existing	Enhanced	Enhanced	Enhanced	Existing	
Deer and Elk Seclusion Areas	Maintain	Preserve and Enhance	Mitigate	Mitigate	None	
Colorado River Cutthroat Trout Habitat	Maintain	Enhance	Enhance	Enhance	Maintain	

¹ Includes overlap between stipulations and protective designations on which they are based. See text for definitions of NGD, NSO, SSR, CSU, TL, and COA. TLs include overlap with other stipulations, including no-lease area for oil and gas under Alternative I.

² For deferred leasing atop the plateau, the threshold criterion of completing 80% of anticipated wells below the rim as a trigger for development atop the plateau would be met in 10 to 20+ years (estimated at 16 years for this RMPA/EIS).

³ Winter range TL applied as a lease stipulation under Alternatives I through III and a Condition of Approval under Alternative IV; raptor TL also includes bald eagle winter roosts.

⁴ For Alternative II, the areas would be managed to protect roadlessness, naturalness, and solitude or primitive and unconfined recreation (i.e., wilderness character). For Alternative III, the areas would be managed in ways that would protect roadlessness and naturalness, and the associated NGD/NSO restrictions would allow no modification, waiver, or exceptions.

⁵ Over-snow travel by snowmobile limited to designated routes under Alternative II.

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Table ES-2. Anticipated Oil and Gas Development on BLM Lands During 20-Year Period

Component	Alternative				
	I	II	III	IV	V
Area Available for Pads, Other Surface Facilities, and Roads ¹	15,423 ac	21,021 ac	42,674 ac	42,674 ac	51,993 ac
Wells (Pads) atop the Plateau ^{2,3}	10 (7)	87 (66)	51 (39)	168 (126)	234 (175)
Wells (Pads) below the Cliffs ³	845 (247)	818 (244)	1,273 (363)	1,156 (323)	1,348 (409)
Total Wells (Pads) ³	855 (254)	905 (310)	1,324 (402)	1,324 (449)	1,582 (584)
Long-term Ground Disturbance for Pads and Associated Facilities ⁴	638 ac	745 ac	944 ac	1,079 ac	1,373 ac
Length and Area of New or Widened Access Roads ⁴	152 miles (513 ac)	186 miles (603 ac)	241 miles (817 ac)	270 miles (861 ac)	350 miles (1,112 ac)
Total Long-term Ground Disturbance	1,151 ac	1,346 ac	1,761 ac	1,940 ac	2,495 ac
Total Gas Produced by New Wells on BLM Lands ⁵	983 BCF	1,041 BCF	1,523 BCF	1,523 BCF	1,819 BCF

¹ Leasable area minus areas with NSO stipulations.

² For Alternative III, leasing and drilling atop the plateau would be deferred until 80% of the total wells anticipated below the rim under Alternative III have been effectively completed to total depth and a production test performed.

³ Based on 40-acre surface spacing, except 20-acre surface spacing for directional drilling below cliffs. Downhole spacing as follows: Mesaverde: above the rim: 40 acres; below the rim: 80% at 10 acres, 20% at 20 acres; Wasatch: 160 acres.

⁴ Pad impacts as follows: 1.9 acres for single-well pads, 2.5 acres for multi-well pads. Road impacts as follows: 0.6 mile of new or widened road per pad; above the rim: 80% new roads 30 feet wide and 20% existing roads widened by 20 feet; below the rim: 20% new roads 30 feet wide and 80% existing roads widened by 20 feet.

⁵ Natural gas produced over operational life of wells drilled on BLM lands in Planning Area during 20-year period of analysis. Based on RFD (Appendix H). Assumes 1.17 BCF per Mesaverde well and 0.7 BCF per Wasatch well; weighted average approximately = 1.15 BCF per well.

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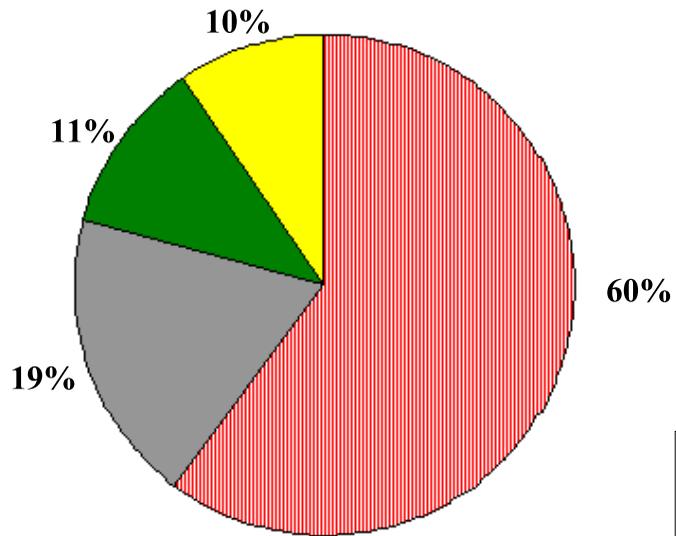
Table ES-3. Overall Level of Potential Adverse Impacts Compared to Existing Conditions ¹

Resource		Alternative				
		I	II	III	IV	V
Anvil Points Cave		Minor	Negligible	Minor	Minor	Minor
Fossils		Minor	Negligible	Negligible	Negligible	Negligible
Soils		Minor	Minor	Minor	Minor	Minor
Groundwater		Negligible	Negligible	Negligible	Negligible	Negligible
Surface Water	Quality ²	Minor to Moderate	Minor	Minor	Minor to Moderate	Moderate
	Quantity	Negligible	Negligible	Negligible	Negligible	Negligible
Air Quality	Hazardous Air Pollutants, Priority Pollutants, Visibility	Minor	Minor	Minor	Minor	Minor
	Sulfur and Nitrogen Deposition, Acid Neutralizing Capacity	Negligible	Negligible	Negligible	Negligible	Negligible
Vegetation ²		Minor	Negligible	Minor to Moderate	Moderate	Moderate
Fish and Wildlife ²		Minor	Minor	Minor to Moderate	Moderate	Major
Special Status Species ²		Minor	Minor	Minor to Moderate	Moderate	Major
Visual Quality ²		Minor	Minor	Moderate	Moderate	Major
Cultural Resources		Minor	Minor	Minor	Minor	Moderate
Recreation and Travel ²		Minor	Minor	Minor to Moderate	Moderate	Major
Livestock Grazing ²		Minor	Minor	Minor to Moderate	Moderate	Moderate

¹ Limited to impacts on BLM lands during 20-year period of analysis. Overall impact summary compared to current condition; specific impact levels may vary by resource and area. Assumes implementation of specified or legally required mitigation measures. Resource categories are not weighted. Does not consider socioeconomic impacts or management conflicts.

² Range of impact levels reflects estimated 16-year deferral period during which no oil and gas development would occur on top of the plateau under Alternative III.

Alternative I



Alternative II

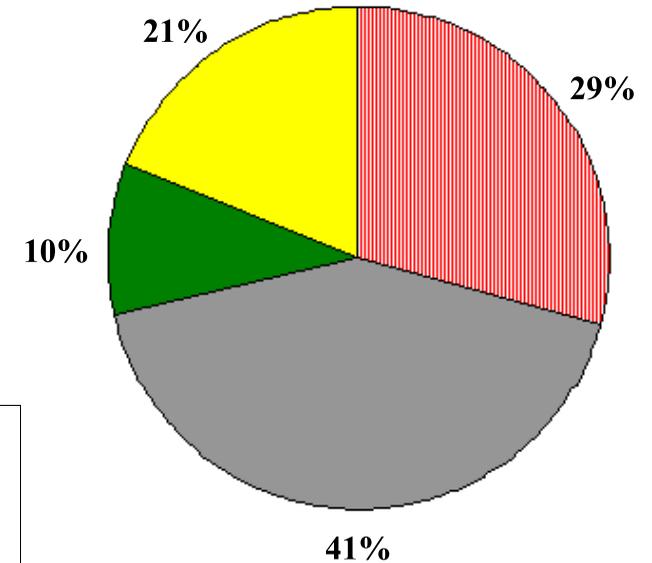
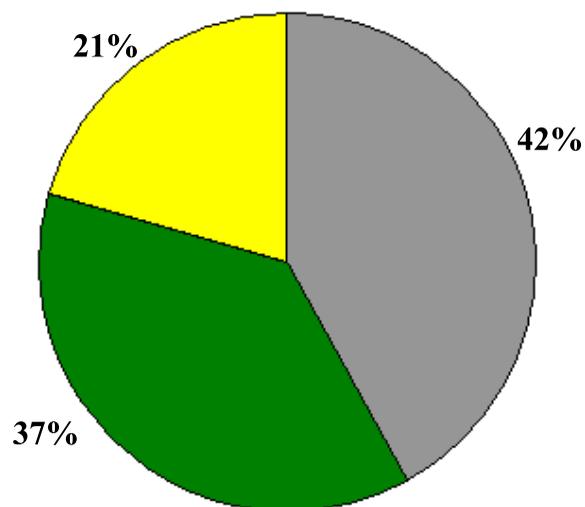


Figure ES-1
Area Percentages of Surface Use Stipulations and No Lease for Oil and Gas on BLM Lands
Total Area = 73,602 acres

- No Leasing for Oil and Gas
- No Ground Disturbance (NGD/NSO)
- Site-specific Relocation (SSR/CSU)
- Standard Restrictions and Limitations

Does Not Depict Timing Limitations under All Alternatives or Deferred Leasing Area under Alternative III

Alternatives III & IV



Alternative V

